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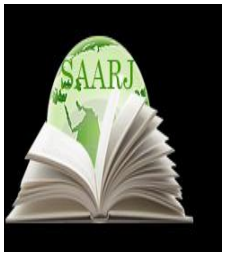

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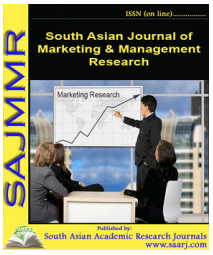

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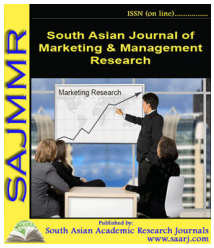

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VALUE RELEVANCE OF ACCOUNTING INFORMATION AND MARKET VALUES OF LISTED FIRMS IN NIGERIA

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ABSTRACT

This study examines value relevance of accounting information and market values in of listed firms in Nigeria: A comparative study. *A regressions analysis was used for the analysis of the data and pre-estimation tests were carried out. 11 firms were randomly chosen from each of manufacturing sector and healthcare sector. Data were obtained from the yearly financial reports of the selected listed firms on the Market Price per Share (MPS), Earning per Share (EPS), Book Value of Equity (BVE), and returns on equity (ROE) covering a period of 10 year, from 2011-2020 to test for relationship that exists between value relevance of accounting information and market values in manufacturing sector and healthcare sector. The findings of this study showed that all the explanatory variables (EPS, BVS and ROE) in both sectors have significant positive relationships with dependent variable (MPS) but the financial information in healthcare sector is more value relevant than that of the financial information of manufacturing sector. The study concludes that there is no distinction in the value relevance of accounting information in the manufacturing and healthcare sectors and recommends that every sector should comply with accounting standards in order to improve quality of financial statements.*

KEYWORDS: *Value relevance of accounting information; Market values; Financial statements*

1. INTRODUCTION

Financial records have been the best avenue for backward and forward dissemination of the degree of performance of firms to the diverse firms' stakeholders. To improve the accountability role of the financial statements (FS), there is a need for the FS to acquire a stream of qualitative features which makes it significant for economic decisions taking by stakeholders. The stakeholders' decisions are asserted to be qualitative and knowledgeable, when the FSs are

premised on sound qualities. The various accounting information users employ the FSs' facts to assess the financial value of firms with the postulation that there is association between data in FSs and the firms' market values. Considering the recent effects of COVID-19 on the markets values around the world today Fasua (2020) concludes that it appears that value relevance of accounting data is in doubt. This conclusion brings to remembrance the findings of some studies that the accounting information's value relevance has diminished over a period of time (Holthausen & Watt, 2001; Goodwin & Ahmad, 2006). However, some studies, such as Collins, Maydew and Weiss (1997) argue against and conclude that the value relevance of accounting information has quite improved over a period of time and assert that the discoveries of former studies, which argued that the value relevance of accounting information has reduced, are premature. The dissimilarities in methodologies used by studies and accounting systems by organizations have been ascribed to the possible justifications for contradicting discoveries in value relevance studies. A stream of studies have been carried out on effects of accounting information on market values of firms in Nigeria, such as Oshodin and Mgbame (2014); Chukwu, Dameibi and Okoye (2019); Kapellas and Siougle (2017); Abubakar (2017); Adebimpe, Paul and Ekeria (2018); Ali (2018); Bankole and Ukolobi (2020); Ganiyan and Ivungu (2019), yet to the best knowledge of the researcher no or few comparative studies have been conducted on value relevance of accounting information of companies in the different sectors in Nigeria. It is in the light of this that the study aims to compare the effects of value relevance of accounting information on market values of the manufacturing and health care sectors in Nigeria. The remaining sections of this study are literature review, the methodology, data analysis and the conclusion as well as recommendation section of the study.

2.0 LITERATURE REVIEW

This section entails conceptual, theoretical and empirical reviews of relevant literature on accounting information value and market value.

2.1 Conceptual Review

2.1.1 Value Relevance of Accounting Information

The concept of value relevance refers to the competence of the accounting facts disclose in the FSs to clarify the market price of shares (Fasua, 2021). Firm value is considered as the assessment that reveals that a business is worthy of at a particular period of time (Chukwu, Dameibi & Okoye, 2019). According to Fasua (2021), value relevance of accounting information is the choice of choosing the most essential facts in FSs that are sufficient of aiding the users of accounting information to arrive at logical economic decisions. According to the author, main decision specific characteristics include relevance and reliability. The elements of prime qualities of relevance of accounting information consist of predictive value, timeliness and feedback value. Omokhudu and Ibadin (2015) view value relevance of accounting information as the worth of FSs' information in equity valuation. FSs, according to Fasua (2021) are statements through which directors or management communicates the stage of performance of firms to their various stakeholders. The author argued that in order to enhance the communicative function of the financial statements it is needful to possess some qualitative features that make it relevant to make economic decisions by the various accounting users. The stakeholders' decisions are assumed to be qualitative and informed, once the FSs which the opinions of stakeholders are based on sound quality. The investors of corporate firm use the FSs to appraise the economic value of firms with the postulation that there is correlation between accounting information and the market values of a firm (ICAN, 2019).

However, Francis and Schipper (1999) offer four interpretations such as "fundamental analysis view, prediction view, information view and measurement view" to discredit the argument of the concept of value relevance. Under the fundamental analysis interpretation, they argued that accounting facts are described to be value relevant when the facts activate alterations in the share value trends through its inherent worth in the same way as well as in the similar path as market values. The prediction view argues that accounting information is relevant once the facts in FSs have those worth that can be regarded as being relevant for the forthcoming value assessment of firms as well as future returns of the upcoming periods (Oshodin & Mgbame, 2014; Fasua, 2021). Under the information and measurement views, Francis and Schipper (1999) assert that for financial accounting information (FAI) to be relevant there should be a statistical relationship between AI and market values or returns. Therefore they explain that value relevance of accounting information is the usefulness of FAI, offered assurance to the investors to invest or to sustain their investment in firms' share springing up as a result of the correlation between the FSs and market value of shares.

From existing literature, it has been established that earnings per share, book value per share and returns on equity were used as proxies for value relevance of accounting information. This can be seen in the research works carried out by Oshodin and Mgbame (2014), Fasua (2021), Abiodun (2012), Perrera and Thrikawala (2010), Wang, Fu and Luo (2013), Samuel and Pradeep, (2016), Bankole and Ukolobi (2020), Zaccheaus (2016), Okoro, Ibanichuka and Micah (2020), Chukwu, Damieibi and Okoye (2019), Adebimpe, Paul and Ekeria (2018). Therefore, this study uses earnings per share, book value per share and returns on equity as proxies for value relevance of accounting information.

2.1.1.1 Earnings per Share

According to Oshodin and Mgbame (2014), earning is a basic and essential accounting value once it comes to the examination of the value relevance of accounting information. This is because of its advantage over cash flow in this view. Nevertheless, Abiodun (2012) argues that the market looks out for both net book value and cash flow once the earnings variables are perceived to be insufficient. According to Fasua (2021), earnings per share is the portion of profit attributable to every equity share based on the returns after lessening taxation, interests as well as preference shares interests. Scientifically, earnings per share (EPS) are obtained by dividing profit after tax realized for ordinary shareholders with number of shares outstanding. The earnings per share is a parameter that can be employed to determine the earnings ability of a firm which is required to be disclosed by companies listed or about to be listed in the public security market.

The extent of disclosure will be determined by the nature of EPS, whether is fully reported or diluted. Rice (1978) argues on the cumulative abnormal returns of two portfolios. The study reveals the portfolios that consist of firms which report fully diluted EPS and those firms that do not disclose fully diluted EPS. Based on the finding of the study, it concludes that the substances of the fully diluted EPS are more value relevant to stakeholders. This is contrary to the finding of Millar, Nunthirapakorn and Courtenay (1987). They discovered that the basic EPS reveal stronger connection with stock return than either fully diluted EPS as well as primary EPS. However, the finding of Jenings, Mac and Thompson (1997) is in agreement with that one of Rice (1978). Jenings *et al.* (1997) argue that among the basic EPS, primary EPS and the fully diluted EPS; the basic EPS is the least to clarify changeability in the stock price.

2.1.1.2 Book Value per Share

According to Fasua (2021), market value of any entity can be expressed as the weighted average of book value and earnings. This expresses the premise of the research works carried out on the value relevance of accounting information. Studies in this aspect have revealed that the book value of equity with earnings is linked with the market value of entities. This is in line with findings of Subramanyam, Venkatachalam (2000) where they argue that book value of equity (BVE) has connection with market value because BVE can be used as a proxy for the recent past earnings which represents independently value relevant.

2.1.1.3 Return on Equity

Return on Equity has been defined by Fasua (2021) as a yardstick for measuring how stockholders rated during the year. It reveals the earning power on shareholders book value investment as well as how is regularly employed in comparing two or more entities in an industry. According to McClure (2015), return on equity (ROE) can assist investors to distinguish one firm from another and between firms that are return creators and such that are income burners. By evaluating how much earnings a firm can make from assets, return on equity provides a measure of return growing efficiency. It aids investors to ascertain if a firm is a lean, mean return machine. The connection between the firm's profit and the investor's return makes return on equity a predominantly valuable (McClure, 2015). ROE provides a valuable signal of financial achievement since it might show if the business is generating profits without investing new equity capital into the company. A progressively growing ROE is a clue that management is rewarding shareholders higher than their invested funds, which is served as shareholders' equity. In a simple form, ROE reveals how healthy management is using the investors' capital injected in the business (Traub, 2001).

However, according to Fasua (2021), return on equity (ROE) is not an unconditional indicator of investment value. After all, the ratio obtains a full-size whenever the value of the shareholder equity, the denominator, falls. If, for example, a business takes an outsized write-down, the cutback in income (ROE's numerator) crop up only in the period that the expense is charged; the write-down therefore records a more noteworthy knock in shareholder equity (the denominator) in the following periods, resulting an overall rise in the ROE without any improvement in the company's operations.

2.1.2 The Market Value of Shares

According to Menaje (2012) market value of shares is established by the interactions of market supply and demand. The study asserts that the interaction may be highly volatile as a result of its dependent on the anticipation of the consumers and suppliers. Bernard and Thomas (1990) argue that no matter the accounting facts that are employed to forecast the market value, once these facts entail some novel information, response will at all times be anticipated in the market over the market price of share; this response confirmation in share price is discovered to incessantly move in the similar direction like that of the original information. Agrawal (2011) argues that the earnings of an entity are the most significant of the facts that can affect changes of share price in the capital market. Fasua (2021) is of the opinion that as a result of the fact that the globe is become a global unit so far a sneeze in one section of the world can cause virus (COVID-19) in other area, the least rumour of confrontation, increasing in the value of oil, or cost of investment hike can ignite a response in the globe market.

2.2 Theoretical Review

2.2.1 Information Perspective

Informational perspective appraises the value of AI to every accounting user without much eminence on the specific composition of the association between accounting information and market value of a firm (Belkaoui, 2014). A line of the existing literature on information perspective holds that information content or value can be determined by monitoring stock market response to precise AI point (Ball & Brown, 1968). Ball and Brown (1968) argue that the extent of its usefulness can be appraised by the level of volume or price alteration following disclosure of the information. Until the previous few periods, the information perspective has subjugated financial accounting theory. Beaver (2002) argues that the information perspective depends on a single-individual decision theory, when it is the duty of investors to forecast future corporate performance as take investment economic decisions. It equally relies on "efficient securities market theory", when the market can read between the lines information from any source. In this theory, it is accountant's responsibility and duty to provide relevant financial statements information to aid stakeholders. Ball and Brown (1968) research work is the initial study to file statistically a share price reaction to recorded net income and their methodology is still used nowadays. The significance of information perspective is on current connection between accounting earnings, book value, as well as market returns or share prices. To be specific, it examines capital market response to "public disclosures such as earnings announcements, other firm-specific news and economy-wide macroeconomic news". This is synonymous with information content school.

According to Barth, Beaver and Landsman (2000), previous studies center largely on usefulness of accounting information which can be evaluated by the level of volume or price alteration following discharge of the information. Conversely, attention has shifted in recent periods to valuation models that embrace earnings, the book value of the equity. A lot of these research works point to "the residual income model as their theoretical foundation" but at present there is improved prominence on shareholder value. Thus, residual income measures are highly employed in the firms' environment to evaluate financial performance. The studies on value relevance are considered to appraise how healthy accounting information is employed by every investor in estimating a firm's equity. Oshodin and Mgbame (2014) argue that "usefulness is not a well-defined concept in accounting research, and as a result, value relevance studies do not and are not designed to evaluate the usefulness of accounting numbers. Value relevance is defined as the extent of involvement between accounting information and market value.

2.3 Empirical Review

Isam and Nawaf (2018) investigated on "disclosure of financial statements and its effect on investors' decision making in Jordanian commercial banks." The study used a questionnaire to present attitude of experts and to recognize the extent of financial information was employed in making investment decision. T-test, ANOVA test and Pearson correlation were employed to analyze the significance of differences in the sample means, a conventional 5% confidence level. The findings of the study showed that there is a statistical insignificant positive relationship between accounting information and investment decisions in Jordanian commercial banks.

Perrera and Thrikawala (2010) carried out "an empirical study of the relevance of accounting information on investor's decisions based on the Colombo Stock Exchange, Sri Lanka." The relevance of accounting information was analyzed by statistical tool such as pre-estimation test

and regression analysis. The study's results revealed that value relevance of accounting information was correlated with market price per share. In the study value relevance of accounting information were represented by earning per share (EPS), return on equity (ROE) and earning yield (EY). The findings showed that return on equity is significantly correlated with the share price.

Bankole and Ukolobi (2020) examined 'the value reliance of accounting information in financial service companies in Nigeria,' using least square regression analysis to test for the relationship between dependent variable and independent variables. The study employed data from year 2012 to year 2018 of 20 financial institutions firms listed in the Nigerian Stock exchange. After conducting Hausman Test was also carried out, the outcome revealed that 'random effect is more appropriate than the fixed effect model'. This implies that there is a statistically significant positive relationship between share price and firm size. The findings of the study revealed that there is an insignificant negative relationship between dividend per share, earnings per share, book value per share and share price

Okoro et al. (2020) examined "the relationship between accounting information and the market value of quoted firms in Nigeria," using ordinary least square method of co-integration, unit root and granger causality test to ascertain "the extent to which human resource cost affect quality of financial report". The study employed cross sectional data from financial statements of 23 manufacturing companies from 2008-2017. Market value of the firms was used as dependent variable while earnings per share, return on equity and dividend per share serve as independent variables. "After cross examination of the validity of the pooled effect, fixed effect and the random effect, the study accepts the fixed effect model. The study found that the independent variables explained 79 percent variation on the market value of the quoted firms. The beta coefficient of the variables indicates return on equity; earnings per share, dividend per share have positive effect on the market value of the quoted firms." The findings of the study revealed that "there is significant relationship between accounting information and market value of the quoted firms."

In 2018, Adebimpe et al (2018) investigated the value relevance of accounting information in listed financial companies in Nigeria to determine whether or not accounting information valve relevance in Nigeria financial firms are increasing or reducing over the period of 2007-2016. Ordinary Least square regression was adopted in analyzing the data. The findings showed that there is significant relationship between market price per share, and earnings per share.

3.0 METHODOLOGY

Base on the argument of existing studies carried out in Nigeria that the AI is relevant; this assertion gives a reasonable assurance to various investors to invest or sustain their resources and investment in shares of entities in Nigeria. This study is therefore carried out to contrast the value relevance of accounting information of companies in both the manufacturing and heath care sectors. In the light of this, 11 firms were selected in each of the sectors. The choice of the study sample size was based on availability of data and convenience. 11 firms in each of the sectors were selected by the restricted number of healthcare firms listed on the Nigeria Stock Exchange as at June 31st 2021 as well as to establish the comparative study on the same premise for each of the sectors.

The financial statements from 2011 to 2020 were employed for the purpose of this study. To establish the relationship between the dependent variable and independent variables a regression

panel is adopted. The Ordinary Least Square was employed as the technique of estimation in this study. The statistical model is as follow:

$MPSit = \beta 0 + \beta_1 EPS_{it} + \beta_2 BVE_{it} + \beta_3 ROE_{it} + \mu$..... 1

Where β0, β1, β2, and β3 are the coefficient of variables; EPS, BVE, ROE are earning per share, book value of equity and returns on equity respectively and μ is the stochastic error correctional term. Where MPS= Market Price per Share, EPS= Earnings per Share, BVE = Book Value of Equity, and ROE = Returns on Equity.

4.0 DATA PRESENTATION AND ANALYSES

The pre-estimate test of the data is first carried out which are descriptive and correlation analysis, and thereafter the regression panel analysis is employed. The outcomes and findings are presented and interpreted as follows;

4.1 Comparative Descriptive statistics of of Healthcare and Manufacturing sectors

TABLE 4.1

HEALTHCARE	Mean	Median	Maximum	Minimum	Std. Dev.	Jarque-Bera	Probability	Observations
MPS	173.1555	205.4000	301.8000	1.250000	102.6526	7.097204	0.028765	110
EPS	834.1165	1170.000	1170.000	50.00000	476.8473	18.32170	0.000105	110
BVS	715.5873	474.1500	1392.000	49.00000	607.5392	15.11054	0.000523	110
ROE	8.644945	6.480000	35.00000	0.087000	11.47809	38.87553	0.000000	110

MANUFACTURING	Mean	Median	Maximum	Minimum	Std. Dev.	Jarque-Bera	Probability	Observations
MPS	37.11367	46.70000	46.70000	0.678000	16.69676	27.92977	0.000001	110
EPS	39.85509	154.2000	165.0300	-142	149.2187	18.40729	0.000101	110
BVS	1077.434	354.6700	2675.340	0.219000	1220.036	18.02128	0.000122	110
ROE	3.202855	0.705000	8.100000	0.087000	3.652246	17.77867	0.000138	110

Source: Researchers Compilation (2021)

From the descriptive statistics of the variables as revealed in table 4.1 above, it was discovered that for the firms in the healthcare sector, the mean of MPS stood at 173.15 while minimum and maximum values stood at 1.25 and 301.8 respectively. The standard deviation was at 102.65 showing the dispersion in value for market share price from the mean across the sample firms. The mean value for EPS stood at 834.12 with minimum and maximum values of 50 and 1170 respectively while the standard deviation was at 476.85. The mean for BVS stood at 715.59 with minimum and maximum values of 49 and 1392 respectively with the standard deviation stood at

607.54. ROE had a mean values stood at 8.64 with minimum of 0.087 and maximum value of 8.1. The matching estimates for manufacturing sector showed that the mean MPS, EPS and BVPS values stood at 37.11, 39.86, 1077.4 and 3.2 were lesser than those values of healthcare firms except for BVS. This analysis shows that the healthcare firms be apt to have a greater mean ROE ratio (8.46) than firm in the manufacturing sector. The Jarque-bera statistics indicated that the data were significantly normal in the both sectors.

4.2 Comparative Correlation Matrix of Healthcare and Manufacturing sectors

TABLE 4.2

HEALTHCARE	MVS	EPS	BVS	ROE
MVS	1.000000			
EPS	0.386116	1.000000		
BVS	0.481878	0.173270	1.000000	
ROE	0.399523	0.205677	0.323281	1.000000
MANUFACTURING	MVS	EPS	BVS	ROE
MVS	1.000000			
EPS	0.289886	1.000000		
BVS	0.275212	0.501125	1.000000	
ROE	0.076391	0.054129	0.414438	1.000000

Source: Researchers Compilation (2021)

Table 4.2 above shows the Pearson correlation coefficient outcome for the variables. The table revealed that the health sector EPS, BVS and ROE showed to be positively correlated with MPS as depicted by the correlation coefficient of 0.384, 0.481 and 0.3995 respectively. For the manufacturing sector, all explanatory variables showed positive correlations with MPS as depicted by the correlation coefficient of 0.2899, 0.2752 and 0.0764. It was discovered that the correlation coefficients of the variables with MPS for firms in the healthcare sector were higher than those coefficients with MPS in the manufacturing sector. On the other hand, this does not inevitably propose causality. The coefficients of correlation also do not stimulate grave notion of multicollinearity between the explanatory variables and dependent variable.

4.3 Regression Analysis

TABLE 4.3

FIRMS		**HEALTHCARE**		**MANUFACTURING**	
Variables		Coefficient	Prob.	Coefficient	Prob.
EPS		0.073863	0.0000	0.095983	0.0000
BVS		0.009735	0.0000	0.086723	0.0000
ROE		1.161866	0.0496	1.268976	0.0057
C		27.40232	0.0000	304.3043	0.0000
R-squared		0.676175		0.567712	
Adjusted R-squared		0.66135		0.549817	
S.E. of regression		75.33962		13.46325	
Sum squared resid		601662.1		19213.47	
Log likelihood		-629.467		-440.042	

F-statistic		32.11919		20.54837	
Prob(F-statistic)		0.000000		0.000000	
Durbin-Watson stat		2.163262		2.187012	

Source: Researchers Compilation (2021).

The table 4.3 reveals the regression result carried out using Eviews8.0. The norm in numerous studies in assessing the value relevance of accounting information has been to investigate the competence of the coefficient of determination or else known as the R^2. The estimation indicates that for the manufacturing sector with the R^2 is 0. 56 and reveals that accounting facts i.e. EPS, BVPS and ROE were able to explain about 57 % of the systematic variations in share prices which was lesser than the R^2 of 0.68 found for firms in the healthcare sector. On the other hand, the F-statistics shows that the null hypothesis of no significant linear relationship between the endogenous and exogenous variables is rejected for healthcare sector as well as manufacturing sector as depicted by the probability values of the F-stat which are not greater than 0.05. Particularly, this study discovers that all the explanatory variables have a statistically significant positive relationship with MPS for firms in both the healthcare sector and manufacturing sector.

4.4 Discussion of Findings.

The data analyses carried out in the study propose that financial statements are relevant supporting the economic decisions of investors to put in funds or uphold their investment in both the manufacturing and healthcare sectors. The findings of this study depict that value relevance of accounting information has statistically significant positive relationship with market value of shares of both sectors. This is constant with Zaccheaus (2016), Okoro et al. (2020), Chukwu et al. (2019), Adebimpe et al (2018) but not in agreement with Isam and Nawaf (2018), Bankole and Ukolobi (2020)

The regression analysis among others proposes that all the explanatory variables were considered in this study, to be more relevant, due to the fact that all of them have a significant positive relationship with the market price of shares. This is also in line with the findings of Perrera and Thrikawala (2010), Okoro et al. (2020), Chukwu et al. (2019) but contrary to the study of Samuel and Pradeep, (2016). In addition, this study discovered that the accounting information of firms in the healthcare sector of the Nigerian economy is more value relevant compare with the financial information of firms in the manufacturing sector.

5.0 CONCLUSION AND RECOMMENDATION

The value relevance of accounting serves as one of the potential avenues for evaluating how qualitative the accounting information unveils in the financial statements of firms. Extant studies evaluated the value relevance of financial statement employing R^2 statistics of the regression product; showing that the higher the R^2 statistics the more relevant the financial statements are. This study being a comparative study of value relevance of accounting information between the manufacturing and healthcare sectors of the Nigerian economy, discovered that the accounting information of firms in these sectors are value relevant; although accounting information of the firms in the healthcare sector is more relevant and thus can affect the price of share more in that sector. This study therefore recommends that more efforts should be put on the financial statements divisions of firms in manufacturing sector by those who are charged with responsibilities to regulate and ensure international financial reporting standards are complied with and maintain its qualitative characteristics. This is one of the avenues through which the

value relevance of accounting information of firms in manufacturing sector can be improved over the period of time.

Further study in this section can be conducted to establish if the relevancy of accounting information can be impaired over time in these sectors. Further studies can also be done comparing other sectors. Cross sectional research can also be investigated on the similarity of value relevance of accounting information in manufacturing and healthcare sectors on a annual basis to find out if the findings of this study can be generalized.

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APPENDIX

HEALTH CARE FIRMS

	MVS	EPS	BVS	ROE
Mean	173.1555	834.1165	715.5873	8.644945
Median	205.4000	1170.000	474.1500	6.480000
Maximum	301.8000	1170.000	1392.000	35.00000
Minimum	1.250000	50.00000	49.00000	0.087000
Std. Dev.	102.6526	476.8473	607.5392	11.47809
Skewness	-0.189867	-0.798435	0.109178	1.404611
Kurtosis	1.814975	1.796891	1.197456	3.768246
Jarque-Bera	7.097204	18.32170	15.11054	38.87553
Probability	0.028765	0.000105	0.000523	0.000000
Sum	19047.10	91752.82	78714.60	950.9440
Sum Sq. Dev.	1148593.	24784787	40232318	14360.38
Observations	110	110	110	110

HEALTHCARE	MVS	EPS	BVS	ROE
MVS	1.000000			
EPS	0.386116	1.000000		
BVS	0.481878	0.173270	1.000000	
ROE	0.399523	0.205677	0.323281	1.000000

Dependent Variable: MVS
Method: Panel Least Squares
Date: 09/28/21 Time: 08:10
Sample: 2011 2020
Periods included: 10
Cross-sections included: 11

Total panel (balanced) observations: 110

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EPS	0.095983	0.016010	5.995307	0.0000
BVS	0.086723	0.012995	6.673657	0.0000
ROE	1.268976	0.692218	1.833201	0.0496
C	304.3043	22.42390	13.57053	0.0000

R-squared	0.676175	Mean dependent var	173.1555
Adjusted R-squared	0.661350	S.D. dependent var	102.6526
S.E. of regression	75.33962	Akaike info criterion	11.51758
Sum squared resid	601662.1	Schwarz criterion	11.61577
Log likelihood	-629.4666	Hannan-Quinn criter.	11.55741
F-statistic	32.11919	Durbin-Watson stat	2.163262
Prob(F-statistic)	0.000000		

MANUFACTURING FIRM

	MVS	EPS	BVS	ROE
Mean	37.11367	39.85509	1077.434	3.202855
Median	46.70000	154.2000	354.6700	0.705000
Maximum	46.70000	165.0300	2675.340	8.100000
Minimum	0.678000	-142.0000	0.219000	0.087000
Std. Dev.	16.69676	149.2187	1220.036	3.652246
Skewness	-1.222036	-0.406004	0.533746	0.505537
Kurtosis	2.653181	1.167849	1.328959	1.309820
Jarque-Bera	27.92977	18.40729	18.02128	17.77867
Probability	0.000001	0.000101	0.000122	0.000138
Sum	4082.504	4384.060	118517.8	352.3140
Sum Sq. Dev.	30387.21	2427018.	1.62E+08	1453.941
Observations	110	110	110	110

Manufacturing	MVS	EPS	BVS	ROE
MVS	1.000000			
EPS	0.289886	1.000000		
BVS	0.275212	0.501125	1.000000	
ROE	0.076391	0.054129	0.414438	1.000000

Dependent Variable: MVS
Method: Panel Least Squares
Date: 09/28/21 Time: 08:18
Sample: 2011 2020
Periods included: 10

Cross-sections included: 11
Total panel (balanced) observations: 110

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EPS	0.073863	0.010589	6.975687	0.0000
BVS	0.009735	0.001421	6.851113	0.0000
ROE	1.161866	0.411366	2.824405	0.0057
C	27.40232	2.054008	13.34090	0.0000

R-squared	0.567712	Mean dependent var	37.11367
Adjusted R-squared	0.549817	S.D. dependent var	16.69676
S.E. of regression	13.46325	Akaike info criterion	8.073491
Sum squared resid	19213.47	Schwarz criterion	8.171690
Log likelihood	-440.0420	Hannan-Quinn criter.	8.113321
F-statistic	20.54837	Durbin-Watson stat	2.187012
Prob(F-statistic)	0.000000		

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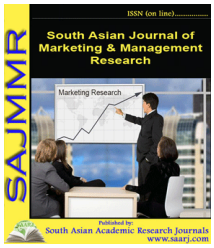

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MANAGEMENT IN SPORTS

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ABSTRACT

This article tells about the place of management in modern sports, about what management is and what role it plays in the formation of the modern sports industry. The consequences of the commercialization and mediatization of professional tennis have had a dominant influence on the modern professional culture and organization of tennis. The main task of such training is to make the physical culture and sports organization in the conditions of modern market development become wealthy, not inferior in its level to foreign countries.

KEYWORDS: *Sports Management, Elements of the Management Process, Development, Commercialization, Management Activity.*

INTRODUCTION

In order to understand what management in sports is, it is necessary to know the definition of this phrase. So, management in sports is an independent type of professional activity. It is aimed at effectively achieving the goals of a physical culture and sports organization operating in market conditions through the most rational use of material, labor and information resources. Therefore, based on this definition, we can say that a competent and complete understanding of what is happening at the moment in the sports market, what actions need to be taken at one time or another so that such professional activities as management in sports are always in demand. In modern science, "management" refers to the process of leadership or management of an employee, a working group, a team, an organization, several organizations operating in a market economy. Management in sports is an independent type of professional activity aimed at achieving goals and implementing tasks within the framework of the activities of a sports organization that operates in market conditions through the rational use of material, labor and information resources. In other words, management in sports is the theory and practice (knowledge, skills, skills) of effective management of sports industry organizations and organizations of intersectoral complexes of enterprises.

The development of sport in its modern sense began in the XVIII century in England as a replacement for chivalric military exercises for the emerging middle class, gentlemen and

esquires. The sport was of an amateur nature, the sports lifestyle included a range of forms of leisure activities - from traveling to gymnastics and boxing. The development of amateur sports was carried out through the support of various kinds of voluntary clubs and unions.

Today, sport is something like a "global spectacle", which involves trained professionals, spectators and fans divided into teams. Sports is now one of the main sectors of the global entertainment and leisure industry, competing with cinema and television, and professional athletes have gained the status of pop industry stars. Today, tennis is primarily a part of the commercial industry of global entertainment, supported by the world's media. The consequences of the commercialization and mediatization of professional tennis have had a dominant influence on the modern professional culture and organization of tennis. Firstly, the norms and values of tennis athletes have changed: from self-improvement and pleasure to the way of entertaining the public and satisfying their own interests. Secondly, in modern tennis there is a situation when control is in the hands of organizations that are not directly involved in sports life: tennis organizations (such as the ATP, WTA), sponsors of competitions, the media. Thirdly, the consequence of commercialization is that tennis, in addition to a hobby and a way of physical development, is increasingly turning into a business – people are building a sports career as a business project, where economic competition displaces the sports component. If we talk specifically about management in tennis and sports in general, then we can deduce several points that are important in it.

The first is the theory of sports management: sports management is one of the types of industry-specific management that deals with the management of sports-oriented organizations. In connection with this approach, the organization is a key concept of sports management. From the point of view of management, sport is not only "expedient motor activity of a person", competitive activity, not only a set of special means and methods for the directed development of physical capacity of people, as stated in the theory of physical culture. Sports as an object of social management is not only legitimate, but also necessary to be considered as a certain set of physical culture and sports organizations - sports schools, sports clubs, sports teams in sports (football, hockey, tennis, boxing, etc.), stadiums, sports federations, etc. It should also be noted that experts distinguish several functional varieties of management: strategic management, financial management, personnel management, project management, innovative management, marketing approach in sports management, etc.

The second point is sports in the system of market relations, the mission and goals of a sports organization. Sports management is closely linked to the main factors of the rent of the market economy - forms of ownership, competition, the right of free choice for both a sports entrepreneur and consumers of services, the dependence of the entrepreneur's income on the results of his work and the situation in the sports services market, etc. The inclusion of sports in the system of market relations determines the corresponding features of the management of this branch of the service sector. The goals of a sports organization are usually fixed in three documents: the charter of the organization, the concept and the target program for the development of physical culture and sports (for sports federations - the corresponding sport) in the territory that is part of the service area of this organization (district, city, subject of the federation, etc.). Along with the general goal in a sports organization, private goals are formulated, which in the constituent documents more are often called the objectives of the organization.

The third is not unimportant - this is the interaction of general and specific management functions in a sports organization.

All general and specific functions of sports management operate in unity, forming a certain organizational and technological process. Scientific analysis and classification of the component composition of physical culture and sports allow us to identify for the sports club of an industrial enterprise an approximate set of the most significant specific functions of sports management presented in the table above.

The fifth is the main elements of the management process. The management process is a set of cyclical actions aimed at identifying the problem, finding its optimal solution and organizing the effective implementation of the decision, the result of which is the elimination of the problem. The management problem lies in the discrepancy between the parameters of the actual state of the managed object and the planned or given parameters. The source of a problematic situation in an organization can be:

- Deviations from the set conditions noted at a certain point in time or predicted for the future;

- Changes in goals or planned indicators;

- The impact of external or internal factors on the object. Summing up, we can say for sure that management in sports is just as necessary as management in an organization. In sports, especially at the present time, there are many problems in the organization of clubs and, of course, certain personnel (managers in sports) are needed who will be able to identify and solve them. And regardless of what kind of sport there is, whether it's tennis, boxing or curling. In addition, it can be noted that sport in the broad sense of the word is no less significant social phenomenon than the events in the spotlight with sports records, victories and medals that retain their attractiveness. Sport is presented as a joy-bringing personal activity of millions of people with a huge number of voluntary public assistants.

In recent years, Uzbekistan has seen a significant increase in interest in sports - both professional and more mass sports and wellness movement. The state and private business allocate large funds for the development of sports, but this does not always lead to the expected result. As a result, some owners of sports clubs are forced to dissolve them due to unprofitability, and the leaders of the state, together with a multimillion army of fans, are lamenting and looking for those responsible for the next failure of Russian athletes at the Olympics, the World Cup or Europe. In this regard, words about the importance of competent sports management are increasingly being heard, since only professionals in this matter are able to effectively manage sports investments. For this reason, various sports organizations are increasingly losing interest in such specialists. What do sports managers do? The main functions of managers in sports can be represented as follows:

- Sports manager’s work in the governing bodies of the Olympic movement at various levels.

- Sports managers are engaged in the management of sports events: the championship of the city, region, republic, World and European Championships, Olympic Games.

- Sports managers manage their own sports business projects, commercial tournaments, sports festivals, mass competitions.

- Sports managers organize the team, recruit staff and athletes, develop ticket programs and various strategies for the organization, work with fans and stakeholders in the external environment.

The market is characterized by uncertainty of the situation and entrepreneurial risk. They require managers to be independent and responsible for their decisions. The professionalism of a sports manager is manifested in the knowledge of the organization's management technology and the laws of the market, in the ability to organize the well-coordinated work of the team and predict the development of the organization. What are the main goals of sports management today? It should be noted that the problems of sports management are related to the search for objective ways to develop the financial part of the sphere of physical culture and sports. To do this, future professionals study the typology of physical culture organizations and their management methods, the types of state and non-state bodies involved in the development of sports, ethics in economic relations and much more.

The main task of such training is to make the physical culture and sports organization in the conditions of modern market development become wealthy, not inferior in its level to foreign countries. Promising areas of management development are business in mountaineering, boxing, volleyball, golf, athletics, rhythmic gymnastics, tennis, swimming, badminton, football and basketball. Today, sports management is looking for new ways to advance in these areas. A manager's work is judged not by what he does, but by how he encourages other people to work.

Historically, in our country, it so happened that coaches, instructors, and methodologists were engaged in sports management. They often combined the educational work of a coach with the processes of managing a club, a sports society, a sports federation, although their job descriptions did not provide for the performance of such duties by them.

Management in sports, as a special type of professional activity of managers in the sports industry, arises as a result of the division and cooperation of their labor. As we have already noted, the reason for the appearance of sports managers was the market economy, which imposed special requirements on managers in conditions of economic competition.

Summarizing the experience of training sports managers at the university and the market demand for specialists of this profile shows that an increasing number of organizations in the sports industry need managers with a certain set of skills and abilities. Here are the main ones:

- proficiency in modern computer technologies and programs;

- proficiency in English;

- ability to form the information policy of the organization;

- organization of the work of the office of the organization;

- knowledge of basic marketing and management strategies;

- knowledge of regulations and regulations on competitions for the subsequent organization of sporting events.

So far, we regret to state that the market mechanism of demand and supply of sports management specialists in our country has not yet been formed. Optimism is added by the introduction of professional standards of sports industry workers and the procedure for mandatory certification of specialists. This will allow, on the one hand, to conduct an inventory

of managerial personnel in the industry, and on the other, to identify the priorities of managerial specialties in the general list of sports management positions.

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IN INDIA, THERE IS A LINK BETWEEN TQM AND TPM IMPLEMENTATION ELEMENTS AND MANUFACTURING SECTOR BUSINESS PERFORMANCE

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ABSTRACT

To investigate the strategic implications of TQM and TPM in an Indian manufacturing environment, as well as to conduct detailed literature studies to identify gaps. In an Indian setting, investigate the connection between variables affecting TQM and TPM implementation and company performance for the following three approaches: TQM alone, TPM alone, and both TQM and TPM combined. This is done in order to extract important variables for the three methods mentioned above. Design, technique, and strategy – An empirical survey-based study with a sample size of 108 manufacturing firms was conducted. Using SPSS, extracts important variables using bivariate correlation and multiple regression analysis methods. The research identifies two sets of factors that are critical for TQM and TPM effectiveness: universally significant factors for all three approaches, such as leadership, process management, and strategic planning, and approach-specific factors, such as equipment management and customer satisfaction focus. The research also emphasizes the challenges of combining TQM with TPM implementation. By focusing on extracted variables, businesses will be able to get more advantages from TQM and TPM. This research is particularly significant in a worldwide perspective, since businesses all over the world are attempting to achieve TQM and TPM synergy. Originality/value – The readiness/status of the Indian manufacturing sector for TQM and TPM adoption, since India is becoming a significant sourcing base for the globe and there are few studies on the topic. In the context of poor nations, there hasn't been any research into TQM and TPM in all three modes at the same time. In a global setting, such research is equally essential.

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KEYWORDS: *India, Operations Management, Productive Maintenance, Total Quality Management, Manufacturing Industries.*

1. INTRODUCTION

The Indian manufacturing sector faces stiff competition from worldwide companies in order to develop as a major manufacturing base for the global market. Though efforts have been made to promote industrial growth, much more has to be done in terms of cost reduction, quality improvement, and providing a wider range of goods with better services. Indian corporate leaders finally recognized the strategic significance of quality and maintenance to enhance performance in the early 1990s. The two formerly separate shop floor entities these efforts to enhance quality and maintenance are the result of the necessity to ban bad practices in the aftermath of consumers preferring quality competitive goods [1]. Today's robust middle class of approximately 300 million consumers is ready to pay a premium for quality, which the manufacturing sector cannot afford to ignore, particularly in the face of international corporations [2].

Indian CEOs have begun quality efforts as a result of the need to compete in the local market and a desire to become a global sourcing base. Certification requirements and the institutionalization of quality awards such as the Golden Peacock and Ramakrishna Bajaj awards also support this. These awards, while not as prestigious as the Deming or Malcolm Baldrige awards, have undoubtedly contributed to a culture of awareness and competition in Indian industry. In the same way that significant efforts were made in quality, large initiatives were taken in maintenance, especially after the 1990s. Due to the protected and controlled economy, Indian executives initially paid little attention to equipment failures and losses. Maintenance was viewed as a reactive problem-solving activity and an operating expense that needed to be kept to a minimum. However, increasing customer pressure to reduce costs, defects, and lead time has forced management to focus on maintenance and related issues through improvement initiatives such as TPM [3].

The Indian executives now understand that TPM is not a waste, but rather an investment, similar to TQM. It aids in the elimination of defects and failures in order to ensure quality at a lower cost. This concept has gained traction in the corporate world, with a few notable firms like as Sundram Fasteners and Vikram Cement even receiving the coveted JIPM TPM award. The foundations of Indian culture, which is sensitive to gradual and steady changes, are also at the core of growing acceptance of both TQM and TPM.TQM and TPM have many strands of commonality, such as employee engagement, cross-functional approach, and continuous improvement, since quality and maintenance work hand in hand in a manufacturing setting. TPM, on the other hand, is defined as the application of TQM principles to equipment in order to achieve zero breakdowns and minimum production loss.

Many businesses have combined these two complimentary forces in order to maximize the benefits of both. TQM and TPM adoption may be found in three ways in India: TQM alone, TPM alone, and combination mode. In this article, these modalities are referred to as "approach."The increasing need to improve the efficacy of these impulses in the Indian setting has prompted this kind of study. Though studies on TQM and TPM have been conducted in various countries, research on the simultaneous deployment of two drives has not been properly addressed. As a result, this study is significant from a worldwide viewpoint as well. Its goal is to identify links between implementation elements and company success in the Indian environment

for each of the three methods. Because TQM and TPM have a similar foundation, certain characteristics should be shared by all three methods, while others may be unique to each. The difficulties of controlling two drives at the same time may justify putting a premium on certain variables that are otherwise unimportant. Figure 1 shows the research framework [4].

For TPM, the correlation coefficient (r) between variables and performance metrics is shown below. Only the factors for which the r values are significant at p 14 0:05 are included. The correlation coefficients (r) for each independent variable are given in parentheses next to it: Leadership for improvement (L) has the strongest connections with productivity (r 14 0:847), quality (r 14 0:619), cost (r 14 0:577), delivery (r 14 0:665), and employee morale (r 14 0:564), according to the correlation values. Similarly, productivity (r 14 0:779), cost (r 14 0:724), and delivery (r 14 0:723) are all highly associated with strategic planning (SP). Productivity (r 14 0:656) and quality (r 14 0:645) are also significantly linked to equipment management (EM). Information architecture (IA), process management (PM), employee engagement and empowerment (EE), education and training (ET), and organization systems and human development (OSHD) are other factors having strong relationships (OS). As a result, H2 is partly supported since certain of the variables show a strong connection with performance metrics.

Table IV shows the results of multiple regression analysis. The findings suggest that process management (PRM) and leadership for improvement (L) are important for productivity (P). It is also discussed how equipment management (EM) affects quality (Q), strategic planning for cost (C) and delivery performance (D), and leadership for improvement (L) affects staff morale (M). Information architecture (IA) and education and training are two additional important aspects (ET).

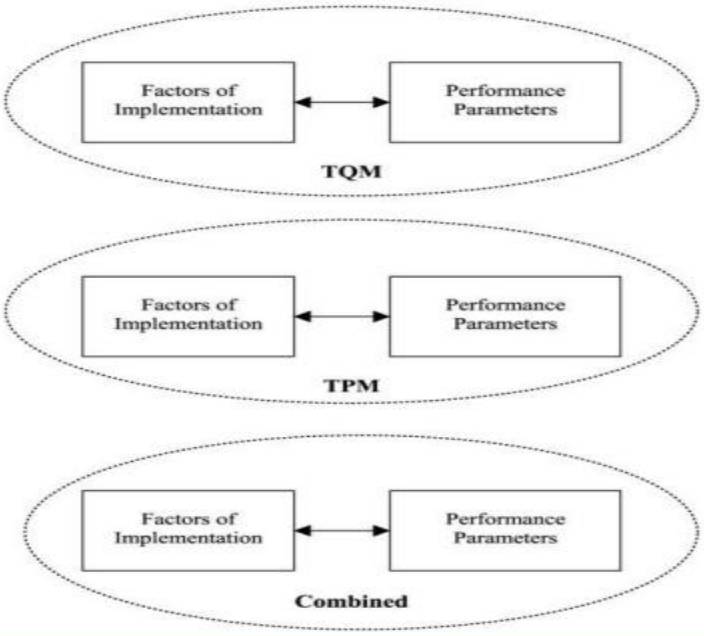

Figure 1: The research framework.

2. DISCUSSION

A thorough literature study was conducted to identify all such problems that have an impact on TQM and TPM effectiveness. The main TQM and TPM prizes, such as the Malcolm Baldrige

National Quality Award (MBNQA), the European Quality Award (EQA), the JIPM TPM, and the Deming Prize, were also taken into account. These awards are based on TQM and TPM models. Eleven dimensions have been established based on a thorough study of the literature [4].

(1) Pay special attention to client satisfaction.

(2) Improvement via leadership.

(3) Improvement planning on a strategic level.

(4) Management of human resources.

(5) Training and education.

Information architecture is number six.

(7) A system for measuring performance.

(8) Materials control.

(9) Maintenance of equipment.

(10) Process control.

(11) Financial resource management.

TQM and TPM believe resource management to be critical to their success. The resources are separated into three groups:

(1) Supplies.

(2) Resources.

(3) The financial situation.

TQM and TPM are both focused on process management, thus this split makes sense. The importance of efficient management of these is highlighted in European Quality Award, Deming Prize, and JIPM TPM award criteria, as well as literature. Table. TQM and TPM may have an impact on both external and internal performance, as measured by goods and services provided to consumers. Productivity (P), quality (Q), cost (C), and delivery (D) as external factors, and safety and hygiene (S) and staff morale (M) as internal environment criteria, were examined for the research. TQM and TPM implementation are thought to provide these internal characteristics (Nakajima, 1988; Steinbatcher and Steinbatcher, 1993; Ahire and Rana, 1995; Forker, 1996). The progress in these characteristics is measured using 16 indicators[5], which are listed in the Appendix. Respondent profile and survey questions as previously mentioned, the questionnaire utilized for this research includes 11 implementation aspects and six performance indicators. The questions are graded on a five-point scale from one to five. As listed in the Appendix, each dimension and performance parameter is seen as a collection of several linked things. The study's scope is limited to the industrial sector. A total of 460 businesses are listed [6].

2.1.Application:

TQM and TPM were developed using data from reliable sources such as the Confederation of Indian Industry (CII), the Indian Merchant Chambers (IMC), the Federation of Indian Chambers of Commerce and Industries (FICCI), the TPM Club of India, and the Automobile Manufacturers Association of India (AMAI). For monitoring the application of TQM and TPM in their member businesses, these business chambers use models based on leading awards criteria. As a result,

one or more of these models are likely to be followed by the responding businesses. The poll received 121 answers, with 58 using just TQM, 22 implementing solely TPM, and 28 implementing both TQM and TPM [7].

2.2.Advantage:

In India, where businesses have a bureaucratic, function-based, and individualistic work culture, a significant emphasis on employee engagement is essential to TQM. Recognizing the variety of human talents, as well as their innovation and entrepreneurial abilities, can help to strengthen TQM initiatives. The need of a performance measuring system is justified by the high complexity of managing two improvement initiatives as a combined strategy. At different levels, Indian businesses lack well-designed performance indicators to support policies, goals, and cross-functional procedures [8]. TQM and TPM's synergy requires the development of indicators to properly match the two drives toward corporate objectives. This study highlights variables that are important to TQM and TPM, both when used alone and in tandem as a combined strategy. Incorporating these variables into the appropriate context may assist Indian businesses in achieving higher advantages from such development methods. Because many businesses across the world are attempting to achieve TQM and TPM synergy, this research may be very useful to them as well. As a result, both academics and practitioners in India and across the world would benefit from this study. The work has paved the way for further research into the interfacial elements of TQM and TPM. This field has remained mostly unexplored. The current research looked at the manufacturing sector as a whole. Studies on a sector-by-sector basis may also be conducted to expand the knowledge base in this area. This will help us better understand the dynamics of TQM and TPM problems in particular industries. Similarly, extensive case studies on different modalities of TQM and TPM implementation may be conducted. The findings of such research would be very useful to both Indian and international practitioners who wish to concentrate on manufacturing-centric development efforts [9].

2.3.Working:

Internal consistency technique is used to test the instrument's dependability. A measuring instrument's dependability is tested to see whether it can consistently provide accurate results. Internal consistency reliability is the most frequently used psychometric measure in evaluating survey instruments and scales. The fundamental formula for evaluating dependability based on internal consistency is Cronbach alpha (a). 0.901, 0.874, 0.904, 0.875, 0.869, 0.856, 0.786, 0.868, 0.927, 0.858, and 0.753 are the alpha (a) values found for 11 dimensions. The alpha value for each dimension is much greater than Nunnally's minimal acceptability threshold of 0.6. (1978). As a result, all 11 dimensions are deemed reliable [10].

Validation of the content the adequacy with which a particular domain of content has been sampled, or if the instrument is really a complete assessment of the topic under investigation, is referred to as content validity. Nunnally (1978) describes it as "subjective and judge mental." The questionnaire is based on a thorough literature review and takes into account key award criteria as well as expert views, demonstrating content validity. Factor analysis is a test for concept validity.The degree to which the items on a scale assess the same concept is known as construct validity. Principal component factor analysis and the varimax rotation method are used to establish it. To test construct validity, a component analysis was performed on each scale separately. Earlier quality management measuring devices were also developed using scale wise factor analysis. Only the factors with eigenvalues greater than 1.0 were kept. All factors with eigenvalues less than 1.0 are deemed unimportant and are thus eliminated. With the exception of

human resource management, when two factors were found, the study yielded one component for each dimension. The principal component approach was unable to provide an unambiguous assignment of variables to any of the factors. As a result, the factors were extracted using the varimax rotation method. Employee engagement and empowerment (items 1, 2, 3 and 4 on the human resource management scale) and organizational system and human development (items 5, 6, 7 and 8 on the human resource management scale) are the two elements derived from human resource management [4].

TQM and TPM are both process-oriented and emphasize cross-organizational business processes. However, in India, the tendency has been substantially in the other direction. We have yet to understand the dynamics of a process-based approach, and have succumbed to managerial myopia, suffocating bureaucracy, and compartmentalization of processes. TQM and TPM 269 has a relationship. The information architecture offers the essential infrastructure to let people make the best choices possible. Indians are known for their lack of data literacy and reliance on previous experience. Even with the most reputable businesses, obtaining maintenance data recording records is challenging. Due to a lack of information system, equipment management has been neglected, resulting in low dependability and availability. As a result, the importance of information architecture in the adoption of TPM in Indian business cannot be overstated. The difficulties involved in dispersing two drives simultaneously in companies also need appropriate information architecture for management in the event of a combined strategy [6].

3. CONCLUSION

The statistical analysis resulted in the extraction of variables that are divided into two groups. The first group of variables comprises those that are universally important for performance in the Indian setting, regardless of the method used. Improvement leadership, strategic planning, process management, and education and training are among them. The second group comprises approach-specific variables such as TPM equipment management and customer satisfaction emphasis, as well as TQM staff engagement and empowerment. For the combined method, the performance management system is important, while information architecture is important for both TPM and the combined approach. Because of the realities of the local corporate environment, leadership is unquestionably important for TQM and TPM in India. India's businesses, both professionally managed and family-owned, continue to exemplify the bureaucratic and top-down management approach. Changing the environment to fit TQM and TPM, on the other hand, is much more difficult in the public sector, where, in addition to typical business limitations, managers must cope with stricter government supervision, huge and cumbersome operations, suspicious unions, and bleeding bottom lines. The lack of initiative among status-conscious and hierarchy-bound middle level executives is also a barrier in the improvement process.

As a result, strong leadership is required to shift people's mindsets, particularly when it comes to quality and maintenance. The need of strategic planning is further justified in light of the fact that many top-level executives continue to operate as the company's grand strategists and resource allocators without formal planning or people participation. Frontline managers' responsibilities are restricted to putting what comes from the top into action. The successful implementation of improvement drives requires a shift in mentality, which Indian businesses have inherited through government-owned companies' hierarchical and bureaucratic origins, as well as paternalism-oriented family groupings. Continuous improvement, which is essential to both objectives, is addressed via education and training. Training is still considered a luxury in

most Indian businesses. The cost of training is seen as a sign of modernity by upper management, while workers see the programs as the next best thing to a paid vacation. In India, the lower literacy level of the workforce emphasizes the need of education and training.

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AN ANALYSIS OF CHALLENGES OF THE AGRICULTURE ECONOMY IN INDIA

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ABSTRACT

Agriculture in India has evolved significantly during the past two decades. New possibilities for agricultural production have emerged as a result of globalization and liberalization policies. Agriculture has received special attention from the Indian government and development planners due to its importance in national Gross Domestic Product (GDP) and employment, allowing this sector to play a significant role in the country's financial growth and in raising the income and living morals of the vast population dependent on agriculture. Over the past 15 years, a number of issues have arisen in Indian agriculture, and they are getting more severe with the passage of time. Because India is an agricultural economy, the country's pace of growth is also influenced by agriculture. Because resources are finite, a rise in the number of people who rely on agriculture will result in a reduction in per capita income. This is believed to be a significant contributor to widespread rural misery and a high rate of farmer suicides throughout the nation. There are certain severe issues that must be addressed within a specific time period in order to fix the issues before it is too late for everyone.

KEYWORDS: *Agriculture, Biotechnology, Commodity Prices, India, Natural Resources.*

1. INTRODUCTION

India is mainly an agricultural country. Agriculture is the sole source of income for almost two-thirds of India's working population. It is the most significant feature of the Indian economy.

Agriculture, along with its related businesses, is without a doubt India's most important source of income, with most major industries relying on it for inputs[1]. In addition to liberalization measures that have given new possibilities for agricultural modernisation, India's agriculture has altered dramatically in the past two decades as a consequence of globalization. This has resulted in not just corporatization and diversification, but also a slew of technological and institutional advancements, thanks to industry expenditures. Despite the fact that agriculture's proportion in national output has dropped from more than 50% in the Business & Management sector, it currently contributes for 18% of India's GDP. Agriculture continues to be the primary source of employment and income for about 58 percent of the workforce. Agriculture has gotten special attention from India's policymakers and development planners because of its importance in national production and jobs , allowing this sector to play a significant role in the country's economy and in raising the income and living standards of the vast majority of the population who rely on agriculture[2].

One approach for addressing both fungibility and selectivity problems is supply characterisation, in which credit is regarded as an exponential function in the supply function. On the other side, credit will prefer one crop over another. If the methods are only used to a particular crop, the demand impacts may be exaggerated or understated if the implications on other crops are not taken into account. It's simple to get around this problem by estimating the impact of credit growth on aggregate output[3]. This is the approach this article takes to profit estimation. We are not aware of any other experiments that have utilized this technique. In an ideal scenario, one would be able to quantify the impact on total rural production, which would include crops, animals, and non-agricultural output from all rural families (farm and non-farm).

In the 1970s, the fast growth of India's rural banking markets offered an excellent opportunity for statistical research. Following their nationalization in 1968, the major commercial banks were instructed to expand their rural subdivision networks and boost agricultural lending. Traditional co-operative groups were eager to provide agricultural loans. The primary goal of this study is to quantify the impact of this development on agriculture and the rural environment [4]. We look at how additional credit affects overall crop output, agricultural savings, fertilizer demand, and labor usage. In rural regions, we also assess the impact of loans on non-farm employment and wages. The growth of rural finance in India has been supported by the Indian government. Because agricultural loan rates are regulated by the government, they are lower than those for urban and commercial loans. Commercial banks use earnings from other operations to finance agricultural loan management, thus cross-subsidizing farming output. The operating expenses of the professional and noncredit systems are subsidized by the government. Furthermore, relatively high levels of past-due as well as poor loans build a debt that must eventually be reimbursed by the taxpayer[5].

Furthermore, relatively high levels of past-due as well as poor loans build a debt that must eventually be reimbursed by the taxpayer Over the past 15 years, a number of issues have arisen in Indian agriculture, and they are getting more severe with the passage of time. Production growth, performance, equity, and long-term sustainability are all related to these factors. The most challenging challenge is to reverse the agricultural sector's significant drop in growth rate, which started in the mid-1990s. Agriculture's per capita income is decreasing since the pace of expansion has decreased in contrast to the rise in the number of people who rely on agriculture. This is believed to be a significant contributor to widespread rural discontent and a high incidence of farmer suicides throughout the nation[6]. Another important challenge is to ensure

that natural capitals are utilized in an environmentally friendly way. The country's typical resource base is decreasing, despite the obvious need for greater agricultural development. In addition, there are symbols of land loss and overuse of water in the area. Since the WTO (World Trade Organization), Indian agriculture has experienced major difficulties, since domestic prices of several commodities have increased above international rates. Imports have become more attractive as a result, while exports have suffered[7]. The scenario requires increasing productivity in agricultural production, marketing, and transportation, among other things, in order to improve Indian agriculture's competitiveness.

There is a common perception throughout the globe that food market intervention has benefitted mainly agricultural land-based areas. Aside from dryland agricultural areas, the rain has been overlooked. Small-scale farms, which account for the majority of both the country's farmers, are also being thoughtfully considered for their long-term viability and survival. The country's present dismal agricultural image is due to a number of factors/reasons. There has been a lack of consistency in agriculture policy for a long time. The government will not alter institutional structures or regulatory frameworks to create an environment that is favorable to agriculture and to adapt to changes in the domestic and international environment, as is required. This is especially true when it comes to private sector participation in output and seed markets. The second reason is that substructure has been overlooked, with money being devoted to populist projects. The third reason is a delay in development reaching prospective areas, as well as a weaker technology distribution extension mechanism. It will be difficult to re-establish steady output growth and relieve rural suffering unless the agricultural sector undergoes significant changes [6].

There is growing worry that if agriculture's problems are not addressed swiftly and effectively, India's economy would struggle to grow from its present rate of around 5.6 percent to more than 7%, as the nation wants. According to the rate of population increase in cultivation of 1.76 percent since the mid-1992s, the non-agriculture sector must expand at a frequency of more than 12 percent to achieve a 9 percent overall development rate. The difficulties faced by individuals or groups of people in agriculture are shown:

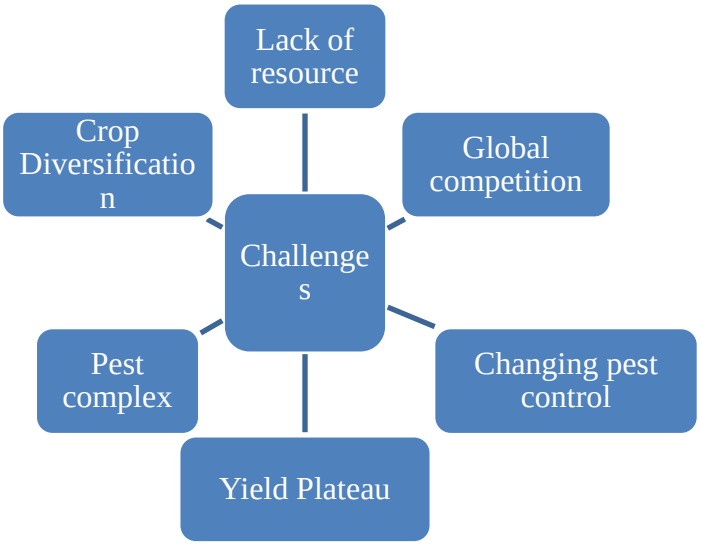

Figure 1: Representation of several challenges Faced by a Farmer or an Organisation in the Cultivation of the Food Grains.

The agricultural industry in India accounts for approximately 43% of the country's total land area. Despite a decline in agriculture's proportion of India's GDP, agriculture remains the country's single biggest contributor to GDP. It also showed that it had a significant role in the socioeconomic growth of India. Previously, India was highly dependent on food imports, but the expansion of the Indian economy's agricultural sector has allowed it to become grain self-sufficient. In this area, the country also possesses substantial deposits [8]. Following the food crisis of 1960, the agricultural sector, particularly the food production unit, saw a resurgence. Since then, India has worked hard to establish itself as a leader in agricultural output, resulting in the Green Revolution. While services have overtaken manufacturing in terms of GDP share and now account for close to 15%. It employs half of the population, contributes to production, is a source of raw materials, and serves as a request generator for a variety of companies.

Food prices are used to determine inflationary pay goods, which is a major policy problem in the development process. The question would be whether the current trend in food prices is due to production inequities, with reduced farm development meeting the stresses of an elevated economy due to technical bottlenecks, or whether it is due to exchange and product commodity vulnerability, or a lack of institutional reform. The Indian agricultural system is built on a supply-side mechanism that responds to increasing demand and rising prices. Alternative explanations, such as mixed or mongrel, are possible. For example, limitations in the food grains sector may be institutional or policy-driven, while in the semi-grain sector, market and non-price variables dominate, especially in this portion of farming that does not react to values.

When evaluating the impact of macroeconomic policy changes, the balance of monetary and fiscal policies must be taken into account. Economic growth would be limited by a combination of restrictive fiscal and monetary policies, which may lead to a recession or downturn with severe consequences for all sectors. The combination of an overly expansionary fiscal policy with an excessively expansionary monetary policy would result in fast inflation, making it an unpopular policy combination. The other two suggested combinations, contractionary fiscal policy with tight financial policy and preventative fiscal policy with expansionary financial policy, are also widely used. Interest rates and inflation are influenced by the relationship between macroeconomic policies, which has an impact on the agricultural sector. Changing interest rates impact variable profit margins, long-term capital expenditure, cash movement, house prices, and conversation rates, whereas a rise affects input costs, asset prices, inflation and interest rates, and property values.Potential local and international policy changes will have a uniformly larger effect on the agriculture industry's financial performance, given the global economy's growing convergence. As a consequence, for farmers and small farmers to make strategic choices, knowing the connections between the macroeconomic environment and agriculture is becoming more important. In the nation, there is a common perception that grocery market intervention has benefited mainly agricultural land advanced areas, whereas wet and dryland farming regions have been ignored.

1.1 Agricultural Economy Challenges:

1.1.1 Dependency on Nature:

India's agriculture is mostly rain-fed, and as a result, it is heavily reliant on the countryside. Excessively hot and dry weather, as well as an unnecessary monsoon or lack of rainfall, are all issues to consider. Droughts have a direct effect on the Company's financial performance. Although these risks may never be fully eliminated, they can be reduced by adopting proactive measures and responding promptly.

1.1.2. Perspective and Possibilities:

The global economy has been slowing for the last four and a half years. It has, thankfully, recovered at a slower rate; nevertheless, it still contains flaws that must be addressed. Structural changes are required to address inflationary pressures, fiscal imbalances, infrastructural constraints, and inefficiencies. Unless these flaws are addressed in a systematic way, growth is only expected to rise up slightly. The Indian economy expanded at a slower-than-expected 4.7 percent, plagued by poor productivity, rising inflation, a sinking rupee, and restrictive monetary policies. The economy has continued to operate below capacity as a result of these factors. Agriculture may be the lone bright spot in an otherwise dismal year for economic indicators. If structural improvements are implemented successfully, stronger development may be generated. India's long-term development potential is strong, despite a recent cyclical downturn, with promising prospects for workforce, worker skills, resources, infrastructure, and productivity. However, changes are required before the budget can achieve and sustain this quicker pace. While growth is anticipated to perk up in the near term, the projection is contingent on institutional bottlenecks that hinder investment being removed. Improvements in agricultural efficiency, as well as perishables marketing and distribution, are critical. God's assets, cold storage facilities, and the APMC's (Agriculture Produce Market Committee) reform are all included. Not only would this reduce inflation, but it would also increase supply by eliminating waste. According to the Indian Council for Agricultural Research's (ICAR) Vision 2030 report, the price of food and processed goods is rising due to rising population and per capita income.

Food grain consumption is expected to increase from 192 million tonnes in 2000 to 345 million tonnes in 2030, according to estimates. As a consequence, over the next 20 years, food grain output will increase at a pace of 5.5 million tons per year. High-value goods (such as horticulture, dairy, livestock, and seafood) are rising faster than food grain consumption, which is expected to increase by more than 100 percent between 2000 and 2030. Despite the fact that this is a daunting and difficult challenge, it also presents numerous opportunities for the agricultural industry as a whole, ranging from the advancement of promising innovations and management options to increasing efficiency to meet rising food demand at the lowest possible cost in a declining production environment. With demand in the agricultural industry rising to approximately 232 million from 229 million in 2011-12, our farmers will continue to be concerned about a shortage of skilled farm workers.

1.2 Strategies To Overcome The Challenges:

According to a study released by the World Trade Organization (WTO), overall import and export of nutrition and forestry increased by $1.66 trillion and $1.82 trillion, respectively. India's share of the market has been calculated at 2.05 percent and 1.34 percent, respectively. India's food production sector has long been regarded as a significant exporter of food to the rest of the globe. India produces about 250 million tonnes of food, including more than 100 million tonnes of rice, more than 90 million tonnes of wheat, and a variety of other foods such as pulses. The constant technical progress in the area of innovation has resulted in the rise of food products for export. From April 2000 to August 2013, FDI inflows into the agricultural activities and machinery sectors totalled US $ 1,529.19 million and US $ 327.35 million, respectively, according to statistics from the Department of Skill Development and Entrepreneurship (DIPP). Agriculture's growth target in the 12th plan is anticipated to be 4%, up from 3.5 percent in the previous plan, and agricultural productivity and growth must be maintained and improved to meet the country's grain production needs. The government is also working to revitalize the

agriculture industry. The 12th plan emphasizes small and marginal farmers, increases output in rain-fed areas, and streamlines the value chain.

The administration is also attempting to revive the agriculture sector. Smallholder farmers are prioritized in the 12th plan, which also improves production in rain-fed regions and simplifies the supply chain. India must increase its access to expensive contemporary technologies, particularly agricultural biotechnology, in order to have a major effect on the cost of pricing and output of farm goods. Tomatoes (Chinese), papayas, and other GMO food crops have been grown and consumed safely all across the globe (including the United States and China). Squash and zucchini, as well as maize, are grown in 16 nations (the US). Cotton growers in India have had comparable experiences and have had similar outcomes. In March 2014, the Genetic Engineering Assessment Committee issued its report. (GEAC). Except for maize, farm experiments for 11 crops were authorized by the auditor general's department. India should anticipate greater clarity on such crops now that the current administration is in place.

2. LITERATURE REVIEW

Van Den Berg L et al. discussed Opportunities and Challenges of Urban Agriculture for Sustainable City Development in which they explained how a growing number of cities across the globe are turning to urban agriculture (UA). UA as a concept is explored and discussed in this article from a variety of geographical and strategic perspectives. We want to shed light on the opportunities and difficulties of UA for sustainable city development via this essay. To illustrate this point, we utilise case studies from cities across the globe. While investing in urban agriculture has its advantages, there are certain limits that need to be considered[8].

Raizada M et al. discussed Agronomic challenges and opportunities for smallholder terrace agriculture in developing countries in which they explained how Improving land productivity is important to satisfy growing food and forage needs in hillside and mountain communities. Tens of millions of smallholder terrace farmers in Asia, Africa, and Latin America who earn $1-2 a day do not have access to peer-reviewed knowledge of optimum agronomic techniques, but they have extensive traditional ecological knowledge. Terrace farmers also lack access to inexpensive agricultural equipment and supplies needed to improve crop yields. The goals of this study are to emphasize the agronomic difficulties of terrace farming, and propose creative, low-cost solutions to increase terrace agriculture while enhancing local lives. The article focuses on smallholder farmers in emerging countries, with specific reference to Nepal[9].

C. Xiong et al. discussed Potential and challenges of organic agriculture in Bangladesh in which they explained how Bangladesh’s economy and lives of most of its people rely on agriculture. Despite the significance of agriculture, maintaining food security is a problem because of frequent natural catastrophes, the impacts of climate change, and land degradation. The nation has little land area but varied ecosystems (hills, plains, coastal, and wetlands) (hills, plains, coastal, and wetlands). Climatic variables include temperature, rainfall, and humidity. The homestead production system in Bangladesh follows traditional organic farming, with a variety of fruits, vegetables, spices, and tuber crops. The traditional agriculture in Bangladesh grew highly reliant on synthetic fertilizers and pesticides following the Green Revolution. This has resulted in many human health and environmental risks, jeopardizing food safety[10].

3. DISCUSSION

The Indian government has been adopting a lot of new technical innovation in the area of agriculture in order to boost output while also retaining the soil's fertility power, since it is

widely known that the soil's fertility power has been decreasing with each season of cultivation. The issue of soil fertility may arise in the field, when fertilizer is used extensively during cultivation, causing the soil to become less fertile. The government has announced the soil health care plan, under which each farmer would get a soil health card following a lab test of the soil in his or her land, and the farmer will be given recommendations based on the soil health card. Apart from that, water and electricity supply are also important elements in the development of agriculture, since water is the most important component in preserving crops in areas where rainfall is insufficient.

To boost demand, a record-breaking green movement is required. Punjab became the top wheat producer as a consequence of the first Revolution. As a consequence, the only option to address the agricultural growth gap is for a second Green Movement to emerge. The second Industrial Revolution will, in essence, maintain the world green and prevent it from becoming a desolate wasteland. To reduce the cost of travel, rigorous measures to eliminate corruption at checkpoints and decrease taxes on transportation companies are required. Exporting agricultural goods should be emphasized since it will lead to rural development and a significant number of employment openings. If immediate action is done, agriculture may become more buoyant, efficient, and commercial. India has the potential to play a key role in the WTO in the future.

4. CONCLUSION

India's agriculture is still at a fork in the road, even after many years of independence and Five-Year Plans. Agriculture suffered a setback during the previous WTO period. According to the proportion of agro foods in India's worldwide export, farm subsidies in rich nations have been increased in the post-WTO period. As a consequence, India is struggling to compete in the international agricultural market. In this scenario, the agricultural food trade will most likely become oligopolistic. Commodity returns have been announced due to increasing production costs, a sluggish rate of growth in output, a weak marketing system, and an improvement in input intensity. As a consequence, India struggles to compete in the global agricultural market. In this scenario, the global agricultural trade would very certainly become oligopolistic. As a consequence of increasing production prices, a dramatic decrease in output, bad pricing practices, and greater input power, commodity yields have been declared. Importing nations should enhance their marketing strategies, and security should be provided in terms of both quality and quantity. Fisheries, poultry, and traditional items, as well as horticulture and manufactured goods, benefit from long-term market trends.

As a consequence, it's possible that export of these goods may be promoted. The federal and state governments should increase infrastructure investment in post-harvest management, including highway extension and rural road upgrades. Computerized networking of Germless centers is required to develop better crop types and by birds. The most essential criteria is to enhance the quality, production, and cost of our agricultural goods. We must reduce our production costs to meet the WTO challenge, which may be accomplished by growing hybrids and adopting natural pest management methods. The emphasis should be on educating farmers about hybrid seed production and propagation.

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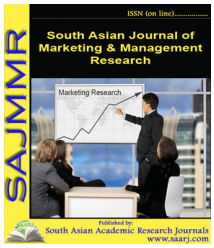

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FUTURE OF MODERN FARMING: A COMPREHENSIVE REVIEW

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ABSTRACT

Agricultural production in agricultural systems were dependent on internal resources, organic material cycling, built-in bio - control mechanisms, and rainfall patterns until approximately four decades ago. Agricultural yields were low, though consistent. As insurance against insect outbreaks or extreme weather, producers grew more than one crop or type in the same field at the same time. Accuracy the advantages of this method have been shown in farming, but we may now move on to a new generation of equipment. Instead of dousing a whole apple orchard with chemicals on a regular basis, towing sensors detect illnesses or parasites using infrared multiple sensors, as well as spray just the afflicted trees. Robots may one day work on commercial farms, identifying, spraying, and picking specific bits of food off plants, even if their objectives are grapes, peppers, or apples which are as green as the foliage that surrounding them. A new generation of agricultural automation promises to alter the economics of horticulture in the same way that the mechanical reaper did for cereal production. Because selecting apples differs from picking strawberries, the machines come in a variety of shapes and sizes.

KEYWORDS: *Agriculture, Modern Farming, Robot*

1. INTRODUCTION

Rotating main field crops with legumes provided nitrogen inputs. By successfully interrupting the life cycles of these pests, turn rotations reduced insects, weeds, and illnesses. Corn was alternated with other crops, including soybeans, by a typical Corn Belt farmer, and small grain output was essential to keep animals alive. No specialist equipment or services were bought from off-farm sources, and the majority of the work was done by the family with infrequent hired assistance. The connection between agriculture as well as ecology was very strong in these agricultural systems, and indications of environmental deterioration were rare. The ecology-

farming connection was frequently disrupted as agricultural modernization advanced, as ecological principles were disregarded and/or overruled. In reality, a group of agricultural experts has come to the conclusion that contemporary agriculture is facing an environmental catastrophe[1]–[3].

An increasing number of individuals are worried about the current food production systems' long-term viability. Evidence has gathered demonstrating that, although today's capital- or technology-intensive agricultural systems are highly productive and successful, they also carry a slew of economic, environmental, including social issues with them. Agriculture now consumes a lot of energy. It may be found in a variety of forms, ranging from fertilizers and chemicals to tractors and gasoline. To enhance effectiveness, the Phytotechnology method attempts to target the introduced energy. According to the report, switching from conventional trafficked systems (255 MJ/ha) to a non-trafficked system (79 MJ/ha) may save 70% of cultivation energy. This was just for shallow ploughing, not for deep loosening. We may deduce that 80-90 percent of the energy invested in traditional agriculture is used to restore the harm caused by big tractors. It would be preferable to avoid compaction in the first place, which is one of the reasons we're considering utilizing tiny light machines. Harvesting is the most labor-intensive operation for many crops, yet even proponents admit that no machine has yet come close to matching human sensory motor control.

As sensors and software grow cheaper and more sophisticated, this is likely to change. Experts believe the effort has a variety of potential advantages as scientists in Israel and Europe come closer to achieving this objective. Human workers may be protected from the dangers of handling chemicals by autonomous agricultural robots. Robots may also decrease pesticide usage by up to 80% on a farm using a highly selective spraying method. In many areas, where there aren't enough nomadic laborers accessible at the appropriate times in the harvesting cycle, robots might provide a timely supply of labor. Meanwhile, efforts to build robots that can see, grip, and learn may have far-reaching consequences. The aim is to educate computers to perceive in the same way that people do, and to improve their skills as they work and learn. Agrirobots, in whatever form they take, have many fundamental technical advancements that have their roots in factories. Farms, on the other hand, are much more difficult to automate since the weather is always changing, the light varies, the terrain may shift from grass to mud, and there are animals and humans roaming about.

Fruit, unlike automobile components, does not come in conventional sizes. It floats about in the wind on branches, changing form and color, and may be covered by leaves. However, advances in vision and other sensor systems, along with increased processing power, have made robots smarter, safer, and more dexterous. Farmers, like industrial owners, will, nevertheless, want to see a return on their investment. “It is not difficult to choose an orange, but it is very difficult to select an orange efficiently,” explains Tony Stentz of Carnegie Mellon University's Robotics Institute. One benefit that robots have over physical labor is that they can operate nonstop all day. However, their ability to collect correct information is proving to be an equally valuable skill. Farmers may be compelled to alter some of their practices and the types they produce as a result of increased automation. Crop-tending robots can create a database of information on each plant by using machine vision, laser sensors, satellites positioning, and devices to detect things like humidity[4].

1.1. Agricultural Robotics in Action:

1.1.1. Scouting for crops

The capacity to gather timely and reliable information is one of the most important aspects of effective management. Quantified data has a reputation for being expensive, and the expenses of sampling may rapidly exceed the advantages of spatially varied management. To transport instruments above the crop canopy and use GPS, a high clearance platform is required.

Figure 1: Drone scouting solutions are a revolutionary way that growers and their advisers are redefining field scouting[5]**.**

1.1.2. Robotic weeding

Managed biodiversity is a possibility that robotic mowing could bring to fruition. When non-competitive weeds are kept at a safe distance from the crop, they can be allowed to grow. This is one of the design parameters for the KVL-developed Autonomous Christmas Tree Weedier.

Figure 1: illustrate the Solar-powered robot from ecoRobotix[6]**.**

1.1.3. Smart Gardeners:

Autonomous gardener, developed for an MIT robotics class, employ equipment installed to the base of a Roomba. Sensors in the soil alarm the robot, which water crops or may select any fruit it sees with an articulated arm. The MIT team has no immediate intentions to commercialize the

bots, and they are working to give them more autonomy. Future systems could compare earlier images of the same plants over time to detect diseases or parasites.

Figure 1: Illustrate the Smart Irrigation Tips for Gardeners and Growers.

1.1.4. Inspecting a tomato plants:

IN THE early 1830s, spurred on by his hatred of sweaty field work, Cyrus McCormick took an idea his father had been working on at the family farm in Virginia and produced a mechanical reaper. Others devised similar machines. Despite initial skepticism, farmers eventually bought them in droves. With one person riding the horse that pulled the reaper, and another raking the cut stalks off the back, the machines could harvest as much grain in a day as a dozen men breaking their backs with reaping hooks

Figure 3: Illustrate the Inspecting a tomato plant at MITJason Dorfman[7]**.**

From drought-stricken California to Australia's record-breaking heat, we're rapidly discovering that water is the most valuable resource on the planet. Water is the essence of life, and Smart Irrigation Month reminds us that it is our responsibility to manage it wisely.Since we began shipping out of a ramshackle basement warehouse 25 years ago, smart irrigation techniques have been the basis of DripWorks. Although water is plentiful, the ground and surface water that we

use for municipal and industrial purposes makes up less than 1% of the total water on the planet. The most accessible and cost-effective freshwater sources, particularly in water-scarce regions, have already been created. New solutions are more important than ever as demand increases and climates change. We're offering some of our greatest water-saving ideas for gardeners and farmers in celebration of Smart Irrigation Month. You'll save both water and money if you implement these suggestions.

1.2.Plant Plants That Are Appropriate for Your Environment:

The typical American household consumes 320 gallons of water each day, according to the EPA. Thirty percent to sixty percent of the water is utilized to cultivate lawns and landscapes, with as much as half of that water being wasted owing to inadequate irrigation methods.Some cities are enacting rules to reduce outdoor water use, but that doesn't mean you have to forego aesthetics. Some homeowners are replacing their well-kept, water-guzzling front lawns with drought-tolerant plants. For suggestions on how to choose plants that save up to 75 percent of water and need less care, go to earth simple and Google the phrase "xeriscape". When planning your landscaping, arrange plants according to how much water they need and minimize evaporation by layering mulch over bare ground between plantings and rows.

2. LITERATURE REVIEW

Most agricultural areas of California, according to Miguel A. Altieri et al, have lengthy growing seasons, rich soils, and irrigation, all of which promote a highly varied cropping. Furthermore, the vast range of vegetables, field and tree crops dictated the agricultural businesses' great diversity and adaptability. Despite these considerations, monoculture cropping systems dominate California's agro ecosystems. These systems are productive, but they lack the ecological characteristics that guarantee effective nutrient cycling, water or soil conservation, or biotic control. Chemical inputs including such pesticides and fertilizers, some of which are harmful to the environment and public health, are used to boost productivity. Large-scale monocultures are particularly vulnerable to wind erosion and rely on ground water for irrigation, resulting in a significant ‘overdraft' in certain places. In some areas, inadequate field drainage and increasing water levels have resulted in unsustainable levels of soil salt. In conclusion, Californian agriculture is very efficient, but the environmental costs of that productivity are jeopardizing the industry's long-term viability[8].

A robotic system for mapping weed concentrations in fields was utilized by Thomas Bak et al to show intelligent ideas for autonomous vehicles in agriculture, which may ultimately lead to a new sustainable paradigm for developed agriculture. The vehicle on display is designed to work in 0 25 and 0 5 m row crops and is fitted with cameras for weed identification and row guiding. The platform is designed in a modular fashion, with four similar wheel modules allowing for four-wheel steering and propulsion. As a consequence, the vehicle's mobility is enhanced, allowing parallel displacement during turns by decoupling positional changes from orientation modifications. A vehicle electronics and control system based on integrated controllers as well as standard communication protocols controls the platform. The program uses a hybrid intentional software architecture to decompose the operation in a hierarchical manner. The lowest level provides a reactive feedback control system based on a four-wheel case extension of basic control for car-like vehicles. The controller's architecture compels the vehicle's front and rear wheels to follow a preset route while allowing it to retain a fixed normative to the path. The controller's reasoning is given, as well as findings from field trials[9].

N. S. Naiket al. conducted research on any production or planning system's primary objective is to achieve long-term, fair development. More food production will be required during the next 50 years to keep up with the growing human population and accessible arable land. Agriculture and its related industries rely on both the exploitation and protection of natural resources at the same time. Their environmental effects must be minimized in order to continue developing sustainable manufacturing methods. This is, however, an uncommon occurrence. Rapid population expansion, severe poverty, loss of biodiversity, pollution of air and water, and soil toxicity threaten the resources necessary to these industries in most hilly regions of emerging nations. The use of robots technology has already begun in Western nations. In the agricultural production scenario, this innovative and cutting-edge technology is expected to unlock the door to new farming systems that will improve yields and create revenue while also increasing sustainability. Swarms of robots have the qualities of being simple and low-cost, allowing them to be mass-produced and deployed without having to worry about their survival. It's a burgeoning industry that's being put to innovative uses. The idea has been around for decades, but small groups of robots working together to accomplish tasks have proven useful in conservation, sustainability, and agriculture[10].

3. DISCUSSION

Precision the advantages of this method have been shown in farming, but we may now move on to a new generation of equipment. Instead of dousing a whole apple tree with chemicals on a regular basis, towing sensors detect illnesses or parasites using infrared sensors and cameras, and spray just the afflicted trees. According to the variables identified as influencing biodiversity, agriculture as well as its related industries are one of the major causes of deforestation or biodiversity loss since they use and preserve resources at the same time. Increased agricultural yields will decrease the demand for land expansion, which can only be accomplished via innovative technology. A mix of traditional and sustainable technologies, as well as novel application models, may be used to create robotics for sustainability. Farmers and others in related occupations will soon live in a world of mostly autonomous, self-maintaining, and self-healing equipment, as agricultural robotics advances, and farming will get simpler in the coming years. More generally, advanced control of swarm and robotic technologies provides tremendous promise for fast, time-saving, low-cost chemical application, low-input food production, and crop management construction and maintenance. Today, once the advantages of new techniques and technologies are recognized by the general public, they may quickly spread across the world. Agriculture robotics research has numerous difficulties in the future, and the strategic goals should be to make agricultural robots more flexible, efficient, and robust.

4.CONCLUSION

The loss of biological variety is caused by the vast and increasing population, widespread nature of agriculture, acceptance of monoculture cash agriculture, excessive use of pesticides and fertilizers, soil erosion and land degradation, overgrazing of pastures, or excessive pressure on natural forests. According to the variables identified as influencing biodiversity, agriculture as well as its related industries are one of the major causes of deforestation or biodiversity loss since they use and preserve resources at the same time. Increased agricultural yields will decrease the demand for land expansion, which can only be accomplished via innovative technology. As a result, research is required to develop suitable technologies, with robotics use in future farming and sustainability being the most recent example. A mix of traditional and sustainable technologies, as well as novel application models, may be used to create robotics for

sustainability. Farmers and others in related occupations will soon live in a world of mostly autonomous, self-maintaining, and self-healing equipment, as agricultural robotics advances, and farming will get simpler in the coming years. More generally, advanced control of swarm and robotic technologies provides tremendous promise for fast, time-saving, low-cost chemical application, low-input food production, and crop management construction and maintenance. Today, once the advantages of new techniques and technologies are recognized by the general public, they may quickly spread across the world. Agriculture robotics research has numerous difficulties in the future,

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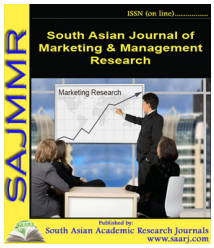

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APPAREL OR TEXTILE SUPPLY CHAINS USING BLOCKCHAIN

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ABSTRACT

The Blockchain is proposed as a comprehensive platform for information transmission or storage in highly transparent networks in order to assist reveal and monitor environmental presentation throughout the clothing supply chain and textile. Every network contributor may get access to the specifics of a supply chain process and, as a result, build a greater degree of trust in the distributor's environmental authority. The primary goal of the paper is to demonstrate the potential of Blockchain technology in the clothing supply chain and textile industry. This study looks at how to use the many characteristics of Blockchain to achieve low carbon emissions in the clothing and textile industries via transparent supply chains. Overall, Blockchain technology is included into this research paper by demonstrating the project, commercial implications, and opportunities in the clothing supply and textile chain. In addition, with the assistance of the Low Carbon Production Program, this study helps to comprehend the application of Blockchain in clothing supply and textile.

KEYWORDS: *Block Chain, Cryptographic, Supply Chains, Textile.*

1. INTRODUCTION

Models or paradigms of technology that have a significant impact on society and industry may successfully overlap. Unpredictability will be generated and overlapped by the two technologies that are both advancing and intersecting, necessitating further study. Blockchain and the internet of things are the two technologies under question (IoT). The road protectorate, from which we may foresee this impending clash of corporate paradigms & technology, creates opportunities for civic society or government to face problems and form companies. The program facilitates the distribution of databases and allows participants to exchange and save information in a timely and secure manner. It is a network of computer systems that uses current peer-to-peer and cryptographic technologies to create safe, dependable, and collaborative applications in a cost-effective way. This technology plays an important part in a variety of applications, including payment or digital currency systems, identity management, contractual automations, digital right

management systems, asset ownership, and healthcare management systems, among others. Every block requires a timestamp, which aids in recognizing the sequence of encoded data and establishing relationships with prior blocks[1]–[3].

When information is noted, Blockchains are inherently resistant to changes in that information. The information kept in somewhat give blocks cannot be changed retroactively without modifying all subsequent blocks and the majority junction of the networks, making it viable solutions for scattered applications and databases. Technology models and paradigms with a major effect on society and industry may be able to successfully overlap. Unpredictability will be produced and overlapped by the two developing and crossing technologies, requiring additional research. The two technologies in issue are blockchain and the internet of things (IoT). The road protectorate, which may foreshadow this coming conflict of corporate paradigms and technology, provides chances for civic people and politicians to confront issues and establish businesses. The Blockchain is proposed as a comprehensive platform for information transmission or storage in highly transparent networks, with the aim of helping in the disclosure and monitoring of environmental impact throughout the clothing and textile production chains. The Blockchain enables networks of databases to interact safely and seamlessly without the need for a central entity. The clothing and textile industries are able to provide and do business in justified ways because to decentralization, flexibility, transparency, data integrity, traceability, and rapid data dissemination. With the growing trend of globalization by instable manufacturing from expansion to developing nations, logistics management becomes more stimulating as management of the raw material crusade athwart every partner in many countries downstream supply chain becomes more complex. Management of three distinct kinds of flows in the apparel supply chain[4].

- Cash flow.
- Information exchange.
- The flow of materials.

The logistics and conversion of materials from one end of a supply chain to the selling of a finished costume to a final client at the other are all elements of the clothes' physical production. To complete this operation, fund flow, which is part of the supply chain, is required. Brand consumers often demand solvency from merchants in order to provide sufficient time windows for selling costumes and collecting client money. The supply chain executive need funds to pay for commodities factories or manufacturers, as well as compensation for transition factory employees. The cash flow needs and the supply chain may not be timed in the same manner in certain circumstances. Finally, effective supply chain producer collaboration relies on all stakeholders sharing information. To guarantee that series requirements are maintained, supply chain managers or merchants keep a careful watch on the condition of production and costume goods. Furthermore, data on substance quality and sources, as well as production methods and distribution platforms, may be utilized to comply with environmental and affordability regulations, as well as fight counterfeiting. The economic crisis, which has seen several well-known financial institutions collapse, has the ability to put a stop to supply chain capital flows. Strikes, terrorist threats, natural as well as man-made disasters, and political inconstancy may all impede material flows. These threats to the three flows exacerbate supply chain vulnerabilities and hazards, lowering the clothing supply chain's resiliency and robustness[5].

The flattening of the flow of information and the sharing of relevant data across supply chain participants is emphasized in a transparent supply chain. Regardless of whether supply chain risk is related to money flows or suppliers, clarity has the benefit of making supply chain risk more predictable. The transparency also helps in the provision of sustainability and environmental development. Pollution has a broad variety of repercussions in developing nations, from underpaid manufacturing employees to industrial waste to consumers who see low-cost clothes as a disposable item. These hidden expenses are becoming more difficult to bear in global procurement. One approach for enabling both supply chain parties to share information is to create an integrated supply chain. Buyers, for example, might submit purchase orders to the website, which merchants would subsequently collect. After that, vendors will send purchase orders to manufacturing and general contractors. As goods and completed items are delivered, invoices, compliance certifications, and delivery documents are submitted and linked with POs. However, there are two drawbacks to this approach:

It requires central permission to keep track of many parties' admissions, maintain security, and update the records. Anyone with sufficient access to such systems may delete, corrupt, or tamper with the data and information. As a result, all parties must have faith in the centralized organizations that use platforms. The ideas may not hold true for all supply chain partners.

Supply chain transparency is usually limited to downstream and upstream gatherings with simple transactions, and it seldom extends to the whole chain. The longer the supply chain, the more complicated the transaction details are. The Blockchain idea, which improves supply chain efficiency and data security, may be used to solve such problems. The following paper is divided into three parts. Demonstrate the architecture, industry implications, and possibilities for using Blockchain in the garment chain and textile management.

1.1.Apparel & Textile on the Blockchain:

The Blockchain is a distributed ledger that employs advanced cryptographic techniques and a peer-to-peer distributed network to build cost-effectively reliable, trustworthy, and collaborative applications. Payment systems and digital currencies, identity management, healthcare management, digital rights, contract automation, Blockchain, and asset ownership are just a few of the uses for this technology. A blockchain is a distributed ledger that is used to keep a constantly growing list of records known as blocks. Every block contains the timestamps as well as a link to the previous block. When data is recorded, the Blockchain is inherently intransigent when it comes to data moderation. The data stored in provided blocks cannot be altered retroactively without necessitating the alteration of all subsequent blocks and the cooperation of network's dominant nodes, making it a good choice for decentralized databases and applications.

1.2.Preventing the Purchase of a Fake Product:

The immutability of Blockchain allows for the recording of critical data (such as manufacturer ID or product ID) in immutable blocks for swindling detection. A digital benefit transaction may include both the organization and personal information. Every instance of digital benefit transactions will be accompanied by the payer's and receivers digital signatures, allowing the strong methods of the digital benefit flow to be controlled and fraud to be discovered via the systems[6].

1.3.Avoid Duplicate Spending:

The double spending method entails spending the same digital advantages (such as carbon token) twice as much as when they are used on the digital benefits platform. By virtue of its clarity features, the Blockchain provides the abilities to avoid such duplicate spending. Because every benefit transaction in Blockchain is confirmed and seen by every participant, no one may spend identical assets more than once in the supply chain system or textile.

1.4.Textile and Apparel Supply Chain Traceable Records

The Blockchain is a distributed and community database system that all clothing designers, consumers, and textiles in the network may update and monitor. No one participant may alter the history of certain recorded transactions, punctuate deal movements, or run the transaction sequence unethically. As a result, the Blockchain will be used to recover or track every transaction or activity.

1.5.Collaborations between the textile and apparel industries:

In order to make the process more auditable and responsible, blockchain may be used in every apparel company cooperation and cross-departmental textile. Dissimilar apparel as well as textile business associates or departments can portion equivalent data or perform identifier to reduce possible business risks and to magnify business collaborations, thanks to the unique features of Blockchain, where efficient knowledge is complete in secured and real time across the entire network.

1.6.Smart Contract for Apparel and Textiles:

The continuous works is designed to improve the current throughput in order to meet the demands of fast transactions. Data, physical property, and benefits may all be incorporated and digitized into Blockchain, resulting in the appropriate contract for the clothing or textile industries. Textile and Apparel Process Automation In the form of a good contract, blockchain will be used for clothing and textile process automation (Figure 2). This enables clothing and textile manufacturers or businesses to exchange information and advantages in a transparent, automated manner without relying on third-party involvement, which is in line with Block chain's regionalization feature[7].

1.7.Acceptance in terms of safety, the environment, and health:

The transactions of a sequence (i.e. transceiver of equitable of palpable advantages) could be completely dominant to the Safety, Ecologic, as well as Health Compliance circumstances construct into the stark contradiction, in combination with the sharp contracts applications for improving the environmental and social governance of distributors. The information on safety, environmental, including health compliance will be generated regularly.Blockchain safeguards trustworthiness, transparency, traceability, and immutability, which will increase trust across various clothing and textile industry contributors. Each stage is a cation that is open, immune, as well as transparent. The cancellation, transfer, distribution, as well as catalog of carbon allowances will all be handled irreversibly. The functions or entities of the (LCMP) in the clothing and textile industries. The creation of a (LCMP) carbon emission standard on clothing or textile Blockchain networks technologies is also providing for each of the apparel or textile manufacturing phases.

The many phases and kinds of manufacturing that take place throughout the production of textiles and completed clothes, such as staining and consumer-care distribution, have substantial environmental effects and are not ecologically sustainable.Fiber is assigning various digital IDs directly printed on the tags when this is creating, according to the technique. Each time a transaction is created by a retailer, wholesaler, or other industry participant, paperwork will be recorded in the book along with the full digital signatures of the clothing. When the whole set of clothing is sold, the fabrics as well as fibers that make up that transmission will provide the information in the book to the buyers. As the processes for the production of clothing and textile materials are clarified time and time again, the transaction block including digital IDs information is passed along, and ownership of the apparel and textile process is transferred to the Blockchain network.

1.8.Carbon:

The primary goal of carbon token trading is to encourage companies to reduce their greenhouse gas emissions by limiting the amount they may emit and allowing them to trade surplus credit. As a result, this will aid in the area of Blockchain tokens, which are a new method of reducing carbon footprints.

2. LITERATURE REVIEW

Fu, Bailu, et al. investigated various sectors are looking at the possibility of redefining their current operational systems as a result of the new blockchain technology, which was initially designed for bitcoin transactions. The fashion apparel manufacturing sector (FAMI), which is fueled by blockchain, is offered a new ecologically friendly solution in this research. The proposed framework, which incorporates the Emission Trading Scheme (ETS) and a new "emission link" system, exposes carbon emissions to the public and creates a feature to decrease emissions for all critical stages in the garment manufacturing process. Blockchain adds decentralization, transparency, automation, and immutability to the proposed framework, making it fully compatible with Industry 4.0. The blockchain-based ETS architecture, as well as the carbon emissions of the textile production life cycle and emission link-powered processes, are all discussed in depth. The carbon emission assessment method is shown via a case study. Finally, a multi-criteria assessment is conducted to show the suggested system's advantages and limitations[8].

Kouhizadeh et al. conducted research on Blockchain technology is a fledgling technology whose popularity is on the rise. Supply chains are one of the most common blockchain technology applications. Blockchain technology may help sustainable, and particularly green, supply chains, but there are certain limitations. The research and academic literature on sustainability and environmental management is just beginning to delve into this new area. This article aims to further the conversation around green supply chains using blockchain technology by encouraging more practice and research. This perspective paper offers an outline of blockchain technology's major aspects, as well as an overview of application cases and problems, as well as some broad study topics for future exploration[9].

MagdiElMessiryAdel et al. conducted research on with worldwide sources and suppliers flowing into manufacturing lines that may span continents, modern textile supply chain infrastructures are both vast and complex. A significant number of faults can't be traced back to faulty batches that entered the supply chain somewhere along the route, resulting in waste and frustration further down the line. Because of the number of steps the product passes through and amount of

data involved, provenance is almost impossible. To record and track the product along the supply chain, no one system is used worldwide. By the time the underlying cause of the problem is identified, there is no option but to reject the finished product, causing losses of up to 40% of the product's value. This strategy is inherently faulty because it approaches a global issue from a limited perspective. Not every industry is ready to benefit from blockchain technology. Blockchain necessitates a complex and widely dispersed supply chain with an increasing number of intermediate stages. This is especially true in textiles, one of the world's oldest businesses[10].

3. DISCUSSION

Models and paradigms of technology that have a significant impact on society and industry may successfully overlap. Unpredictability will be generated and overlapped by the two technologies that are both advancing and intersecting, necessitating further study. Blockchain and the internet of things are the two technologies under question (IoT). The road protectorate, from which we may foresee this impending clash of corporate paradigms and technology, creates opportunities for civic people and politics to face problems and form companies. The Blockchain is suggested as a complete platform for information transmission or storage in highly transparent networks, with the goal of assisting in the disclosure and monitoring of environmental presentation across the apparel supply chain and textile. Every network participant may get access to the details of a supply chain procedure, increasing their confidence in the distributor's environmental authority as a consequence. The paper's main aim is to show how Blockchain technology may be used in the apparel supply chain and textile sector. The DLT will provide tamper-proof and transparent records in the form of timestamps, raw materials, origin, and places on the best, all of which convey to a long-term product uniqueness reserved in the Blockchain. With the mass information limited in various networks and devices via the clothing chain and textile, we believe that the carbon token combined with Blockchain methods will create a Blockchain and tamper-proof filing systems with real-time records.

4. CONCLUSION

The numerous benefits juxtaposed in different research and review papers rely on clothing and textile product help to monitor the systems in terms of costs, traceability, and efficacy in the area of blockchain applications in the apparel and textile supply chain. Most importantly, the rapid distribution of full clothing information will provide better information to consumers and purchasers about apparel and textile dispensation technique on material production and will help manufacturers in pursuing excellent practice on the LCMP. There is a growing tendency among consumers to ensure that conventional claims made by clothing and textile manufacturers regarding their outcomes are authoritative, trustworthy, and credible. The DLT will provide tamper-proof and transparent records in the form of timestamps, raw materials, origin, and places on the best, all of which convey to a long-term product uniqueness reserved in the Blockchain. With mass communication limited in various networks and devices via the clothing chain and textile, the carbon token combined with Blockchain methods will create a Blockchain as well as tamper-proof filing systems with real-time records.

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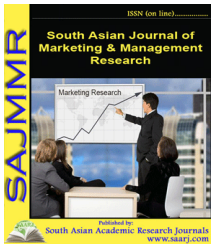

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REVIEW AND ANALYSIS OF STATUS OF INDIAN TOURISM AND HOSPITALITY RESEARCH

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ABSTRACT

Because of its strong forward and backward linkages with other important sectors of the economy, tourism in India has emerged as a key driver for long-term growth. In 2012, tourism generated US$ 17,737 million in foreign currency, an annual growth rate of 7.1 percent. This rise has prompted academics, policymakers, and professionals to study the tourist sector in more detail. This is the first study to concentrate exclusively on Indian tourism and hospitality research and to conduct a thorough assessment of the literature. It covers 182 articles published between 1981 and 2012 in major academic databases such as Sciencedirect.com, SAGE Journals, Routledge.com, Emerald Insight, Springer, Wiley Online Library, and Tourism Recreation Research. The results show that research topics have grown more diverse, and the research output of Indian colleges and institutions is steadily rising. Multiple authorship and more sophisticated methodological methods have been discovered as a trend.

KEYWORDS: *Content Analysis, Evaluation, Status of Indian Tourism, Tourism Trends, Tourism In India.*

INTRODUCTION

The Indian National Tourist Policy, which aims to achieve socio-cultural and economic advantages, has resulted in a rise in tourism activities throughout the nation. According to data from the Ministry of Tourism, Government of India, foreign visitor arrivals (FTAs) in India in 2012 were 6.58 million, generating $17.74 billion in foreign exchange earnings and contributing $128 billion to the country's GDP (The World Travel and Tourism Council WTTC). According to the United Nations World Tourism Organization India would acquire 8.9 million free trade

agreements by 2020. In terms of traffic, tourism trends have already begun to show signs of potential development[1].

Researchers have been drawn to India's fast development in size and economic significance, and as a result, the number of papers published on Indian tourism and hospitality has increased in recent decades. Because an inventory of study work may be used to anticipate future trends and problems, these changes need a thorough literature evaluation in this context, which is lacking in Indian tourist research. This necessitates a thorough examination of papers published in periodicals ranging from travel and hospitality to other fields[2]. The required questions should be quickly addressed, such as how many research papers about India have been published, which university/institute has contributed the most articles on Indian tourism and hospitality, and what are the trends and features of research in India[3].That industrial research may be attributed to management functions that solve operational and managerial issues. Research is also required in the business to keep operators informed about their markets, developments, and future forecasts. The Indian tourist sector, which has enormous development potential, also anticipates research support. As a result, it is essential to update the research agenda by conducting a thorough and critical review of Indian tourism and hospitality research. This will provide answers to key issues like where we are now and whether types of tourism are likely to succeed. Several research have looked at these problems from a worldwide standpoint[4]. According to the literature reviewed, despite the fact that there are many studies on the Indian tourist and hospitality sector, the current article is the first to evaluate trends in Indian tourism and hospitality research. It offers an inventory of published research articles on Indian tourism in journals since 1981 in order to achieve its goals[5].Only six articles were discovered in the literature before to 1981, which may be considered the start of Indian tourism and hospitality study. The purpose of this study is to look at the substance of research papers on Indian tourism and hospitality, keeping the following goals in mind:

1. To locate research papers on Indian tourism and hospitality that have been published in journals.

2. To categorize contributions to Indian tourism and hospitality research by authors, universities, institutions, and country of origin.

3. To summarize the content of India tourism and hospitality research in terms of the themes and disciplines addressed; spatial coverage (i.e., research setting); types of tourism studied; nature of data (quantitative, qualitative, and hybrid); nature of study (empirical and conceptual); and sophistication of statistical techniques employed[6].

The analysis of research literature aids in the identification of trends and gaps in the area. It allows researchers to enhance the quality of their research agendas, as well as benefiting industry by providing it with solid theoretical concepts. Several studies on tourism and hospitality have used content analysis to evaluate research published in journals with the goal of evaluating trends[7].Content analysis is a method for discovering and describing current patterns in a subject that is objective, methodical, and repeatable. To discover study patterns, both qualitative and quantitative data have been utilized. Between 1974 and 1986, this method was utilized in the tourism and hospitality industry to examine research articles published in the Annals of Tourism Research and Journal of Leisure Research. Using this technique, Reid and an analysis of papers published in three journals (Journal of Tourism Research, Annals of Tourism Research, and Florida International University Hospitality Review) were able to publish in four journals (Cornell Hotel and Restaurant Administration Quarterly, Journal of Hospitality and Tourism

Research, International Journal of Hospitality Management, and Florida International University Hospitality Review). Five of the most prestigious hotel management publications were examined. Furthermore, they utilized content analysis in their research and came to the conclusion that the studies that were accessible in the literature only used a small number of journals for analysis. Using the same method, a study of research on "tourist and hospitality marketing" showed that conventional research subjects got less attention in 2002–2003. The demographic characteristics of fifty-seven tourism and hospitality academics were studied as part of a study on leadership in tourism research.Fig.1, Illustrates the distribution of age group participating in the tourism in India.

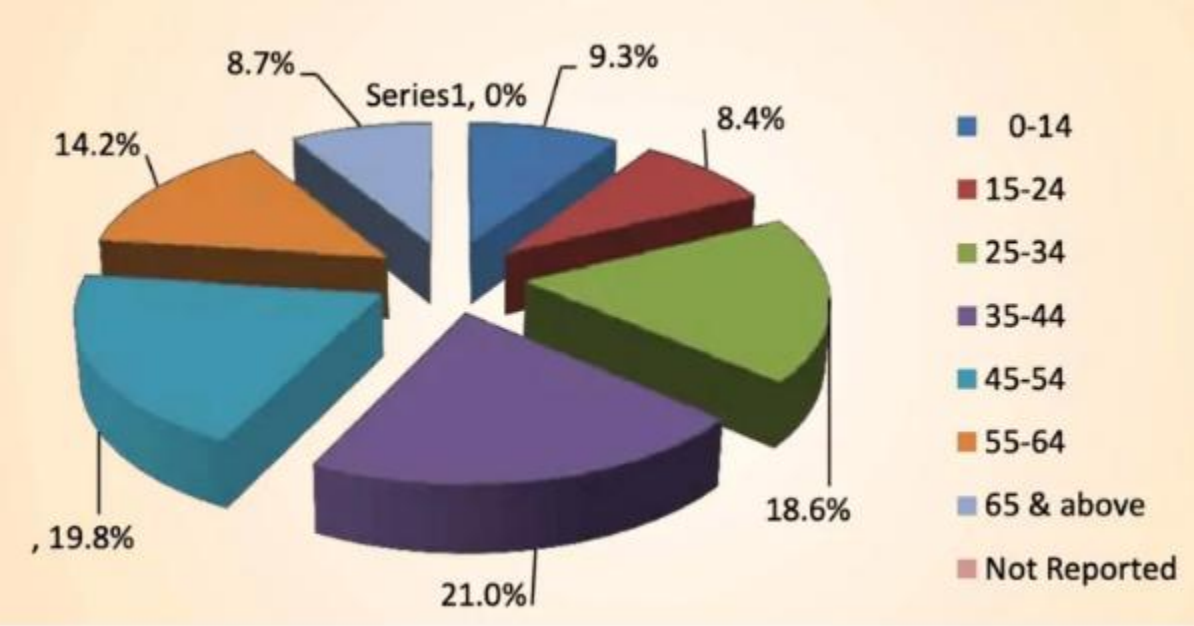

Fig.1: Illustrates the distribution of age group participating in the tourism in India[8].

Meanwhile, content analysis was utilized to discover the growing significance of qualitative approaches in modern tourist research. The current literature is organized into three major themes: authorship, institutional performance analysis, and paper and title profiling. Content analysis for papers published on Chinese tourism and hospitality in six top-rated journals in the field and recommended periodical content analysis of journal publications for an up-to-date knowledge of trends, according to articles published in the Journal of Sustainable Tourism. They used a similar approach in their study on China, which only contained papers from one publication. The bulk of studies that attempted to monitor developments in tourism and hospitality research utilized content analysis, however they left out a number of tourism and related publications. Furthermore, the study seems to be unable to uncover complete research output at both the global and country levels due to their small sample sizes[9]. This was clearly shown in a recent research. The current study, which takes place in India, is a modest attempt to close this gap. This is the first study in India to evaluate tourism and hospitality research articles published in journals from seven major academic databases across the globe. Journals from other areas were also included since the subject's multidisciplinary character may inspire writers to submit their work to journals from other domains. A total of 182 papers from 78 publications published in the past 32 years (1981 to 2012) were determined to be eligible for analysis. Keyword searches of the publications' web portals for the terms "India," "Indian," and "Delhi"

yielded the articles.Fig.2, illustrates the rise in number of tourist coming to India from 1995 to 2005.

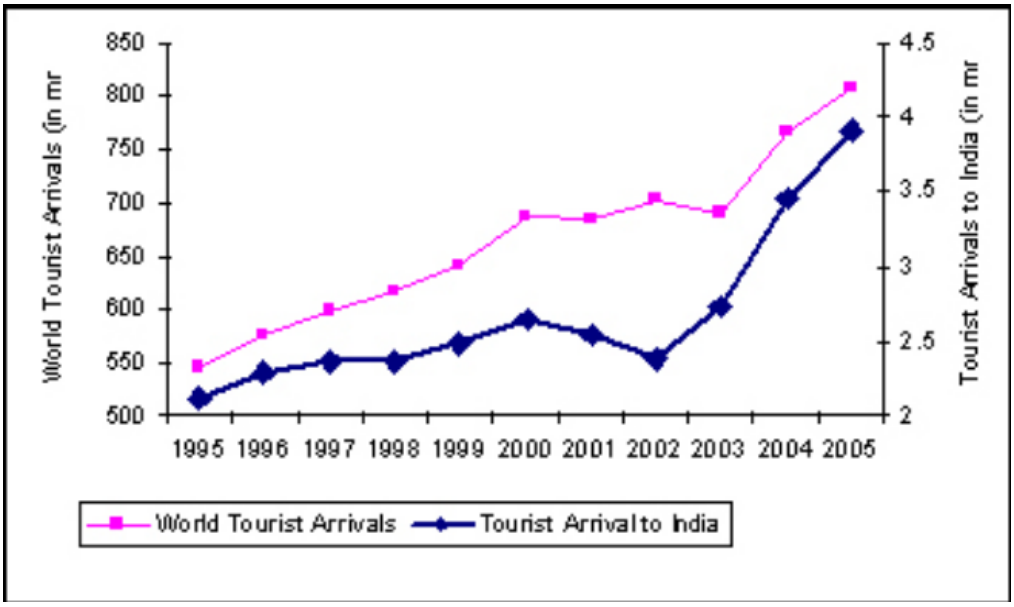

Fig.2: Illustrates the rise in number of tourist coming to India from 1995 to 2005[10]**.**

DISCUSSION ON THE RISE OF TOURISM IN INDIA

Under the 'and' and 'or' search aids, "Indian Tourism," "IndianHotels," "Indian Hospitality," and "Indian Traveling" were helpful keywords. The major topics of articles were identified and their eligibility was determined using keywords. The relevance of selected publications to the current research was assessed individually. Only full-length articles were considered for inclusion. Following norms, book reviews, reports, opinions, review articles, research notes, conference reports, and brief communications were omitted from the study. Two or more articles on Indian tourism and hospitality research were identified in a total of 28 journals. The focus of analysis for the articles as in previous studies conducted by the contribution of publisher database, theme and discipline, performance of university institute, authorship information, coverage of research region, types of tourism studied, and methodology used was on the contribution of publisher database, theme and discipline, performance of university institute, authorship information, coverage of research region, types of tourism studied, and methodology used. After the data was analyzed, the articles were categorized into various topics. The current research categorized articles into four industrial sectors, which were Tourism Travel Management, Restaurant, and Airlines, based on prior studies of the subject.

To evaluate the contributions of authors and universities/institutions, two techniques were used: instance and weighted instances. The instance showed the number of times one author submitted an article solo or as part of a group, while the weighted instance indicated the number in proportion to numerous writers. If two writers co-authored an article, each will get one occurrence with a weighted value of 0.5. The research area coverage took into account just the location where the study was conducted, not the author's place of employment or residence. Each paper was divided into three categories in the methodology section: quantitative, qualitative, and hybrid which combines quantitative and qualitative techniques. On the basis of content publication as stated by the author, the selected articles were additionally classified into

empirical and conceptual categories. Furthermore, data analysis methods employed in the papers were evaluated in order to better understand the study's goals. A content analysis of the articles was performed to examine the major topics. Because tourism and hospitality are trans-disciplinary fields, several papers addressed many topics; nevertheless, only the most prominent subject from each article was chosen for this study. Twenty-four topics accounted for 91.21 percent of the articles, according to the study. The findings of the comprehensive worldwide research have a lot in common with the conclusions of the theme analysis. In the papers, various data analysis methods are utilized.

Authors used qualitative techniques the most (53.66 percent), followed by descriptive statistics 20.98 % However, qualitative techniques were used less often, falling from 76.47 %in 1989–1996 to 47.37 % in 2005–2012. Content analysis, frequency, cross tabulation, and importance-performance analysis are examples of descriptive statistics. This method is being used in more publications, with 32 in 2005–2012 compared to just 1 in 1981–1988. The authors also employed factor analysis (5.85 percent), regression analysis (4.48 percent), correlation analysis (3.41 percent), ANOVA (2.93 percent), and t-test (2.44 percent). The number of analytical methods employed grew from 46 in 1997 to 2004 to 133 in 2005 to 2012. This backs up the claim that advanced and sophisticated methods aid readers in comprehending difficult topics in a straightforward way. During the research period, structural equation modeling, ethnographic methods, econometric approaches, Box–Jenkins, and other techniques were used in just one paper each. Recent research has also shown a promising trend in the variety of topics and disciplines. Indian writers' and universities'/institutes' contributions also shown steady growth. The current research discovered that the tourism and hospitality sector received academic interest when it became a driving factor in foreign currency profits.

According to an analysis of articles, both Indian and foreign researchers have begun to devote attention to the study of India's tourism and hospitality industry since the launch of the "Incredible India" marketing campaign, but knowledge enhancement has not been produced or distributed evenly. The present status of research publications in different. The majority of the research papers on Indian tourism and hospitality were published in TourismRecreational Research (TRR) and two issues of Worldwide Hospitality and Tourism Themes (WHTT) with the specific subject of "Indian Tourism." Approximately one-third of the entire research has been published in journals from different fields. Other results show that throughout the study period, the most research was produced in the field of "tourism/travel management" (77.98 percent). Multiple authorship was also observed throughout the data analysis. In terms of contributor affiliations, the findings show that research was unevenly dispersed. Researchers associated with Indian universities/institutes published about 40% of the articles, followed by universities/institutes in the United States and the United Kingdom. The low number of Indian tourism and hospitality research articles published in foreign journals raises concerns for future study how do Indian tourism and hospitality scholars choose journals to publish in? 2) How can research articles on Indian tourism be appealing to journals for publication? The research topics and disciplines evolve in response to business demands and realities, however this is not the case in the Indian tourism and hospitality sector. The anticipated emphasis at this stage was on research evaluating potential, although topics such as "Tourism Impacts" and "Tourist Behaviour" were prevalent. The increasing number of visitors and marketing rivalry among service providers may be linked to the emphasis on the "Tourist Behaviour" topic. In the case of Medical Tourism, research has developed in lockstep with market developments. Indian Medical

Tourism has caught the interest of scholars because to its position as one of the top four tourism destinations in the world (i.e., 9.89 percent of total studies).

Researchers have studied a wide variety of topics during the past eight years (2005–2012), but there is still a long way to go before they have a complete knowledge of the Indian tourist sector. The absence of particular regionally focused research has also been apparent over time. Researchers paid less attention to states that drew more incoming foreign visitors. This backs up the claim that research isn't expanding at the same rate as the rest of the business. Diversity of research techniques offers the power of generalizability of complicated theoretical connections as a research area develops. Prior to 1996, most studies analyzed data using just descriptive statistics and qualitative research techniques. Since 1997, Indian researchers, like their Chinese counterparts, seem to have acquired sophisticated statistical techniques and used them in their study. In addition, evidence of increasing usage of advanced statistical analytic methods in recent research is highlighted in this article. However, this does not imply that Indian tourism and hospitality research has improved in quality. Nonetheless, using these analytical methods improves studies of complicated connections involving many variables and simplifies the presenting of findings, which benefits decision-makers.

CONCLUSION AND IMPLICATION

Teaching quality is attributed to research papers since they begin the intellectual growth of a topic. The study of publications on India seems to corroborate this, both in terms of contributing to the subject's education and in terms of influencing the country's tourist development. Between 1981 and 2012, research output grew substantially, with the most rapid growth occurring between 2005 and 2012. During this time, the tourism sector had a significant growth in terms of visitor traffic and revenues. Following a review of the articles, several significant findings were discovered. Increases in the number of articles published in top-ranked tourism and hospitality publications, as well as journals from other disciplines, demonstrate that the topic is on the rise. Topics like "Tourism Impacts" and "Tourism Marketing" are expected to grow more popular among academics in the near future since study themes have gotten more diverse throughout time... The number of studies focused on particular states has increased in terms of research area coverage (i.e. study sites). The number of empirical studies using more complex and sophisticated analytical methods is increasing as well.The output of research in Indian universities and institutes continues to rise. The findings also revealed a tendency toward numerous writers. This study, like others, has limitations that may restrict the generalizations that can be made from the findings. Papers from local journals published at the university/individual level, conference proceedings, periodicals, novels, Ph.D. theses, and other kinds of publishing were not included in the research output utilized as an input. Future research may look at all of these research products in order to make studies more thorough. Studies may potentially concentrate on a variety of other topics not covered in this article. A monthly content analysis of articles published on Indian tourism and hospitality may be carried out, and the patterns discovered could aid in gaining a complete knowledge of the sector. It is also likely to be influenced by the amount of research funding available and the goals of the study sponsors.

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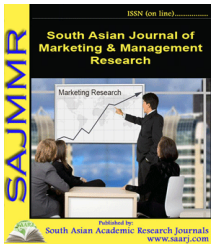

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MULTIPLE ECOLOGICAL SERVICES IN COFFEE AGRO ECOSYSTEMS ARE AFFECTED BY SHADE, ALTITUDE, AND MANAGEMENT

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ABSTRACT

Agro forestry systems contribute to farmer livelihoods and natural resource conservation by providing a variety of ecosystem services. Despite these well-known advantages, little is known about how shade trees influence the simultaneous supply of various ecosystem services, as well as possible trade-offs or synergies between them. To close this knowledge gap, we measured four major ecosystem services (pest and disease control, provisioning of agro forestry products, soil fertility maintenance, and carbon sequestration) in 69 coffee agroecosystems belonging to smallholder farmers in the Turrialba region of Cos. We next looked at bivariate connections between various ecosystem services, as well as specific ecosystem services and plant biodiversity, to see if there were any possible trade-offs or synergies. We also looked at which kinds of shade offered the best ecological benefits. The efficiency with which various kinds of shade provided ecological services was determined by how they interacted with altitude and coffee management, with different ecosystem services reacting differently to these variables. There were no trade-offs between the various ecosystem services examined or between ecosystem services and biodiversity, implying that several ecosystem services may be increased at the same time. Overall, low- and high-diversity coffee agro forestry systems were more capable of

providing ecosystem services than full-sun coffee monocultures. According to our results, coffee agroforestry systems should be planned with varied, productive shade canopies and maintained with a medium intensity of cropping techniques to ensure the ongoing supply of various ecosystem services.

KEYWORDS: *Agro Forestry, Carbon Sequestration, Coffee, Soil Fertility, Yields.*

1. INTRODUCTION

Despite the fact that agro forestry systems have the ability to offer a wide range of ecosystem services, little is known about how shade trees influence the supply of various ecosystem services and the possible trade-offs or synergies between them. Most agro forestry research has concentrated on a single ecosystem service, rather than looking at connections between several ecosystem services. Furthermore, most research has only looked at the individual impact of shade on ecosystem services, ignoring other variables like as management methods and environmental circumstances that may interact with shade to produce ecosystem services. To design high-performing agro forestry systems, however, a thorough knowledge of the many variables influencing the supply of ecosystem services, as well as their interconnections, is required, as is a study of linkages (trade-offs or synergies) among ecosystem services Understanding how agro forestry systems provide ecosystem services is especially essential for the coffee industry in Central America, which is presently under tremendous stress. Since 2012, a series of factors has resulted in a substantial reduction in coffee output, including lower coffee prices, higher production costs, and an epidemic of coffee leaf rust[1].

Farmers were obliged to stump their affected coffee estates after the coffee rust epidemic in order to rejuvenate coffee trees, replenish them with new coffee types, or even replace them with other crops . The loss of shade trees and other vegetation caused by the conversion of coffee plantations to other land uses has a detrimental impact on plant biodiversity. Information on the potential advantages given by shade trees linked with coffee plantations may motivate decision makers, technicians, and farmers to preserve and/or expand land uses under coffee agroforestry systems, thus halting their decline The goals of this paper were to evaluate the effectiveness [2] .

We identified important elements that should be addressed for the design and management of coffee agroecosystems to guarantee the ongoing supply of various ecosystem services based on our results.In the canton of Turrialba, Costa Rica, a coffee plot network (69 plots) was created. Turrialba lies in a premontane wet forest living zone, with an average annual rainfall of 2781 mm and a mean annual temperature of 22.2°C (averages for the past ten years), with minor monthly fluctuations. Coffee is produced between 600 and 1400 meters above sea level in this region .When compared to farms at lower altitudes, farms at higher elevations have somewhat wetter and colder weather. The goal of the plot sample method was to pick coffee plots with various shades of shad across altitudinal and management intensity gradients. Plots were chosen based on differences in botanical composition and structure of shade canopies, as well as differences in coffee cropping practices and altitude. However, we selected coffee plots that shared three key features in order to minimize variability and prevent confounding effects of various variables. They were owned by smallholder farmers, had coffee plants of the dwarf variety Caturra as the sole or dominant variety, which is the most common variety in Costa Rica and other Central and South American countries were grown on Inceptions, suborder Udepts soils [3] .

A circular area of 1000 m2 was constructed in the middle of the experimental subplot to evaluate shadow canopy characteristics (17.8 m radius).A GPS was used to determine the height of each coffee plot. All coffee plots had a mean altitude standard deviation of 877 126, ranging from 646 to 1107 [4] .

The Management Intensity Index (MII) is a metric that measures howSemistructured interviews with farmers were used to collect data on management. For each coffee plot, a management intensity index was generated. Existing management intensity indicators used in coffee research were utilized to make the computations. First, the number of times per year that each cropping technique was used was converted to a value IH or IL between 0 and 1 indicating the intensity of the practice; the greater the value, the higher the intensity: where IH is the transformed value for cropping practices where a lower value denotes a higher management intensity (e.g. number of weedings, fertilizer application, fungicide application, etc. and IL is the transformed value for cropping practices where a lower value denotes a higher management intensity (e.g. distances between coffee rows and between coffee plants); value was the arithmetic mean of the arithmetic mean of the arithmetic mean of The management intensity index of each coffee plot was then calculated by adding the converted data for all cropping techniques (highest achievable = 11, since we had 11 cropping practices)[5] .

Musaceae (bananas and plantains), service trees (i.e., nitrogen-fixing plants), fruit trees, and timber trees were all categorized. The diameters of the trunks and Musaceae stems were measured at 1.3 m from the ground (breast height); the diameters of the fruit trees were measured at 0.30 m. The height of the main stem was also measured for service trees like Erythrina poeppigiana, which are pollarded once or twice a year. The trunk diameters of the eight indicated coffee plants were also measured at 0.15 m above ground level. Shade cover (percent) was measured at the four corners and in the center of the experimental subplot using a spherical densiometer, and then averaged.

2. DISCUSSION

2.1.Application:

The impacts of altitude, management intensity (quantitative data for both variables), kind of shade (qualitative data), and their interactions on each particular ecosystem service indicator were estimated using a linear model. The normalcy of ecosystem service indicators was first determined. The model selection process was then repeated multiple times for each indicator. Non-significant variables or interactions were eliminated from the model each time. The factors that were kept in the final model were those that were thought to have an impact on the ecosystem service indicator in question. The impacts of different kinds of shade on ecosystem service indicators were further compared using analysis of variance and Fisher's LSD test (p 0.05). The impacts of significant double and triple interactions among the variables on ecosystem service indicators were graphically depicted.

The researchers used bivariate linear regressions to compare indicators of the four ecosystem services examined, as well as indicators of ecosystem services and plant biodiversity. Trade-offs is indicated by strong negative connections, while synergies are shown by large positive ones. In the bivariate linear regressions, just one indicator that best reflects each ecosystem service was chosen for simplicity and to emphasize only the most significant connections between ecological service indicators. Because it is regarded as a broad indication of plant sickness, the number of dead branches was selected as a representation of pest and disease service regulation. Coffee

yield was chosen as the indicator of provisioning services because it is of interest to both smallholder farmers (who are looking for ways to diversify their incomes but still rely on coffee as their main source of income) and medium and large farmers (who have coffee as their only product of interest). Because soil acidity is a common issue in tropical regions, and treating acidity requires significant additional costs (time and inputs) for farmers, soil acidity was selected as a representation of the maintenance of soil fertility service. Carbon sequestration was calculated using total aboveground biomass carbon. Finally, as a measure of biodiversity, the Shannon index of plant diversity was employed. Regressions were run on all of the data as a whole, as well as per kind of shade, to see whether ecosystem services are linked to a specific type of shadow. This method and analysis has been shown to be helpful in evaluating and designing agro ecosystems [6].

2.2.Advantage:

Shade, altitude, and management showed varying impacts on pest and disease control across various pests and illnesses. Regardless of the shade type, both altitude and management intensity had substantial single beneficial impacts on leaf miner insect and brown eye spot attack levels, with attack levels rising with higher altitudes and management intensities .The frequency of Anthracnose, on the other hand, was unaffected by altitude, treatment, or shade. The most important disease, coffee leaf rust, was substantially influenced by the double interaction altitude type of shade, but not by management intensity in any way. The soup of coffee leaf rust reduced with increasing altitude (indicating more rainfall and lower temperatures) in CFS and CHD, but not in CLD. These findings indicate that under various kinds of shade, coffee leaf rust reacted more to environmental circumstances than to management intensities surprisingly, the disease responded similarly in the two most dissimilar settings.

For dead branches, the triple interaction of altitude, type of shade, and management intensity was significant: the number of dead branches was lower at higher altitudes and increased with increasing management intensity in CFS only, while remaining practically constant in CLD and slightly decreasing in CHD. Management intensity had only a favorable impact on coffee production. The level of management intensity has a substantial beneficial impact on cash flow and family benefits however; the kind of shade management had a substantial double interaction impact on cash expenses and a large triple interaction effect on gross revenue. Increasing management intensity raised CFS and CHD cash costs significantly, but had no impact on CLD cash costs .Gross revenue was consistently higher in coffee plots with higher management intensity although it rose in CFS and dropped in CLD as altitude climbed. These findings indicate that, regardless of plot altitude, the costs of raising management intensity (and therefore boosting coffee production, cash flow, and family benefits) were clearly greater in monocultures than in agro forestry systems [7].

2.3.Working:

The indicators of each kind of ecosystem service reacted differentially to the impacts of height, shade, and management in our research. Furthermore, no obvious trade-offs existed between various ecosystem services or between ecosystem services and biodiversity. The fact that the triple interaction altitude type of shade management intensity affected at least one indicator of three major ecosystem services indicates that the combination of these three factors should always be considered in studies aimed at understanding the provision of ecosystem services by the cropping systems under study.

Understanding how to manage coffee agroecosystems to achieve the ecosystem services of interest requires combining knowledge of single and/or interaction effects of shadow with altitude and management intensity on ecosystem services. For example, the most significant disease in our research, coffee leaf rust, was influenced by the interaction types of shadow and altitude, but not by management intensity. As a result, attempts to control coffee leaf rust should take into account both the kind of shade and the altitude, which affects environmental and microclimatic conditions. In higher altitudes, highly varied coffee systems will be more effective in reducing coffee leaf rust occurrences, while lower altitudes will benefit from less diversified agroforestry systems. We believe that the less diverse canopies maintain low moisture at lower altitudes, whereas the highly varied canopies maintain low temperature at higher elevations, reducing disease growth.

This implies that, in addition to delivering numerous ecosystem services, agroforestry systems did not decrease coffee yields within the investigated shadow cover range (30%). Furthermore, under shade, yields are more consistent throughout time, providing more consistent revenue for coffee producers. Coffee farms in full sun, on the other hand, had more dead branches, particularly when management intensities were high [8].

The Desired region is the quadrant in the image where both indicators have the most desirable values. For example, in the combination of carbon sequestration and plant biodiversity, the desirable area is the quadrant in the upper right corner of the figure, because plots in this quadrant had higher TAGB Carbon and higher Shannon index; in the combination of provision and regulation of P&D, the desirable area is the quadrant in the upper left corner of the figure, because plots in this quadrant had high TAGB Carbon and higher Shannon index; in the combination of provision and regulation of P&D, the desirable area is the quad The percentages(%) above each figure indicate the amount of coffee plots of a certain shade type in the desired region in relation to the total number of coffee plots of that shade type. In the graph of carbon sequestration vs. biodiversity, for example, 10 CHD coffee plots were found in the desired area, accounting for 34% of the total of 29 CHD coffee plots. For CHD plots, the only substantial connection (a synergy) between biodiversity and carbon sequestration was discovered. Years to come may be anticipated .The decrease of yields, or yield losses, is also seen as a crucial indication of pest and disease control; as a result, it should be clearly measured in future research to support the evaluation of this ecosystem function We discovered that agroforestry systems may be less expensive to operate than full-sun systems. This suggests that the management intensity of these agroforestry systems may be raised without necessarily incurring significant financial expenses.

The administration of the shade canopy would not add to the expenses. Cutting banana leaves, pruning trees, and harvesting fruits, for example, are usually done by family members in conjunction with operations performed on coffee plants (coffee plant pruning, weeding, harvesting, and so on); in this way, those activities do not necessitate the hiring of external workers or a large amount of extra labor. Contrary to expectations, there was no relationship between shade kinds and management and cash flow or family benefit. This reflects the fact that agroforestry goods (such as bananas, other fruits, and wood) are seldom harvested in Turrialba for sale or household consumption. Farmers in other areas with poorer socioeconomic circumstances value the contribution of agroforestry products higher. Guatemalan coffee growers, for example, gather fruits for sale, whereas Peruvian farmers utilize fruits for personal use.

The key aspect is that plants and trees found in coffee agroforestry systems may be picked whenever farmers need goods for consumption or sale, which is not feasible with coffee grown in direct sunlight. This is particularly essential during low-cost or low-production coffee crises in our research, coffee agro forestry systems produced more than twice as much aboveground carbon as coffee grown in direct sunlight. Coffee agro forestry systems in other areas of the globe may store much more carbon owing to their more varied and thick shade canopies. For example, aboveground biomass stocks in Guatemalan, Nicaraguan, and Mexican coffee agro forestry systems may exceed 40 Mg [9].

In full sun, agro forestry systems had higher soil fertility than coffee, whether the impacts of different kinds of shade were considered alone or in combination with management intensity. Shade is also important for soil fertility in coffee agro ecosystems, according to several researches. More trees equals less nitrogen loss Bananas may aid in action exchange capacity improvement .Shade was shown to be essential for lowering acidity and raising K independently of other variables in our research, and it was also capable of sustaining greater soil C and N levels as management intensity increased .

Shade trees and bananas may decrease the requirement for nitrogen fertilizers and additives to rectify soil acidity, lowering soil contamination as well as production costs. Furthermore, although soil physical indicators that are essential for soil fertility were not examined, it is well known that soil C is linked to organic matter and improved soil physical characteristics There were no trade-offs between ecosystem services or between particular ecosystem services and biodiversity, as far as we could tell [10].

Trade-offs between yields and carbon sequestration, yields and biodiversity and yields and disease control described in the scientific literature on agro forestry systems were anticipated, but did not occur. The absence of trade-offs among the ecosystem services examined is a new finding. This may be explained by the fact that ecosystem services are a result of the system's composition as well as its management i.e. the interplay between both variables. With proper management, highly diverse systems should be able to provide large amounts of ecosystem services without trade-offs. Provision of other tree products and carbon sequestration are all examples of how system management can have a significant impact on coffee pollination and production. Many distinct kinds of shade and cropping techniques may be found in Turrialba, each with a different response in terms of ecosystem service supply. There were no trade-offs across ecosystem services since some coffee plots had low values of an ecosystem service and other coffee plots of the same kind of shade had high values of the same ecosystem service. However, not all synergistic connections between ecosystem services are created equal [8].

3. CONCLUSION:

The ability of various kinds of shade to offer significant ecosystem services in coffee plantations is dependent on both the altitude at which the coffee is produced and the management of the system. There were no trade-offs between various ecosystem services or ecosystem services and biodiversity in our research. This suggests that increasing the supply of ecosystem services without reducing the provision of other ecosystem services is feasible. Coffee agro forestry systems offer more ecosystem benefits than full-sun coffee systems. To guarantee the ongoing supply of various ecosystem services, coffee agro forestry systems should be planned with varied, productive shade canopies and maintained with a medium intensity of cropping techniques. The substantial impacts of management intensity on indices of provisioning service revealed in this and other recent research indicate that both low and high management intensity

may have a negative impact on provisioning service. Shade canopies with a wide range of species need special attention.

In places where disease outbreaks are common, such as coffee leaf rust, and when soil fertility is deemed average in believe that the greatest choice for smallholder growers is this is how we characterize this management includes two fungicide treatments against illnesses each year. At least one fertilizing of the soil, at least one trimming of the coffee plants Weed management are required, as are harvest labors based on the maturity of coffee fruits. Keeping a shadow cover of approximately 30% throughout the year Such Pest-resistant coffee varietals should also be included in the management plan. And illnesses don't do things that aren't essential to save money, utilize family labor and decrease input amounts.

Disservices should be avoided or minimized. Poisoning of family members, death of non-target species, soil pollution, and greenhouse gas emissions Instead of chemical pesticides, insects are used. When organic fertilizers are available, they should be used whenever feasible. Enhance the physical properties of the soil Extension and training of farmers in agriculture, as well as sufficient qualifications, market-based incentives, and remuneration may aid in the adoption of well-designed, long-term coffee agro forestry systems that offer both environmental and economic benefits. Benefits to both the economy and the environment Agro forestry is in short supply. Farmers may benefit from education and extension .be a part of trainings that use participatory methods.

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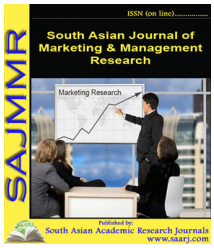

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THE IMPORTANCE OF THE VARIOUS INDUSTRY IN INDIA

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ABSTRACT

Industry is regarded as the lifeblood of every country's economy. This industry is divided into three categories: micro, small, and large. Large industries require skilled workers with some level of specialization, whereas small and micro industries can accommodate less skilled or unskilled workers, and these companies do not require any special expertise from their employees. This is why these businesses hire individuals from a certain social class in large numbers, since those living in poverty lack formal education and competence. Apart from that, this sector is involved in the manufacture of products that are used on a daily basis in the home and have a market in India as well as abroad, resulting in a healthy flow of money from one hand to the other. This industry contributes substantially to the nation's GDP (Gross Domestic Product) and also accumulates foreign money, strengthening the country's economy. As a result, it is critical to develop and safeguard this sector of the economy.

KEYWORDS: *Development, Economy, Growth, Industry, Skilled Worker.*

INTRODUCTION

Small-scale enterprises in India were the catalysts for the country's industrial revolution. Big industries did not exist in India at the time of independence, therefore it was the time to make a fresh start in order to keep up with global development. India has relied on its manual power for a long time, but under the British Empire, heavy machineries were brought into the Indian industrial scene, and a little amount of human labor was transferred to the machines. Although, many industry remained still operating on manual power (Figure 1). (Figure 1). The advent of light and heavy machinery altered the way Indian industries worked[1].

Figure 1: Representation View of a Small-ScaleIndustryin Indian Industry

The Indian small scale industries market is extremely diverse, and the reason for this is because papulation is a significant component in supplying manual labor at a lower cost than any other nation, and the availability of raw materials is another important aspect. India had excellent trade relations with the outside world in ancient times, and this heritage has been preserved by subsequent rulers[2]. However, when the British Empire was established, the majority of the profit was transferred to the English, while the Indians performed the work. In contrast to the rest of the globe, this trend has pushed India and its indigenous people behind. Following India's independence, the genuinely Indian government and people began a real struggle for the development of Indian industry[3].

Figure 2: Basic Structure of Industries in Any Nation to divided the Different Occupation Work.

Figure 2 depicts the structure of the Indian industrial sector. The whole industry has been divided into three categories: primary, secondary, and tertiary, based on the number of people employed and the products produced. These categories are further subdivided into a variety of domains depending on the kind of industry. Indian industries began as tiny businesses, and through time,

some of them grew into large corporations. There are many examples of businesses that began small but grew into a conglomerate of multiple businesses operating under the same roof[4].

TABLE 1: TYPE OF INDUSTRIES AND THEIR BASIC INVESTMENT LIMITATION[7]

Type of Industry	Investment Limit(Rs)	Remarks
Small scale industry	One crore	For specific products it is five crores (71 products so far)
Ancillary industry	One crore	50% of output supplied to the parent unit
Tiny enterprise	25 lakhs	No location limit
Service and Business (industry related) enterprises	10 lakhs	No location limit
Women enterprise	Any of the above	51% equity holding by women and managed by women
Export Oriented Units (EOU's)	One crore	100%, EOUs can sell 25% in domestic markets.

Small-scale industries are those that participate in micro- or small-scale production, manufacturing, and similar related operations. Their capital investment in equipment and other items must not exceed the government-imposed limit of 10 crore, and their annual sales must be equal to or less than 50 crore [5]. Small-scale industries have been defined in accordance with official guidelines, as the government has a number of programs that offer funds and other associated services to these businesses based on their investment and annual turnover. The government has a dedicated department, the department of industrial policy and promotion, which is easily engaged in the development of industries as well as promoting invention and innovation, which will prove fruitful for the country and contribute a significant portion of India's gross domestic product (GDP)[6].

It should be a source of pride that approximately 7600 large and 12.7 million small industries have been incorporated in the nation's construction, with a large population employed in these small and micro industries. Furthermore, some of these industries' companies have collaborated with foreign clients and enterprises to promote the nation's continued growth and development. A total of 30.5 million individuals are believed to have been employed and earning a livelihood (Table.1). Following independence, the government's business strategy favored small companies while also putting them at risk from large industries and providing long-term tax breaks. Many small business owners continued to struggle in order to be eligible for tax refunds. Furthermore, these efforts mostly rehashed conservative, sometimes out-of-date knowledge; they did not adapt and found it necessary to engage in zones of excellence or service [8].

There are few systematic industry educations to determine the degree to which formal HRM organizations have been presented and experienced. Despite the push of competence and the need to compete being recent expansions, it is expected that the grade of validation in Indian

businesses would remain poor. It is to be anticipated that smaller businesses would have less formalization than medium-sized businesses.

ROLE OF HUMAN RESOURCE DEPARTMENT IN SMALL INDUSTRIES

The connection between the owner and the employee of an industry is an important element in achieving the firm's goals, as well as running the company efficiently without the mayhem caused by the workers' union. The owner's desire is the most important factor in converting the company into a desirable place to work, where top management can obtain the best possible output from employees in order to maximize revenue and profit. Workers, on the other hand, need a fair wage as well as some kind of security such as a provident fund, gratuity life insurance, and so on. To accomplish all of these goals in a cooperative manner, a human resource department (HRD) is required to serve as a liaison between workers and employers [9].

Small businesses were often operated by families and lacked a formal management structure; they also lacked specialized technical and professional capabilities. Though, after the liberalization of the early 1990s, the government shifted its defense tactics and pushed for more restrictions. As a result, many SMEs were ill and unable to compete in the open market. Others have gradually profited from improved understanding, business processes, and marketing. Greater respect is being given to humanoid resource organization methods among tiny businesses, in certain sectors like as information knowing.

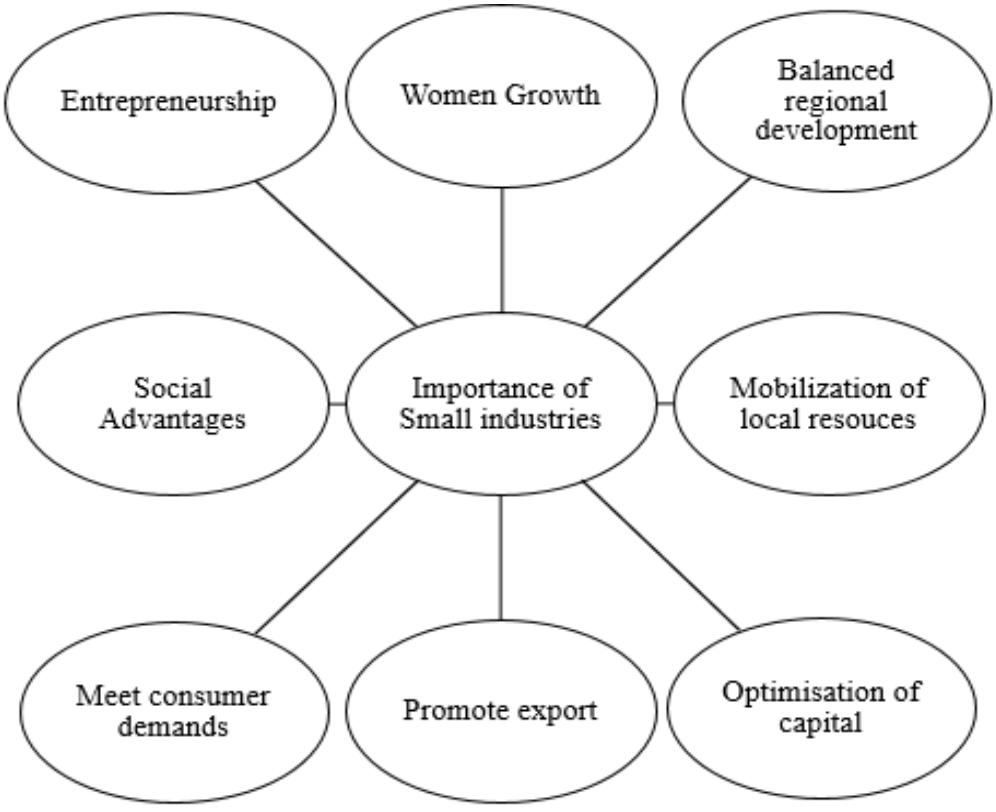

Figure 3: Importance of Small Industries for Growth of a Nation

Figure 3 depicts the advantages of promoting small and microscale businesses in a country. It is a well-known fact that there are many jobs in such sectors that do not need special training or skilled workers; the advantage of this is that it allows many individuals who do not have

excellent training or experience working in industries to be employed; these people may be taught here. Another significant factor in the Indian context is that most women lack a decent education and technical experience, thus these tiny and micro businesses are a suitable location to find employment and develop. This is one approach to address the country's unemployment issue to some degree.

The other benefit is to reduce social inequity and regional development, as there are several areas in India where only a small business can succeed because they are very backward, and where a large industry can be established. The biggest advantage of incorporating indigenous people into small scale industries is to solve the problem of language barrier [10]. There is a high possibility that the owner of a small business is from the same region, and he will be able to interact with his employees in the same vernacular language, making it easier to inspire and teach them. India is a country rich in traditional wisdom, which may be completely used in the development of micro and small businesses.

IMPORTANCE OF INDUSTRY IN DEVELOPMENT AND GROWTH

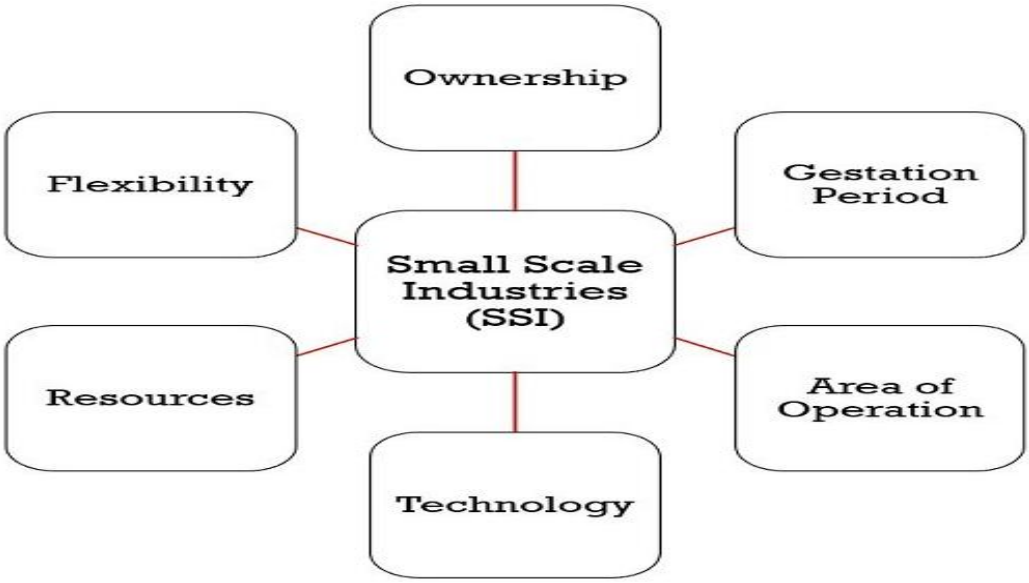

Figure 4: Attributes of Small Industries to Increase the Adaptability at Work Place[11]

The sector has the ability to promote employment and capital in the market, and this is the greatest method to improve people's financial inclusion. The Department of Industrial Promotion and Policy has committed itself to creating a framework to support small scale businesses, since these sectors generate less money and have a larger impact on society (Figure 4). This is the main segment that provides employment to millions of people in the country and is also responsible for the movement of resources between the state and the people. Both the federal and state governments are keen to promote industry, as well as inviting foreign firms for technology transfer so that Indian firms can implement new techniques and innovations in industry (Figure 5).

TABLE2: TYPES OF INDUSTRY IN SMALL AND MICRO SEGMENT.

SL. NO.	TYPE OF INDUSTRY
1	Paper Napkins And Toilet Rolls

2	Chocolates
3	Candle Making
4	Sanitary Napkins
5	Excise Notebooks
6	Disposable Cups And Plates
7	Phenyl Making
8	Soaps And Oils
9	Spices
10	Chips And Biscuits
11	Camphor And Incense Sticks
12	Papads And Fritters
13	Cottage Cheese
14	Simple Medical Requirements
15	Light Machine and tools
16	Match box

DISCUSSION

A nation's industrial development is just as essential as its governing body. As foreign money determines the future of the industrial revolution in a nation in terms of sustainability, the net cash inflow and outflow is a fundamental indicator of company development. The number of companies and their turnover are significant indicators of the country's development. Because the issue of employment can only be solved via a good exposure of industry, and the number of industries is proportionate to the number of jobs accessible in the market, industrial development is directly linked to the growth of the nation's population. GDP and per capita income may aid in raising people's happiness levels and improving their standard of life. The economic power of a nation and an individual are essential because money may alter a person's mind and inspire him to work more for the country and its people, as many businessmen do.

CONCLUSION

The impact of small industries on the country's economic situation has been examined, with particular attention paid to the impacts on GDP, per capita income, and purchasing power parity. Small-scale enterprises provide a major contribution to the nation's economy, not only in terms of capital generation, but also in terms of addressing the issue of unemployment. The federal government, as well as state governments, have been supporting this sector of the economy and introducing new laws to help small businesses thrive. This study found that small-scale enterprises may assist to relieve poverty and can also help to improve the lives of those living at the bottom of the poverty ladder. As a result, in addition to contributing to GDP, this sector may also help to address the issue of unemployment. Industrial expansion is the only way to guarantee the country's multi-dimensional development.

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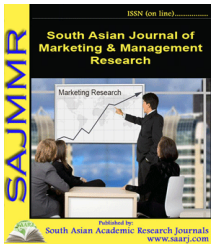

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THE POSSIBILITY FOR FUTURE GROWTH IN GDP BESIDES JOB OPPORTUNITIES

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ABSTRACT

Tourism is regarded as a livelihood in many areas of the globe and most wonderful thing is that many unskilled people may also make a decent amount of money by serving the visitor. There are many nations who are having a beautiful locations and weather but lagging behind in industrialization from rest of the globe, tourist industry is a godsend for them. India's tourist industry is also relying upon its rich culture, history, historical sites, wild life, medicinal amenities etc. After beginning of Incredible India, Tourism industry has increased multifold. The objective of the present article is to cover the kind of the tourism accessible in India and also evaluate their effect on number of tourists who draw towards India for travelling. The goal of the paper is to discover the future of tourism in India and how much this sector may develop to contribute more and more In India's GDP and how this sector addresses the issue of unemployment in India.

KEYWORDS: *Business, Culture, Heritage, Medical, Wild life.*

INTRODUCTION

India's tourism has a noteworthy position in term of the GDP. The contribution of the tourism in GDP has been rising year by year. It has been estimated by the tourism department that overall contribution of the tourism in GDP was $124 billion or about 6.8 percent of India's GDP. This number is certainly an excellent result in term of foreign currency influx. Apart from this, tourism is a major industry in certain of Indian state in term of job generation as there are some state like Himachal, Ladakh, Uttarakhand, Jammu & Kashmir etc., where a good proportion of people are involved in tourism and tourism is a single greatest source of GDP of these state (Figure 1)[1].

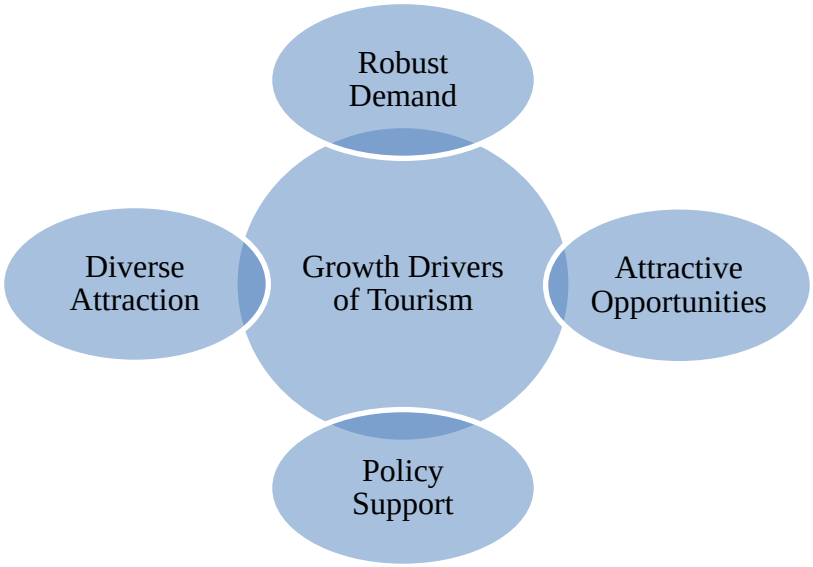

Figure 1: Advantage of the Tourism as contribute in Regional Growth

The Indian government has forming advance policies for development as well as promotion of tourism through the ministry of tourism.The tourism has been described as the movement or journey of a person or group of people from one location to another one in order to discover or spend some time over there. The aim of the tourism is to mutual knowledge of the culture, cuisine and traditions of another location aside from admiration of beauty of that area. There are many locations in the globe that are renowned tourist destination simply to spend time over there and enjoyed beauty of that area, despite this, some places are having historic significance and people travel there for educational purpose and only to know the information connected to that place. Basically, tourism is kind time travel from the location where one is normally dwell and work[2]. During the stay outside of place of job and home, one is spending money on various things like food, lodging, transport etc. and these expenditures will generate a livelihood for the local people (Figure 2).

Figure 2: Types of Tourism Available in India as per Categories by Tourism Department

Adventure Tourism:

Adventure tourism is as ancient as human. In ancient period, Human have to wander from one location to another in quest of food and shelter. Human needs to go to a location which were not explore previously and this quest of nourishment makes human an adventurous animal. In India , adventurous tourism was exited but that was not in official shape but government and ministry of tourism has begun effort to make this tourism formal and creating such regulations that would helpful in marketing as well as in growth of adventurous tourism. However, adventure tourism is not for everyone but there are many individuals desire to evaluate their own capacity in risk taking and management activities[3].

The Indian adventure tourism has been developing a form resembling an international standard. The activities include in adventure tourism is to reach the distant area, and involve oneself in various kind of activities. Various athletic activities such as hiking, skiing, rock climbing, camel safari, mountaineering, rafting etc. are considered as adventure activities during this kind of tourism. People like to travel areas like Ladakh, Himalaya range, Sikkim, Himachal Pradesh, Jammu & Kashmir .and Kerala etc. Every location is generally renowned amongst the visitor weather they belong to India or outside[4]. Out of these location, some are renowned for skiing and others are famous for rock climbing. Uttara hand locations are genuine highly renowned for river rafting. There are many more places in India which are provided the sport and adventure activities in land, air as well as water (Figure 3).

Figure 3: Categorization of Adventure Tourismon the basis of Categorization of Interest of Tourist

In Rajasthan, Thar is renowned for camel riding, and TharMahotsav draw many visitors from the corner of the globe. After Rajasthan, several other states have begun the camel safari to attract more and more visitor. Bikaner, Jodhpur and Jaisalmer are the renowned location for camel safari in Rajasthan. The one adventure sport activity has been gaining appeal i.e., paragliding. Rock climbing sport is reaching new heights since this activity is relatively new but due of availability of numerous places. The renowned place for rock climbing is Badami, Kanheri, kabbala and Manori. The skiing is also becoming popular among visitor and notable locations include Shimla, Manali, Mussoorie and Nainital. There are huge number of hill station in India and some of the hill stations are getting worldwide renown. Some of the most busy and beloved hill station are mentioned as in table 1.

TABLE1: LIST OF FAMOUS HILL STATION OF INDIA FOR DOMESTIC AND INTERNATIONAL TOURIST

Sl. NO.	PLACE	STATE
1.	Srinagar	Jammu & Kashmir
2.	Pahalgam	Jammu & Kashmir
3.	Gulmarg	Jammu & Kashmir
4.	Manali	Himachal Pradesh
5.	Khajjar	Himachal Pradesh
6.	Keylong	Himachal Pradesh
7.	Shimla	Himachal Pradesh
8.	Almora	Uttarakhand
9.	Nainital	Uttarakhand
10.	Tawang	Arunachal Pradesh
11.	Bomdila	Arunachal Pradesh
12.	Mirik	West Bengal

13.	Darjeeling	West Bengal
14.	Kalimpong	West Bengal
15.	Mount Abu	Rajasthan
16.	Panchmarhi	Madhya Pradesh
17.	Amarkantak	Madhya Pradesh
18.	Coorg	Karnataka
19.	Munnar	Kerala
20.	Ooty	Tamil Nadu
21.	Kolli Hills	Tamil Nadu
22	Ladakh	Jammu and Kashmir
23	Dharamshala	Himachal Pradesh
24.	Kurseong	West Bengal

Wildlife Tourism:

Wild life resources are too excellent in India and having a vast supply of flora and wildlife. Others species are endangered and some are extremely uncommon, but nevertheless India's wildlife has capacity to draw visitor domestic as well as foreigners also[5]. There are numerous areas where wild life is preserve and government has made many measures to give the protection to wild life and develop the tourist over there. Some of the major wildlife locations of India are as (Table 2):

TABLE 2: LIST OF WILDLIFE SANCTUARY OF INDIA AS PER RECORDS OF FOREST DEPARTMENT

SL. NO.	WILD LIFE SANCTUARY
1	Ranthambore National Park, Rajasthan
2	Corbett National Park, Uttarakhand
3	Bandipur National Park, Karnataka
4	Keoladeo Ghana National Park – Bharatpur, Rajasthan
5	Nagarhole National Park, Karnataka
6	Sariska National Park, Rajasthan
7	Kaziranga National Park, Assam
8	Bhadra Wildlife Sanctuary, Karnataka
9	Kanha National Park, Madhya Pradesh
10	Sundarbans National Park, West Bengal
11	Bandhavgarh National Park, Madhya Pradesh
12	Gir National Park and SasanGir Sanctuary, Gujarat
13	Periyar National Park, Kerala
14	Pench National Park, Madhya Pradesh
15	Manas National Park, Assam
16	Dudhwa National Park, Uttar Pradesh
17	TadobaAndhari Tiger Reserve, Maharashtra
18	Rajaji National Park, Uttarakhand
19	Hemis National Park, Jammu and Kashmir
20	Silent Valley National Park, Kerala

Medical tourism:

Medical tourism is a new term in the industry of tourism. There are numerous nations where advance technology is not accessible by everyone or new technologies are not there for medical treatment of the population. Medical tourism is an innovative approach in medical care since many developing countries have not as excellent medical facilities like other rich country. In this situation, they may apply for medical tourism and this would enable them to obtain a visa in haste. Apart from this, medical tourism would be given numerous advantages to the needy. In Indian context, people from neighbor's nation like Bhutan, Pakistan, Afghanistan and south eastern countries are prefer to visit India for treatment as cost of treatment is slightly cheaper than the industrialized countries.

Pilgrimage tourism:

India is renowned for its temple and mosque as well as tombs throughout the globe. The Indian culture is not a pure culture rather this is a combination of Indian as well as Mughal in addition to English. Apart from this, there are numerous faiths following and each have their own place of worship. Therefore, many people from outside of India come to their holy sites for worship and similarly many people travel outside of India for worship. There are renowned locations where lot of people arrives from outside and inside of India. These sites include Vaishno Devi, Jama Masjid, Bangla sahib and many more.

Eco tourism:

Ecotourism has grown in India recently, because idea himself is a relatively young one. Ecotourism includes going to places that are renowned for their normal beauty aside social philosophy, while manufacturing sure not to damage ecological balance. Ecotourism refers to an informed and responsible endeavor to preserve diversity of a clearly rich area and sustaining its beauty and indigenous culture. Indians have known from eternities to worship and marmalade nature. So, growth of ecotourism in India is but natural. Also, government of India has established up Ministry of Tourism alongside Culture to indorse ecotourism in India together with other types of tourism[6].

Cultural Tourism:

Indian culture is regarded as the rich culture of the globe. Many ancient written scripts have been discovered in India that had included many beneficial ideas that may be applied in human existence. These scripts provide a clearly defined idea to be followed in the human existence. There are many individuals who still follow this idea in their lives and also thought these thoughts to other people. The historical richness of the India has been functioning like a light house for the rest of the globe. Therefore, it draws many people not only from India but also from outside globe.

To commemorate rich culture, the Indian government together with state government has established numerous Mahotsava encompassing nearly every culture in every area. These huge events are drawing visitor since its beginning. Some of the major attractions include SurajKundMela, Puskar fair, TajMahotsav, KucchaMahotsva etc [7]. The people from all over world feel blessed after experience these functions.

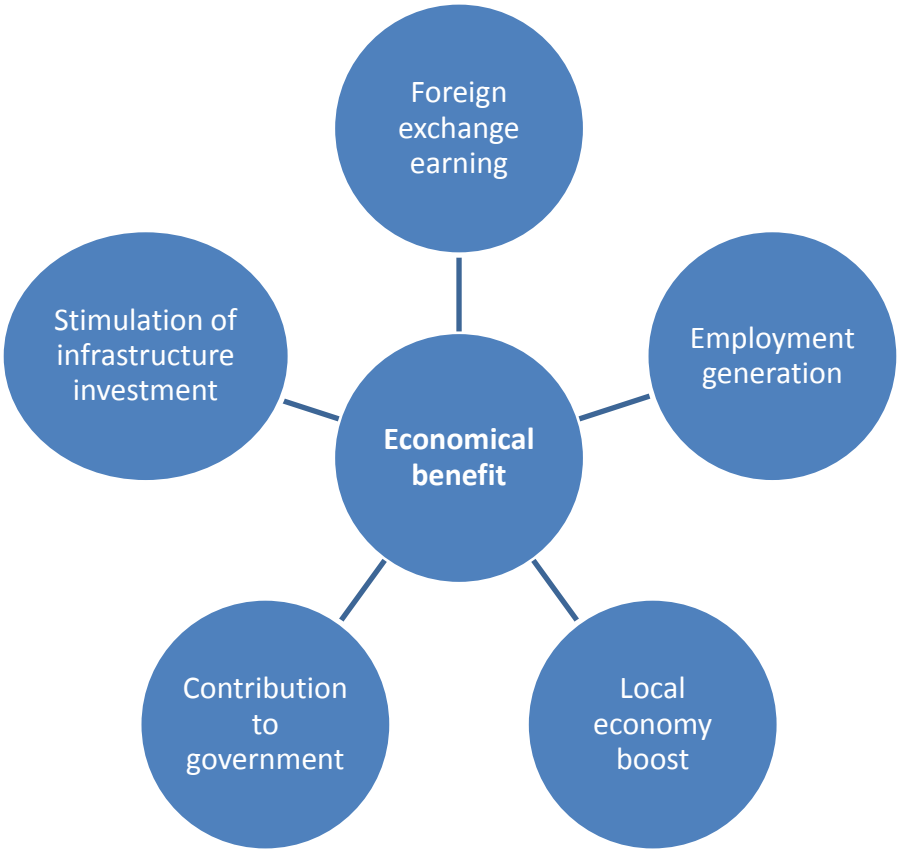

Figure: Economical Benefit of Tourism in Order to Help Development of Nation

Cultural travel India is main reason behindhand India s spectacular growth in tourist sector in recent years, since from time antiquity, India has been considered place of antique history, legacy, plus culture. The government has established Tourism and Culture department to enhance cultural tourism. The ministry in recent years has thrown Incredible India! Movement and thus have controlled to development of tourism[8].

India is country where many various dynasties had reigned including many foreigners' ruler and they all left a unique blue print on the Indian culture whether it is music, dance, architecture, cuisine language as well as traditions. The impact of various culture may be observed in contemporary customs followed by individuals. The blending of different culture in India only enhances the richness of the culture. This production in culture energy a long way in renowned India as ultimate cultural tourism endpoint provided encouragement to trip in country in India.

Wellness tourism:

Wellness is one of quickest emerging types of global and local tourism. This technique of tourism contains individuals who mobile to a dissimilar spot to follow activities that maintain or enhance their individual health as well as wellbeing, besides who are seeking singular, genuine or location-based knowledges. Wellness trips comprises reflexologies, body actions, face actions, exercise facilities & agendas, weight loss programs, nutrition programs, pre- and post-operative Spa activities and mind/body agendas[9].

Business Tourism:

Business travel may be distinguished as transportable for determination of business. Business Tourism may be divided into three segments: Trading for assets to be resold on a broad scale Conduct business transaction e.g., visiting a client, agreement discussions Presence in a conference, demonstration or event connected with business.

Heritage Tourism India:

As a one of the oldest civilizations of the world, India possesses a significant historical site. The rich cultural history of India contributes on many things in its legacy empire. The past few years has been viewed as an exponential rise in heritage tourism as it draws many tourist, aside from this United Nation has recognized several site in India as global heritage site and this move has proven as a milestone in boosting tourist for historic locations. India s rich history as well as cultural variety form a powerful combination which entices millions of visitors each year to its unique tourism magnetisms. India's humorous history is adequately represented in many temples, forts, monuments, and garrisons you may locate everywhere in nation. This has led to increase in India's heritage travel. The most popular inherited tourist termini in India are: TajMahal, Mandawa castle, Mahabalipuram, Madurai, Lucknow, Delhi, and the Indian capital.[10]

DISCUSSION

Tourist is multibillion dollar business in many nations, even some of the European countries has generated a substantial proportion of income of GDP from tourism industry. The tourism has been pushed in many nations as the major earner of the bread and butter. In India, some of the state are very beautiful but terrain in these state are usually cause a difficulty for building up of major enterprises or commercial center. However, these states are still generating a decent income simply because of tourist activities over there. In reality, these states are extremely near to natural beauty and attract a lot of tourists. People come there for couple of days and spend their time in eating genuine cuisine, tour local sites, recover body in natural atmosphere.

Apart from this, there are numerous sites in India, which are renowned for their forts, historical landmarks, museum, lakes, deserts, sea beaches, back water, bird sanctuaries, national park and buffer area of national park, temples, parks etc. The Kerala is renowned for its back waters, Rajasthan is famous for forts, deserts, night safari, bird sanctuary, national park etc. Gujrat is renowned for kuccha and cuisine, Maharashtra is famous for Bollywood, North eastern regions are famous for their natural beauty. These location attract visitor from all over globe and give a way to livelihood for local people and generate lot of employment.

CONCLUSION

Tourism is an important aspect of human existence and tourism is also vital to improve the economics, culture as well as politics of a state. The tourism is method to enhance the bilateral connection between two nations. A number of nations are relying upon the tourism for their GDP as their industrial resources are insufficient to give the livelihood to its people. Apart from this, tourism is also a major source to boost the foreign money in each nation. The present study has concentrated on kind of the tourism accessible in India as how these tourisms help in GDP and to what degree giving the employment chances to the people. The tourist capacity of India has considerable growth throughout the year and contribute handsomely in GDP. Although government has been performing lot of effort to enhance the current state of tourism up to a new height and for this introducing new promotional strategy to attract more and more visitor.

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INFLUENCE OF MICROSCALE ENTERPRISE IN GROSS DOMESTIC PRODUCT

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ABSTRACT

The industries are regarded as life stream of the economy of any nation. This sector is divided into micro, small and big industries, the big industries require the skilled worker who have some kind of specialization whereas small and micro industries are able to accommodate the less skilled or unskilled worker as well, even these companies doesn't require any special kind of expertise from their worker. This is the reason why these businesses are mass recruiter of the individual from a specific class as people living in poverty don't have any formal education and skills. Apart from this, this sector involved in manufacture of such goods which are of everyday use in home and also having a market in India as well as abroad and create a decent flow of money from one hand to other. This industry contributes substantially in GDP (Gross Domestic Product) of nation and also accumulate the foreign money that would improve the economy of country. Therefore, it is essential to develop and safeguard this sector of business.

KEYWORDS: *Development, Economy, Growth, Industry, Skilled Worker.*

INTRODUCTION

The industrial revolution in India has been begun by the small scale enterprises. The major industry did not existing in India at the time of the freedom, this was the opportunity to start with a fresh beginning to match the pace with the global development. The India was depend on its manual power since a long time, however, heavy machineries have been introduced in Indian industrial scene during the British empire and a minor manual burden of working had been transferred on the machines. Although, many industry remained still operating on manual power (Figure 1). The advent of the light and heavy machines altered the manner of functioning of Indian industry[1].

Figure 1: Representation View of a Small-ScaleIndustryin Indian Industry

The Indian small scale industries market is extremely wide and the reason behind this flexibility is that papulation is key element in giving the manual labor at affordable cost than any other nation and second significant aspect is to availability of the raw material. In ancient period, India has excellent commercial connection with outside world and this heritage has been preserved by the subsequent ruler[2]. But with the creation of the British Empire, much of the wealth has been transferred to English but work was being done by the Indian. This trend has backward India and its indigenous people in contrast to rest of the globe. After India's independence, Real struggle had been begun for the creation of the Indian industry by the really Indian government and its people.

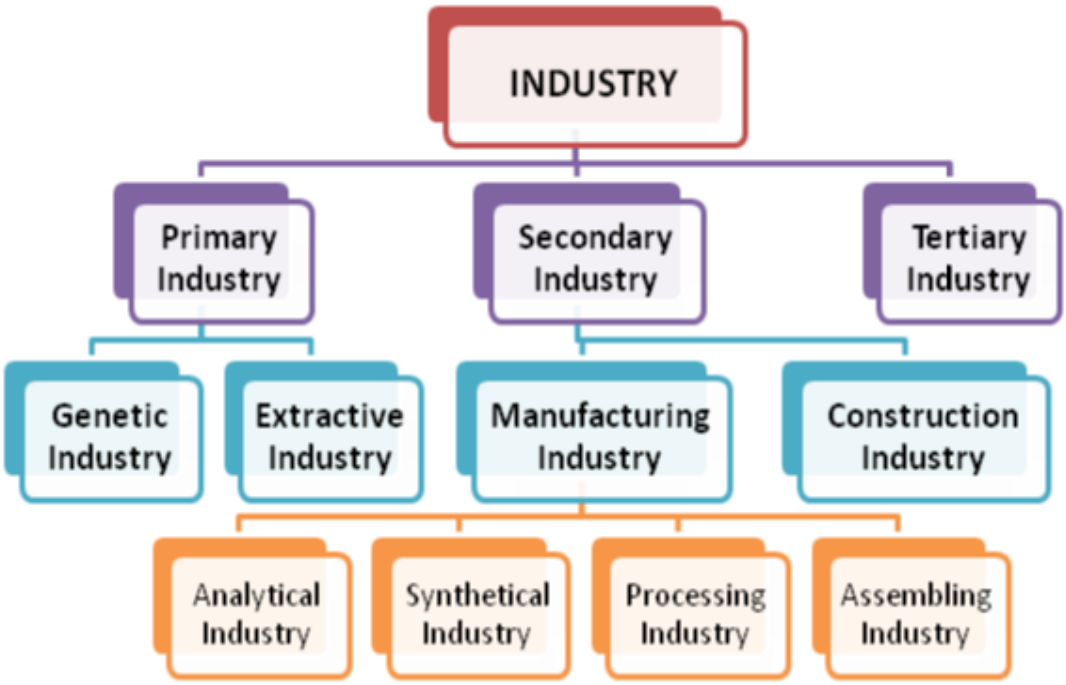

Figure 2: Basic Structure of Industries in Any Nation to divided the Different Occupation Work

The structure of the Indian industries has been shown in Figure 2. The entire industry has been classified into three categories as main, secondary and tertiary based upon the number of workers

involved and what is being produced over there. These categories are further split into number of distinct domain depending on industries kind. The Indian businesses had been established at modest level and with time certain industries grow into large one. There are numerous instances of businesses who have begun their company at modest level but subsequently became a conglomerate of several companies under the same roof.

The small scale industries may be described as the industries which are involved in the production, manufacturing and similar rendering operations on a micro or tiny size. In capital wise, their investment in equipment and everything must not exceed the limit as set by the government i.e. 10 crore and per year turnover should be equal or less than the 50 crore[3]. The definition of the small scale industries has provided as per the government rules as government all has many policies which offer the money and other associated facilities to these businesses based upon their investment and annual turnover made in a financial year. The government has have a dedicated department i.e. department of industrial policy and promotion, this department effortless engaged in development of the industries in addition to promote the invention as well as innovation that will in turn proved fruitful for the country and contribute a good part in the gross domestic product (GDP) of India.

TABLE 1: TYPE OF INDUSTRIES AND THEIR BASIC INVESTMENT LIMITATION[4]

Type of Industry	Investment Limit(Rs)	Remarks
Small scale industry	One crore	For specific products it is five crores (71 products so far)
Ancillary industry	One crore	50% of output supplied to the parent unit
Tiny enterprise	25 lakhs	No location limit
Service and Business (industry related) enterprises	10 lakhs	No location limit
Women enterprise	Any of the above	51% equity holding by women and managed by women
Export Oriented Units (EOU's)	One crore	100%, EOUs can sell 25% in domestic markets.

This should be matter of proud that approximately 7600 large and 12.7 million small industries have been incorporated in the nation building and a good papulation have been engaged in employment in these small and micro industries, in addition to that some companies out of these industries have been collaborated with foreign client and enterprise to promote further growth and development of the nation and its people. It is projected that as many as 30.5 million individuals have been engaged and earning their livelihood (Table.1). After independence, government's business strategy supported small size companies, threatened them from hostility from big industries, and prolonged tax assistances. To be eligible for tax refunds, many little sector owners remained to suffer tiny. In addition, these efforts mainly rehashed conservative, sometimes obsolete know-how; these did not adapt and feel it necessary to engage in zones of excellence or service[5].

Systematic educations of industries to assess degree to which formal HRM organizations have been established and experienced are modest. In spite of push of competence and vital to contend being recent expansions, it is predicted that grade of validation would remain low in Indian businesses. It is too anticipated that lesser businesses would have smaller formalization than middle scope enterprises.

ROLE OF HUMAN RESOURCE DEPARTMENT IN SMALL INDUSTRIES

The connection between the owner and the employee of industry is a vital element to accomplish desired goal of the company, furthermore it is also important to operate business smoothly without any mayhem caused by the worker' union. The ambition of the owner is the essential input in converting the company into a good place to work where top management may be able to obtain the output from the worker in order to maximize the revenue, in turn, profit. On the other hand, worker require a decent pay in addition to some kind of security in term of provident fund, gratuity life insurance cover etc. To accomplish all these job in a collaborative manner, a human resource department (HRD) is required in order to play a function of mediator between the workers and employer[6].

The Small industries were typically family run plus having disconnected with management structure; they were not participate in devoted technical in addition to professional skills. Though, following liberalization in initial 1990s administration altered its tactics with adoration to defense and has encouraged towards scarcer regulations. Accordingly, several SMEs twisted ill moreover were powerless to continue in open market. Others have gradually capitalized on improved understanding, company processes in addition to marketing. Amongst tiny businesses, in certain sectors as information knowledge, more respect is being given to humanoid resource organization methods.

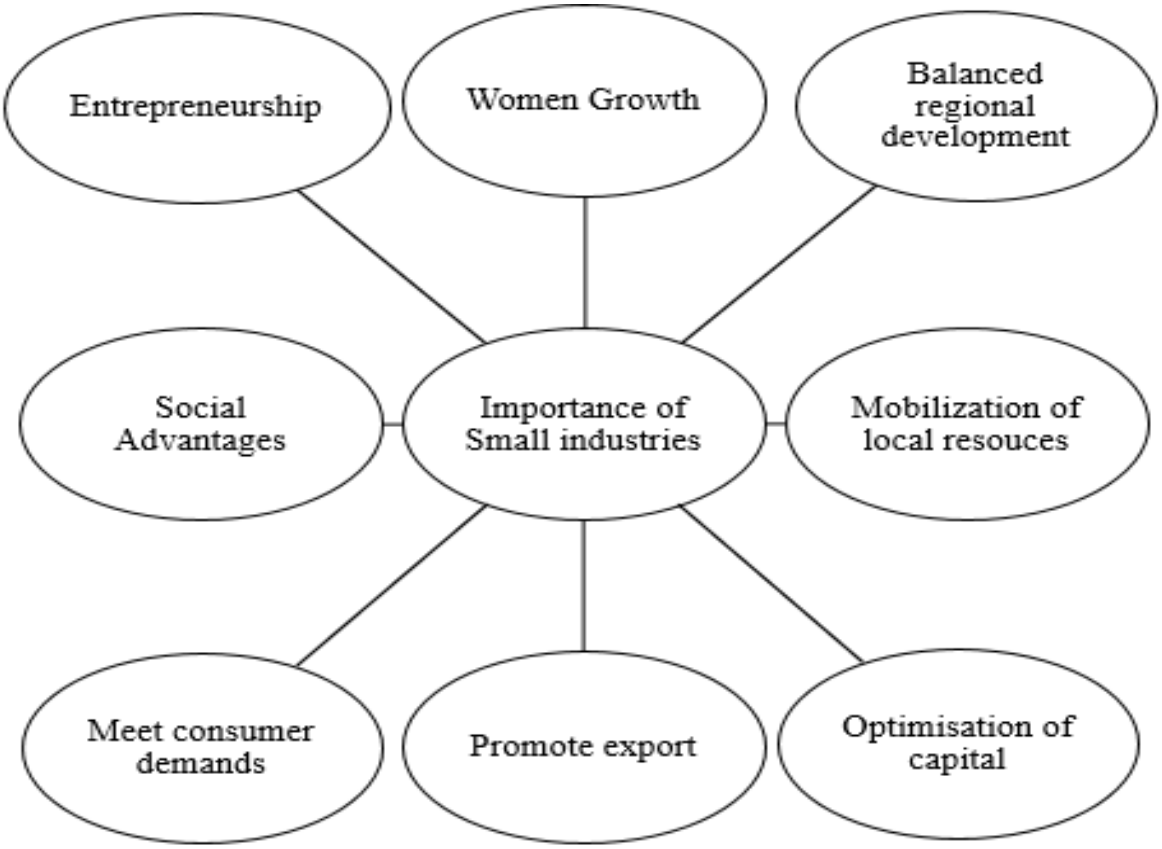

Figure 3: Importance of Small Industries for Growth of a Nation

The Figure 3 has been demonstrating the advantages of promotion of a small scale as well as micro scale businesses in a country. It is well known truth that there are a lot of work in such type of industries which does not require the special type of training or does not require the skilled worker, the benefit of this is to engage the many people who don't have good training or good exposure in working in industries, these people can be trained over here. In Indian context, other essential point is that all women don't have excellent education and technical exposure, thus these tiny and micro businesses are a good location to obtain employment and develop. This is the method by which unemployment issue of nation may be sort out up to some degree.

The other benefit is to minimize the social unbalance and regional development as these are several locality in India, where only a small business can be get success as these are very backward and some big industry can be start over there as biggest advantage to incorporate the indigenous people in small scale industries is to solve the problem of language barrier[7]. There are high possibility that owner of small industry is also belong to same region and he can easily connect with their worker in the same vernacular language and it would be simple to encourage the workers and also easy to taught them. India is a country of numerous traditional knowledge and that may be completely used in building the micro and small business.

IMPORTANCE OF INDUSTRY IN DEVELOPMENT AND GROWTH

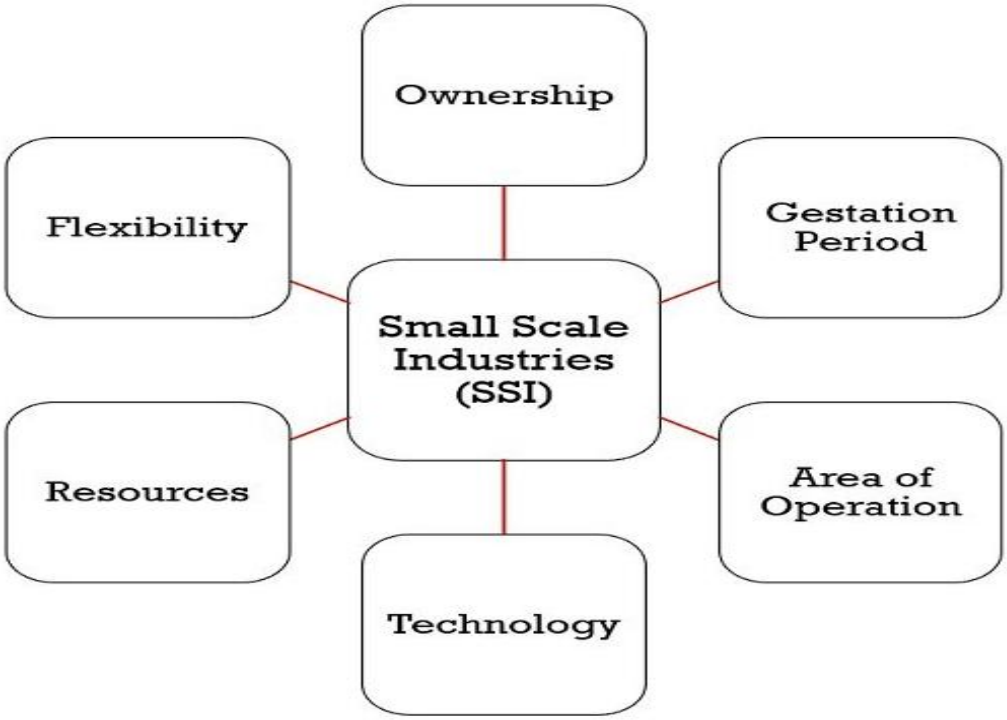

Figure 4: Attributes of Small Industries to Increase the Adaptability at Work Place

The industry has a power to promote the employment and capital in the market and this is finest method for increasing the financial inclusion amongst the people. Department of industrial promotion and policy is committed to create a frame work to encourage the small scale businesses since these sectors has less income by affecting the society at big scale (Figure 4). This is the main segment to offer the job to millions of people in country and also responsible for movement of resources between the state and people the center and state government are very keen to promote industry and also inviting the foreign firm for technology transfer so that Indian firm can also implement the new techniques and innovation in industry[9].

TABLE2:TYPES OF INDUSTRY IN SMALL AND MICRO SEGMENT

SL. NO.	TYPE OF INDUSTRY
1	Chocolates
2	Paper Napkins And Toilet Rolls
3	Sanitary Napkins
4	Candle Making
5	Phenyl Making
6	Disposable Cups And Plates
7	Excise Notebooks
8	Spices
9	Soaps And Oils
10	Camphor and Incense Sticks

11	Chips and Biscuits
12	Papads And Fritters
13	Simple Medical Requirements
14	Cottage Cheese
15	Match box
16	Light Machine and tools

The government has raised the money limit given to the small and micro scale business as these industries are giving the employment to the unskilled person and also promote the India's traditional product and art. The scope of these industries has been growing to accommodate more people in addition to new creative concept to broaden its scope for product variety (Table.2). This will boost revenue creation and contribute more in GDP. The second function of the small scale industry is to improve the per capita income of the population that will increase their purchasing power parity. the developing nations has a fair number of people ,who live below the poverty line or at the edge of poverty line , small scale industries are performing well to relieve the people's poverty by giving them a good chance to work[10].

DISCUSSION

The industrial development is as essential for a country as a governing body. The net cash inflow and out flow is a fundamental indicator of development of the company since foreign money determine the future of industrial revolution in a nation in term of sustainability. The number of companies and their turn over is an essential indicator for growth of the country. The industrial development is closely linked with the growth of the people of the country as issue of the employment can only be addressed through a good exposure of industry and the number of industry is proportionate to the number of job accessible in the market. The GDP and Per capita income may be beneficial to improve the happiness index of the people and boost their life style. The economic power of a country and for an individual are essential as money may alter the mindset of a person and drive him to do more actively for this nation and its people as many businessmen are doing.

CONCLUSION

The evaluation of the impact of small industries over the economic condition of the nation has been done, particularly effects have been studied over the GDP, per capita income as well as buying power parity. The role of the small scale enterprises in the economy of country is important not only for producing the capital but also addressing the issue of unemployment. The center as well as state government have been pushing this sector of business and also introducing new regulations for promotion for this small scale enterprises. This study have concluded that small scale businesses may be beneficial to relieve poverty and also competent to improve the lives of those who dwell at bottom of ladder of poverty. Thus, Apart from contribution in GDP, this sector may address the issue of unemployment as well. The industrial development is an only method which may guarantee a multi-dimensional growth for the country.

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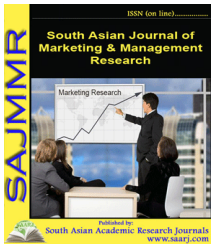

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A REVIEW ON ELECTRIC VEHICLES AND ITS FUTURE

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ABSTRACT

Electric vehicles (EVs) are gaining popularity as a result of a number of causes, including lower prices and increased climate and environmental consciousness. This article examines the advancements of electric vehicles (EVs) in terms of battery technological trends, charging techniques, and new research problems and possibilities. More specifically, an analysis of the global market situation for electric vehicles (EVs) and their future prospects is conducted. Given that the battery is one of the most important components of electric vehicles, the article provides a comprehensive overview of battery technologies, ranging from lead-acid through lithium-ion. Furthermore, we examine the various charging protocols available for electric vehicles, as well as suggestions for power regulation and battery energy management. Finally, we give our view of what may be expected in the near future in this subject, as well as the research areas that are still accessible to both business and academic groups.

KEYWORDS: *Electric Vehicles, Plug-In Hybrid Electric Vehicle, Battery charging, Batteries technology, charging modes, EV plugs.*

1. INTRODUCTION

The automotive sector has grown to be one of the most significant industries in the world, not only in terms of economics but also in terms of R&D. More technology features are being added to cars to enhance the safety of both passengers and pedestrians. Furthermore, there are more cars on the highways, allowing us to travel more swiftly and pleasantly. However, this has resulted in a significant rise in air pollution levels in urban areas (i.e., pollutants like PM, nitrogen oxides (NOX), carbon monoxide (CO), sulfur dioxide (SO2), and so on)[1].

Furthermore, according to a European Union study, the transportation sector is responsible for approximately 28 percent of overall carbon dioxide (CO2) emissions, with road transport accounting for more than 70 percent of total emissions. As a result, most industrialized nations'

governments are promoting the use of electric vehicles (EVs) to reduce the concentration of air pollutants, CO2, and other greenhouse gases. They encourage sustainable and efficient mobility in particular via a variety of programs, mostly through tax incentives, purchasing assistance, or other special measures, such as free public parking or free use of highways[2], [3]. Compared to conventional cars, EVs have the following advantages:

1. Zero emissions: these cars do not emit CO_2 or nitrogen dioxide from their tailpipes (NO2). Furthermore, the manufacturing methods are more environmentally friendly, despite the fact that battery production has a negative impact on carbon emissions.
2. Simplicity: The number of components in an Electric Vehicle (EV) engine is fewer, resulting in lower maintenance costs. The engines are simpler and more compact; they don't need a cooling circuit, and there's no need to include a gearshift, clutch, or noise-reducing components.
3. Reliability: Because these cars have fewer and simpler components, they are less likely to break down. Furthermore, EVs are immune to the wear and tear caused by engine explosions, vibrations, and fuel corrosion.
4. Cost: In contrast to conventional combustion cars, the vehicle's maintenance expenses and the cost of the energy needed are much cheaper.
5. Comfort: Traveling in an EV is more pleasant since there are no tremors or engine noise.
6. Efficiency: EVs are more fuel efficient than conventional cars. However, the total well to wheel (WTW) efficiency will be influenced by the efficiency of the power plant. For example, gasoline cars' overall WTW efficiency varies from 11 to 27 percent, whereas diesel vehicles' WTW efficiency ranges from 25 to 37 percent. EVs supplied by a natural gas power plant, on the other hand, have a WTW efficiency ranging from 13% to 31%, while EVs fed by renewable energy have a WTW efficiency of up to 70%.
7. Accessibility: This kind of vehicle enables entry to urban areas where other combustion vehicles are not permitted (e.g., low emissions zones). In big cities, EVs are not subject to the same traffic restrictions as cars, particularly during high pollution levels. Interestingly, according to a new OECD research, EVs will not enhance air quality, at least not in terms of Particulate Matter (PM) emissions.
8. Range: With a full charge, range is usually restricted to 200 to 350 kilometers, but this problem is constantly being addressed. The Nissan Leaf, for example, has a maximum driving range of 364 kilometers, whereas the Tesla Model S has a range of more than 500 kilometers.
9. Charging time: It takes 4 to 8 hours to fully charge the battery pack. Even a "quick charge" to 80% capacity may take 30 minutes. Tesla superchargers, for example, can charge the Model S up to 50% in 20 minutes and up to 80% in half an hour.

2. ELECTRIC VEHICLES

The author presents a categorization of the many kinds of electric cars in this part, along with comments on their major features. The author also discusses the present market position, examining sales statistics and forecasts for this kind of vehicle in various nations across the globe[2], [4], [5]. Figure 1 shows the classification of electric vehicles.

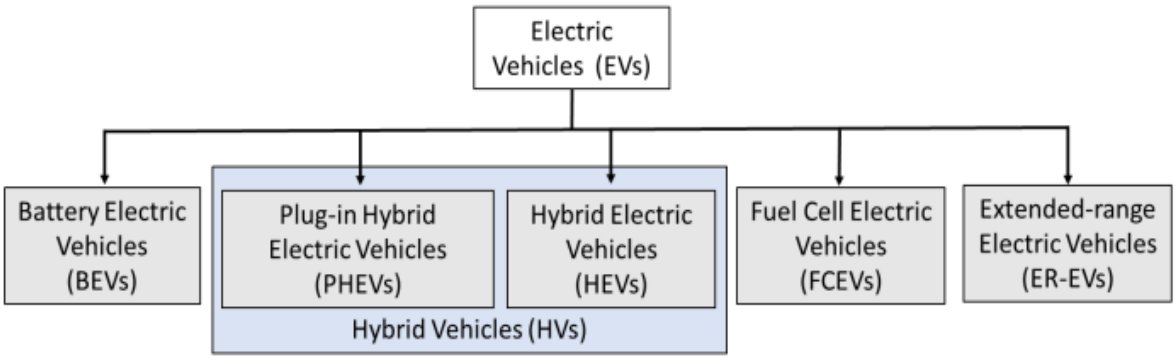

Figure 1: Illustrates the Electric vehicles classification according to their engine technologies and settings

3.1. Taxonomy of Electric Vehicles:

Depending on the technology used in their engines, we can now find several kinds of electric vehicles. They are divided into five categories in general:

3.1.1. Battery Electric Vehicles (BEVs):

BEVs are vehicles that are powered entirely by electricity. BEVs are electric vehicles that do not have an internal combustion engine and do not utilize any kind of liquid fuel. In order to provide a vehicle with sufficient autonomy, BEVs often require huge battery packs. A normal BEV ranges from 160 to 250 kilometers, but some may go as far as 500 kilometers on a single charge. The Nissan Leaf is an example of this kind of car. It is 100 percent electric and presently has a 62-kWh battery that enables customers to go 360 kilometers on a single charge.

3.1.2. Plug-In Hybrid Electric Vehicles (PHEVs):

Hybrid cars with a normal combustible engine and an electric engine powered by a pluggable external electric source are known as plug-in hybrid electric vehicles (PHEVs). In normal driving circumstances, PHEVs can store enough energy from the grid to substantially decrease their gasoline use. The Mitsubishi Outlander PHEV has a 12-kWh battery, allowing it to go 50 kilometers solely on electricity. However, it's worth noting that PHEVs' fuel usage is greater than manufacturers' estimates.

3.1.3. Hybrid Electric Vehicles (HEVs):

HEVs are powered by a combination of an internal combustion engine and an electric motor. The difference between HEVs and PHEVs is that HEVs cannot be connected to the power grid. In reality, the power produced by the vehicle's combustion engine is used to charge the battery that powers the electric engine. The energy produced while braking may also be used to charge the batteries in contemporary models, converting kinetic energy into electric energy. In its hybrid variant (4th generation), the Toyota Prius had a 1.3 kWh battery that supposedly enabled it to go up to 25 kilometers in all-electric mode.

3.1.4. Fuel Cell Electric Vehicles (FCEVs):

These vehicles have an electric engine that runs on a mixture of compressed hydrogen and oxygen taken from the air, with water as the sole waste product. Although these cars are claimed

to have "zero emissions," it is important noting that, although green hydrogen is available, the majority of the hydrogen utilized is derived from natural gas. The Hyundai Nexo FCEV is an example of this kind of car, having a range of 650 kilometers between fill-ups.

3.1.5. Extended-range electric vehicles (ER-EVs):

These cars are quite similar to BEVs. The ER-EVs, on the other hand, come with a backup combustion engine that can charge the vehicle's batteries if necessary. Unlike the engines found in PHEVs and HEVs, this engine is solely utilized for charging and is not linked to the vehicle's wheels. The BMW i3 is an example of this kind of car, with a 42.2 kWh battery that provides 260 kilometers of autonomy in electric mode and an extra 130 kilometers in extended-range mode.

4. SUBSIDIES AND MARKET POSITION

Despite the fact that electric cars have a higher purchase price, when compared to the internal combustion engine version of the same vehicle model, the EV sales volume has increased significantly in recent years. Furthermore, several nations are preparing for the mobility shift by limiting the use of fossil fuel-powered vehicles and encouraging the use of electric vehicles. The fact that, after the Paris Agreement, state subsidies for these types of cars have increased is proof of this.In reality, almost all developed-country governments are constantly enacting new laws to encourage the usage of electric cars in order to promote sustainable and environmentally friendly transportation.

According to a study from Belgium, these kinds of cars are eligible for a purchase assistance of 4000 e, and they pay a road tax of just 74 e instead of the 1900 e that conventional vehicles pay. In France, customers who buy an EV get a bonus of between 4000 and 6000 euros for BEVs and 3500 euros for PHEVs. In addition, a 50 percent to 100 percent discount on the registration cost is available. In the United Kingdom, an incentive of up to £4500 will be given with the purchase of an EV, and the car will be free from circulation taxes if its value is less than £40,000. In Germany, customers get an incentive of 4000 euros for buying a BEV and 3000 euros for buying a PHEV. Furthermore, BEVs do not have to pay property taxes, while PHEVs get a 50% discount. In Spain, monetary assistance of between 1300 and 5500 euros is available for the purchase of BEVs and HEVs, depending on their autonomy. The property tax on BEVs and PHEVs in Norway is 47 e, whereas the rate for gasoline-powered vehicles ranges from 290 e to 340 e. Furthermore, BEVs do not pay tolls or circulation fees, and they do not pay for parking in designated locations. Finally, in the United States, the federal government offers $2500 for electric car purchases and an extra $417 for each kWh of battery capacity over 4 kWh, up to a maximum of $7500.As can be seen in Figure 2, all of these incentives and policies (e.g., vehicle buying tax exemption, VAT exemption, reduced license tax, tolls exemption, and free parking) are resulting in a significant rise in the number of sales each year (particularly in the past two years). As can be seen, China and the United States have by far the highest EV sales, but Norway stands out as the only nation in the world where EVs have a greater market share, with almost three out of every four cars sold in 2020 being electric[6]–[8].

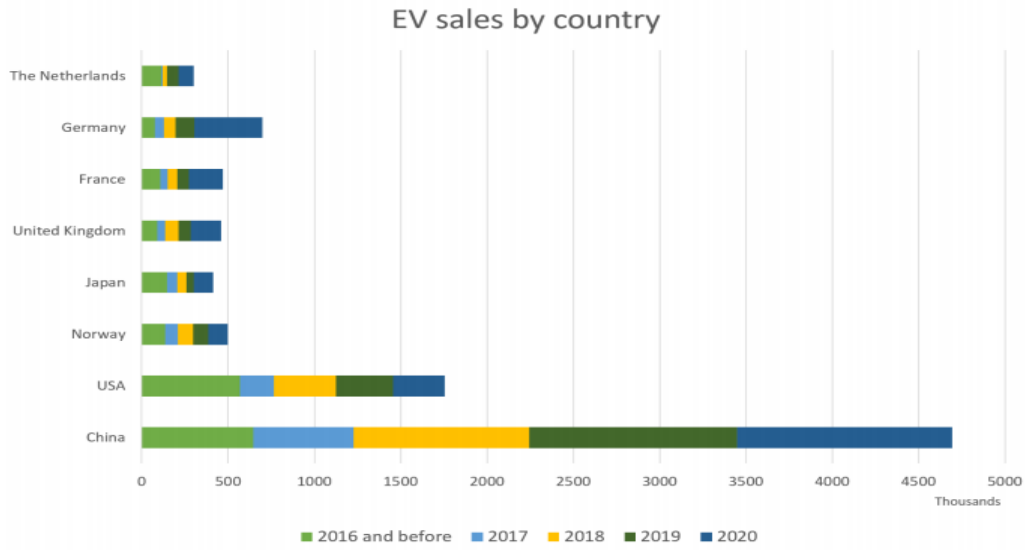

Figure 2: Illustrates the evolution of the number of electric vehicle sales worldwide.

According to, these figures are likely to rise in the coming years, since many nations have indicated a desire to outlaw internal combustion engines in the near future. Norway, for example, has said that by 2025, all cars and vans sold would be zero-emission vehicles. India, Israel, and the Netherlands, for example, have declared that all cars sold in 2030 would be electric. Germany and the United Kingdom have postponed this deadline until 2040, the same year that combustion cars will be outlawed in California. In a more stringent manner, Germany is contemplating prohibiting the circulation of diesel cars in cities, while Paris has declared that diesel vehicles will be prohibited from circulating in the city beginning in 2024, and internal combustion vehicles would be prohibited beginning in 2030. From 2024, Rome will prohibit the circulation of diesel cars, while Madrid, Athens, and Mexico City will do so in 2025. However, in addition to the good sales figures, it is worth noting that 95 percent of electric cars were sold in just ten nations (i.e., China, USA, Japan, Canada, Norway, United Kingdom, France, Germany, The Netherlands, and Sweden). Finally, it should be noted that a variety of BEV and PHEV models are now available for purchase. The Tesla Model 3 (BEV), Toyota Prius Prime (PHEV), Chevrolet Volt, Nissan Leaf (BEV), Tesla Model S (BEV), Ford Fusion Energi (PHEV), and BMW i3 (BEV) are among the most popular models.

5. BATTERIES

In this part, you'll learn about fascinating facts about batteries, such as global production growth, cost reductions, key features, and the many technologies used in the manufacturing process. There have been significant advances in the development of batteries in recent years. Furthermore, global manufacturing of batteries for electric cars has risen by 66%, which is certainly linked to an increase in the number of vehicle sales, with forecasts indicating that demand for batteries will continue to rise. In fact, it is expected that the supply and demand for electric vehicles will grow much more in the future years[9], [10].

5.1. Characteristics of Batteries:

The following are some of the most important features of batteries:

- Capacity: One of the major issues with electric power is the difficulty and expense of storing it. As a consequence, large sums of money are now being invested in the creation of new

batteries that are more efficient and reliable, thus increasing battery storage capacity. Under specific circumstances, the battery capacity indicates the greatest amount of energy that can be recovered from the battery. This unit may be represented in either ampere hour (Ah) or watt hour (Wh), but electric cars prefer the latter. Given that the capacity of an electric vehicle's battery is a critical factor because it has a direct impact on the vehicle's autonomy, the development of new technologies that enable the storage of a greater amount of energy in the shortest amount of time will be a critical factor in the success of this type of vehicle.

- Charge state: This refers to the battery's capacity as a percentage of its total capacity.
- Energy Density: Obtaining the greatest possible energy density in the creation of batteries is another essential factor to consider. This means that a battery of similar size and weight can store more energy. The energy density of a battery is defined as the amount of energy it can provide per unit volume (Wh/L).
- Specific energy: The amount of energy a battery can provide per unit mass (Wh/kg). This characteristic is also known as energy density, and it may be measured in Wh/L or Wh/kg.
- Specific power: The amount of electricity a battery can provide per kilogram of weight (W/kg).
- Charge cycles: A charge cycle is finished after the battery has been fully charged.
- Lifetime: Another factor to think about is the battery's lifespan, which is determined by the number of charging cycles it can withstand. The aim is to develop batteries that can withstand a higher number of charging and discharging cycles.

6. DISCUSSION

The connection is one of the most essential considerations while charging an electric car. The J1772 standard recommended connections for the American and Japanese markets, whereas the IEC-62196 standard recommended connectors for European cars. Despite the fact that these markets are very diverse and distinct, this fact is undesirable since it may create problems for consumers while charging their cars; adapters may be needed, raising the cost of electric vehicles and perhaps posing safety concerns.Although Tesla, for example, has bet on the fact that some of its vehicles have multiple types of connectors, we believe it is more important to progress toward the creation of a unified standard that would allow for charging all vehicles through a universal connector when taking into account regional differences in energy systems. This universal connection, we believe, will benefit EV drivers, but it will also have a major environmental effect.

Another element that has the potential to change the charging process is the application of sophisticated algorithms to improve the charging process, either by lowering the cost or increasing the efficiency of the electrical infrastructure. Currently, the charging process begins when the vehicle is connected to the charging point (a process known as Plug & Charge); however, because electricity prices vary throughout the day in most countries, the charging start could be adjusted to significantly reduce charging costs by avoiding peak demand periods (where the economic cost is higher). Intelligent plugs may help electric cars win market share from internal combustion engines. Although there are preliminary works and proposals in this area, we believe that there are still several open issues and potential works to be done in this field, such as the use of communications between vehicles and electric infrastructure, as well as new Artificial

Intelligence-based technologies (e.g. Deep Learning techniques or Optimization Strategies), will enable highly enhanced chariot performance.

7. CONCLUSION

There are many kinds of EVs, the technology utilized, the benefits over internal combustion engine cars, the development of sales over the past few years, as well as the various charging ways and future technologies in this study. The major research problems and possibilities in depth. In the case of electric vehicles, batteries are crucial since they define the vehicle's autonomy. The author looked at a variety of batteries based on these characteristics. Author also discussed upcoming technologies, such as graphene, which is anticipated to provide a solution for storing larger quantities of electricity and charging in shorter periods of time. This kind of technology may also assist the EV, allowing it to go longer distances, which may aid in its acceptance by drivers and users. Higher-capacity batteries will make it easier to utilize the quickest and most powerful charging modes, as well as more advanced wireless charging technologies. Another element that may help with the adoption of electric cars is the development of a unique connection that can be used worldwide. In the future, electric vehicles will play a critical part in Smart Cities, and having a variety of charging methods that can adjust to the requirements of users will be very essential. As a result, future BMS should take into account the new situations brought by modern batteries and Smart City standards.

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THE ANALOGIES AND METAPHORS USED IN ABDULLA ARIPOV'S "HAJ DAFTARI"

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ABSTRACT

The article analyzes the analogies and metaphors used in the poems in Abdulla Aripov's collection of poems "Haj daftari". The stylistic functions of the analogies and the means involved in their emergence are described. The specific functional-semantic features of metaphors are revealed. Metaphor refers to the phenomenon of a change in the meaning of a word based on the similarity between an object and an event. It is widely used as a means of figurative expression in oral and written speech, as well as in artistic and journalistic methods, as well as in ordinary speech. The essence of Abdulla Aripov's poems is that the artistic image is more polished and beautiful in the decoration of the unique means of expression of speech: analogies and metaphors.

KEYWORDS: *Metaphor, Metaphorical Meaning, Analogy, Grammatical Analogy, Logical Analogy, Expressiveness, Figurativeness.*

INTRODUCTION

In the process of speaking, as well as in fiction, the speaker or writer expresses the idea expressed through linguistic units, adding words in portable meanings in addition to their own meaning in order to reveal the individual characteristics of the image. In addition to their linguistic function, words have additional meanings. The use of words in such senses gives a speech or a work of art a figurative, expressive color, reveals the expression freely and fully, and ensures the aesthetic pleasure of the listener or reader. Metaphor refers to the phenomenon of a change in the meaning of a word based on the similarity between an object and an event. It is widely used as a means of figurative expression in oral and written speech, as well as in artistic and journalistic methods, as well as in ordinary speech. However, the metaphors used in ordinary speech are different from artistic metaphors. This is because in linguistics, the factors that give rise to the phenomenon of metaphor are divided into linguistic and artistic metaphors in terms of the way in which speech is expressed in one form or another. According to B. Umurkulov, "Language metaphor differs from artistic metaphor in the form of similarity: if language

metaphor is a migration based on direct or explicit similarity between two objects, artistic metaphor is based on similarity between objects. , lies figuratively. Hence, the artistic metaphor differs from the metaphor of language in that it expresses an idea in the first place. The similarity is hidden in the artistic metaphor."From this point of view, it can be concluded that the language metaphors used in the colloquial style (for example, the use of the word skirt in the figurative sense as the foot of a mountain, the foot of a field) , in particular, has lost its imagery because it is often used in the speech process in relation to the artistic metaphors used in poetry.

The main task of the metaphor, in addition to giving imagery to the literary text, is to clearly embody all aspects of the image described by the author in the imagination of the reader, to ensure the brevity and clarity of thought. Abdulla Aripov's poetry is considered to have opened a unique direction in the world of literature with its unique richness of metaphors and analogies. In the poems of the poet, emotional experiences, images of nature, the struggle between good and evil are always described in a comparative, analogous way. In particular, this is evident in the poems of the poet, which are included in the collection "Haj daftari". In this collection, the poet compiles poems written during the Hajj pilgrimage, each of which is guided by the themes of Allah, the Prophet and Hajj. Although the metaphors used by the poet in the collection are mostly artistic metaphors, there are also analogies that are considered metaphors of language today. For example:

Unless the man is a wolf to each other

They ate each other's heads every time.

The expression of man as a wolf in these verses is an artistic metaphor. Because the metaphorical meaning is artistic and, of course, figurative. Or:

No, there is still mercy in the world

No, it's still a cradle of love

Repent, repent, repent only

Only the door of repentance is open to you

The combination of the cradle of love and the door of repentance in the verses is used as a metaphor, and is an example of an artistic metaphor with its imagery.

When a person is born,

The people swarmed with joy.

Respecting the happy baby,

Of course they are wrapped in fluff.

Months, years have passed, many dates have passed,

The baby has also reached old age

When the day is over, he is a slave again

It's wrapped in a piece of fluff.

In this poem "Jealousy" the author uses the word fluff in two different ways as a metaphor. The word "fluff" in the first four verses literally means a blanket, and the word "fluff" at the end of

the second verse means a shroud. Apparently, the author was able to express two different concepts in a figurative sense through a single word through his unique wording skills.

Abdulla Aripov's poems included in this collection also skillfully use the art of simulation. By analogy, two or more things and events expressed in words are compared, the similarities, qualities, and commonalities between the features are compared, and some of the features of the thing-event described are more vivid, deeper, and more impressive. Simply put, based on the similarity between an object and an event, it is called a simile to show the sign, the essence of the other through one of them in a fuller, clearer, more exaggerated way. Imitation is one of the oldest and most widely used visual aids. [2, p. 99] The artist uses analogy to express the image of expression in an artistic way, to reveal its individual features, to reflect its mood, to depict landscapes. The peculiarity of analogies is that they play a decisive role in the definition of any idea, in the complete representation of the image. Another feature of analogies is that a particular analogy is used to illuminate different images.

How many deserts, how many rivers,

One day a caravan entered Mecca

Hastening like a river to the sea,

The Ummah set out for the Ka'bah.

In this quartet, the entry of pilgrims into Mecca is like a river flowing into a river. And here, if the subject of the analogy is the ummah, the standard of the analogy is the valley, the basis of the analogy is the state of haste, and the formal indicator of the analogy is the suffix. There are many such analogies in the poems of the poet, which always have an artistic and aesthetic value in the poem, provide emotional expressiveness and expressiveness of the image. The most commonly used grammatical form of analogy in the poems included in the collection. For example, "Fate has become like a millstone ...", "A man scattered like particle on the earth ..."

He once called out to the Messenger:

"Although I am a stone thrown by God."

You always wish me victory,

It's like I'm a military leader.

In this quartet, though, the connectors seem to be a formal indicator of the analogies cited. The lyrical protagonist is likened first to a stone thrown by a god and then to a warrior at the end of the verses.

Our side inscription is on the stone of destiny

One of us is on the collar and the other is on the collar

The Messenger of Allah, may Allah bless him and grant him peace, said:

We are all equal, like the teeth of a comb.

We can see two similarities in this quartet from another poem in the collection, Equality. The resemblance of the people in the second line to the collar and sleeves is done without any grammatical symbols. In the last sentence, which is equal to the comb teeth, the analogy is done using a grammatical tool such as.

Apparently, both metaphors and metaphors underlie the meaning of comparisons. Both means of expression have expressive, figurative features. However, metaphor is more powerful than metaphor. The essence of Abdulla Aripov's poems is that the artistic image is more polished and beautiful in the decoration of the unique means of expression of speech: analogies and metaphors. We have considered the analogies and metaphors used by the poet only in the example of the Hajj Book. Such metaphors are very common in the poet's poetry. This is a proof that the poet used these types of means of expression very effectively and skillfully. Abdulla Aripov's work is full of such metaphors and images analogies and metaphors are the most recognizable among the means that are extremely rich in analogies and define its uniqueness.

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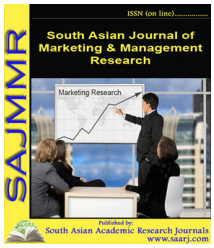

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A STUDY OF VIRAL INFECTIONS IN COMMERCIALLY HARVESTED CRABS

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ABSTRACT

Crab viruses related viral illnesses were discovered and studied long before viruses were discovered in shrimp. Crabs were employed as biological models to study crustacean virology from the start of the shrimp aquaculture industry. More than 30 viruses have been identified in crabs, comprising members of the Reoviridae, Bunyaviridae, Roniviridae, and a group of Bacilliform enveloped nuclear viruses. This study presents information on a number of major viral infections that affect crabs, especially those that are linked to pathology in the organs and tissues of economically and ecologically important host species.

KEYWORDS: *Genome Structure, Nuclear Viruses, Marine Crabs, Reoviridae, Tau Virus, Viral Diseases*

INTRODUCTION

Crab viruses are the earliest crustacean viruses discovered in decapods. Vago discovered the first crustacean virus in the Mediterranean crab Portunus depurator. Since then, many reports of viral infections in various crab species have been published, especially in the first half of the century. Whenever documented biochemical characteristics were sparse, these descriptions were relied

mostly on morphological data, whether or whether they were associated with mortalities. Viruses found in crabs are as least as numerous as those found in shrimp and prawns, and they are closely linked to recognized virus families. Of However, since only a few of them were biochemically described, the majority were only linked to virus families based on their morphological characteristics, such as viral particle shape and size, cytoplasmic or nuclear location, and tissue affinity of the virions[1]. Due to the economic pressures of shrimp farming, shrimp viruses were genetically defined, and as a result, detection techniques were successfully developed. Because crabs have a lower economic value than shrimp and are most frequently captured in the wild rather than farmed, scientific efforts have been less significant, as shown by sluggish scientific development in viral pathology. Furthermore, the economic worth varies greatly depending on the country: for example, the Chinese mitten crab Eriocheirsinensis has little commercial value in Western nations, but is farmed and marketed in Asian markets, especially in China. Only significant virus families or groups of viruses of interest in the field, as well as viral illnesses and viruses of crabs having a genuine economic effect, are reported here[2].

1. *Viruses in the Reoviridae family*

The first virus described in a crustacean, as well as some other uncharacterized viruses that share common morphological and biological features with the family, and some other viruses that have been sufficiently well characterized to be considered members of the family, are all members of the Reoviridae family. By the number of distinct viruses reported, as well as our understanding of their structure, morphogenesis, and genetic data, this family is the most represented among crab viruses. Furthermore, several of these viruses are noteworthy in terms of comparative virology because of their unique and distinctive characteristics. Except for the virus described by Vago, for which only the form and size are known, all other viruses have the capacity to grow in the cytoplasm of infected cells and have an icosahedral shape, a double shelled capsid, and a size that is closely similar. All of them have a multi-segmented dsRNA genome[3].

2. *Hosts and geographic distribution*

Eight distinct reovirus or reo-like particles have been found in crabs, with varied geographic distributions and hosts. P virus was originally discovered in M. depurator, and W2 was named after W virus, which was discovered in Weymouth but not in Carcinusmaenas in Carcinusmediterraneus. The W virus was discovered in C. maenas collected in front of the Weymouth laboratory in the English Channel, and it was later isolated from the blue crab C. sapidus from Chincoteague Bay, Virginia, USA. In Hubei and Jiansu provinces, respectively, EsRV905 and EsRV806 were isolated from the Chinese mitten crab E. sinensis. MCRV has been linked to mortality in the mud crab Scylla serrata in the southern Chinese provinces of Guandong and Fujian. At the same time, Zhang et al. reported SsRV, a related virus from the same region. Diseases were experimentally recreated in their native hosts, with the exception of RC84, via injection or contamination, including viral development and related.

3. *Lesions and tissue tropism*

RC84 differs from the other members of this group in terms of tissue tropism. It is only seen at the hepatopancreatic epithelial level, especially in the cytoplasm of B-cells, where it forms huge, electron-dense viral regions with no identifiable particle attachment. However, there are just a few crystalline arrays of virions to be found. All other viruses are systemic, spread via the bloodstream, and develop primarily in the connective tissues of all organs. UV microscopy with

acridine orange staining shows that P virus and RLV create enormous crystalline arrays of virions in the cytoplasm. W and W2 create cytoplasmic structures known as "rosettes." In section, 5–7 particles make up the rosettes. They are structured in tiny spheres of ordered virions that delimit a center empty volume in terms of volume[4].

4. Characteristics of biochemistry and genomic structure

The double-layered capsid has been shown for the majority of viruses in this category. TEM in pure W2 virions demonstrates this especially effectively. Capsid protein composition data is limited, and only for P and W2 virions is known. P virus has four polypeptides, whereas W2 has six, ranging in size from 24 to 120 kDa. The structure and biological makeup of the capsid of the other crab reoviruses remain unknown.

5. Genes that are transmitted by viruses

The placement of genes in various RNA components, as well as their structure and function, are all unknown in this viral family. Too far, partial sequences of three distinct segments have been obtained from the P virus in terms of genomic sequences. They were produced by cloning genomic RNA fragments, and the various cDNAs obtained were utilized in in situ hybridization studies after being labeled. The ORF-derived polypeptide has an estimated mass of 139 kDa and is made up of 1217 amino acids. Members of the genus Seadornavirus, especially Kadipiro and Banna virus, shared sequence homologies. According to phylogenetic study based on sequence alignment of RdRp from members of various genera in the Reoviridae family, viruses from the genus seadornavirus and certain rotavirus have close relatives. However, given the variations in hosts (insects and crabs), electrophoretypes, and genome size, EsRV905 is most likely the paradigm for a new genus in the family[5].

6. Prevalence and commercial impact

The frequency and impact of RLV in C. sapidus from its major fishery on the US East coast are unknown. In reality, no percentage loss has been calculated for blue crab illnesses (or viral diseases). Similarly, information on the effect of EsRV905, which infects the Chinese Mitten crab, is limited. EsRV905 was found in the major crab cultivation regions in China between 2000 and 2007, including Jiangsu, Shanghai, Anhui, and Hubei provinces (. The virus may be found in all four seasons, although the incidence of infection is considerably greater in the summer. In wild crabs, EsRV905 is often discovered in combination with other diseases. Infection of E. sinensis with pre-purified EsRV905 resulted in only 30% cumulative death, although the virus was identified in surviving crabs[6].

7. Viruses in the Roniviridae family

A crab illness, dubbed "sigh disease" by farmers due to apparent "respiratory" problems that are plainly audible at night and linked to black gill syndrome (BGS), was recently discovered in the Chinese Mitten Crab E. sinensis on a farm in Hubei Province, PR China. Non-specific related symptoms included anorexia and sluggishness. Inoculation of infected hemolymph into healthy crabs was used to replicate the illness in the lab. EsRNV, a virus with morphological similarities to members of the Roniviridae family, was discovered in experimentally infected animals. The lymphoid organ, connective tissue of the gills, hepatopancreas, heart, and gut all showed signs of EsRNV infection. Several debris deposits were discovered between the various gill lamellae in gills. The infection caused a multifocal to widespread necrosis, with pyknosis and karyorrhexis in connective cell nuclei producing inclusion-like formations. After acridine orange staining,

large masses with a bright yellow-orange fluorescence were readily visible under UV microscopy. In contrast to the green fluorescence of normal nuclei, the yellow-orange fluorescence in cytoplasmic inclusions suggested the presence of a high quantity of ssRNA[7].

8. Bacilliform nuclear viruses with a systemically envelope

In crabs, four distinct enveloped bacilliform viruses with systemic development have been reported: B, B2 viruses from carcinid crabs from the French coastlines, RV-CM from C. maenas from the Atlantic USA coasts (Johnson, 1988), and Baculo-B from C. sapidus from the Atlantic USA Bays (Johnson, 1988). In this group, Johnson's review is still valid, and comparable findings were made in B and B2 viruses in France, as well as RV-CM and Baculo-B in the United States. The envelopes develop during viral assembly before capsid formation and densification, in contrast to the preceding category of systemic enclosed bacilliform nuclear viruses. In terms of size, form, and morphogenesis, these four viruses have a lot in common. Negative staining of isolated particles provided additional information on the viral ultrastructure in this instance as well, especially the surface design of NC and the tail-like structure of enclosed particles. The envelope extension creates a tail-like structure that is changeable in length. One of the NC's extremities is spherical, while the other is blunt and ends in a 15–18 nm thick trilaminar structure. Perpendicular to its long axis, the surface looks crosshatched. This decorative construction is made up of 14 22 nm thick striations made up of stacked rings. These final findings are strikingly similar to those reported for NC and WSSV enclosed particles. In fact, they seem to be morphologically identical. Finally, new results on dot-blot hybridization indicate that shrimp WSSV and at least B2 virus have close connections. According to these findings, the B2 virus may be regarded a WSSV ancestor[8].

9. Prevalence

There are little data on the frequency of enveloped bacilliform nuclear viruses in natural settings. Baculo-A prevalence in C. sapidus collected in the Chesapeake and Chincoteague Bays, on the other hand, ranged from 4% to 20% in various batches, with a mean prevalence of 6% in a total of 1500 crabs tested. Baculo-PP was discovered in two populations of the king crab P. platypus, with a frequency of 40% in Olga Bay in April 1982 and 20% in the Pribilof islands in June 1982. S virus prevalence in the French Mediterranean region C. mediterraneus was very low, seasonally variable, and consistently less than 5%. Only one of 29 crabs taken at Woods Hole tested positive for RV-CV from C. maenas, and this crab was the only one infected out of a total of 74 crabs collected between 1982 and 1983.

Only 19 crabs out of 1500 tested were Baculo-B infected, and seven had been experimentally injected, according to the same author. This emphasizes the scarcity of data on this illness in the natural world. Similar findings were made in France, where B and B2 viruses were discovered in a small number of samples, as well as C. maenas and C. mediterraneus.

10. WSSV and crabs

The economic effect of a potential WSSV-related epizooty in crabs has yet to be determined. However, since the majority of the crabs examined thus far have been shown to be disease-prone, it seems that more monitoring of wild crab populations is required to monitor and potentially prevent WSSV transmission into susceptible wild crabs. Crabs naturally affected with WSSV as well as the findings of experimental WSSV infection of several crab species have been published. The number of potential hosts continues to grow, with 41 crab species being

vulnerable to WSSV infection at the moment. 14 species were discovered to be naturally infected, while 27 others were contaminated artificially.

11. Deformities

A failure or delay in mounting from zoea to megaflop owing to the attachment of the residual exoskeleton for many hours during the hatching period results in aberrant swimming behavior and incapacity to ingest feed. The delay or failure of mounting is linked to environmental factors and nutritional deficiency. In grow-out culture, a variety of abnormalities have been seen. Moulting failure, missing legs, abdominal flaps, anomalies of chelate legs, claws, etc. when hard shelled crabs assault the newly mounted crab, aberrant outgrowth, or damage due to different agricultural procedures are only a few examples. All of these characteristics make it easier for opportunistic infections to enter the crab, lowering its market value. Because there is no research including full reliance on artificial food in grow-out culture in India, there is no evidence that nutritional shortages or imbalances cause any illnesses in mud crabs, including minerals, vitamins, and vital fatty acids. In pond-reared juveniles of S. tranquebarica, partial albinism on the carapace and legs has been seen.

12. Other illnesses

In S. serrata, a novel non-infectious shell illness with an unknown origin has been described from Australia. This shell disease's potential to harm mud crab markets has also been observed. This illness is distinguished by irregularly shaped circular lesions known as 'rust spot shell disease,' as well as a distinct histological change. This illness, however, has not been documented in Indian waters. Overcrowding, excessive temperature or pH, low dissolved oxygen, ammonia, and other stressors cause crabs to exhibit symptoms. Once the stressful situation is rectified, the condition is often reversible. Gill blackening may occur as a symptom of a variety of different diseases, including dissolved chemical precipitation, turbidity, and Vitamin C insufficiency. Melanization of tissue and necrosis may cause general darkening of the gills, which can be seen through the side of the carapace. In India, no zoonotic illnesses arising from mud crab have been identified. Vibrio cholera, on the other hand, is a naturally occurring contaminant bacterium found in brackish and estuary waters that has been linked to cholera epidemiology and transmission in the coastal environment. Because crab or crab meat is usually prepared before eating, there is no danger to one's health. However, contamination with germs that may cause human illness can occur during the preparation of crab flesh, therefore food safety standards must be carefully adhered to.

According to a study of the literature, few non-insect invertebrate illness studies satisfy all or some of these criteria. The current study on shell disease in the American lobster, H. americanus, is an exception. Shell illness became a more significant factor than temperature or predation in explaining variations in pre-recruit survival and abundance after 1997, according to Wahle et al. (2009)[9]. The findings were revealed by maintaining parallel time series of different lobster life cycle phases, which allowed researchers to get a better grasp of the pre- and post-settlement processes that affect cohort success. Wahle et al. (2009), on the other hand, were cautious, noting that whereas disease and settlement terms markedly enhanced the model explaining Rhode Island lobster steady decline in the late 1990s, unidentified factors might just have made lobster in southern New England more likely to be subject to disease[4]. The caution is presumably based on the understanding that both host/disease (or parasite) interactions and marine systems are dynamic and in a state of continuous of fluctuation[10].

DISCUSSION

Diseases caused by multiple pathogens in fish and shrimp have been extensively documented, but little is known about their impact on mud crab in hatcheries and farms. Mud crabs are historically thought to be resistant to a wide range of infectious illnesses, however disease incidence under culture conditions is increasing as crab culture becomes more intensive. To improve the production and conservation of mud crab as a sustainable aqua-resource, further study is required to understand the pathogens, hosts, and environmental interactions under hatchery and farming settings. In an aquatic environment, the conventional approach of "stamping out the diseases" is impossible to implement. The movement of live animals between capture/culture sites and market locations is a major aspect of mud crab marketing, with the possibility for disease transmission in situ, enabling the spread to a relatively naive host and/or environment. The fundamental understanding of pathogens in relation to farmed mud crab and how they interact with their hosts falls behind the industry's requirements.

CONCLUSION

As a consequence, it is apparent that systematic methods to disease studies are critical and essential for understanding the impact of illness on fisheries resource availability and distribution patterns. Hematodinium-associated illness poses an unparalleled ecological and fisheries problem in this regard. To my knowledge, no marine invertebrate illness has been regularly seen at high frequency over many decades and is extensively dispersed, impacting numerous commercial and noncommercial crustacean species. However, it is apparent that more systematic and regular monitoring systems are required to keep track of this serious illness. In order to detect disease processes or predictors of illness in field research, such monitoring systems require the adoption or use of inferential statistics. In laboratory studies, larger sample sizes are required to verify field data. Risk assessment studies should be started since the list of vulnerable hosts is expected to increase in the future. Upon the emergence of Hematodinium-associated illness in a previously uninfected area, both oceanographic and human activity should be examined.

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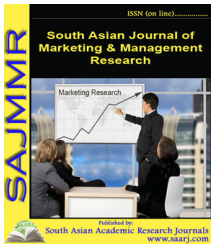

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AN OVERVIEW FOR SUSTAINABLE PERFORMANCE ASSESSMENT OF SUPPLY CHAIN MANAGEMENT PRACTICES

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ABSTRACT

The integration of the idea of sustainable development into supply chain management has indeed been recognized as a limitation as well as a method to enhance performance, affecting a company's and its supply chain organization's competitiveness. We offer a framework for sustainable performance characterisation and an analytical model for sustainable performance evaluation to examine and analyze the possible connections between conventional supply chain management techniques and their effect on performance. The framework is used to describe a company's long-term economic, environmental, and social performance. The analytical evaluation model, which is based on the connections between a supply chain management practice and the three areas of sustainable development, is used to generate the triad's sustainable performance profile. The application of this profile to two well-known supply chain management best practices enables us to assess their effectiveness in terms of sustainable development. Depending on their goals, practitioners may simply utilize the suggested framework to highlight SCM techniques that have a beneficial effect on long-term performance.

KEYWORDS: *Assessment method, management practices, Performance evaluation, Supply chain management, Sustainability, Sustainable development.*

1. INTRODUCTION

The Brundtland Report of the World Commission on Environment and Development defines sustainable development as "development that satisfies current demands without jeopardizing future generations' capacity to satisfy their own needs." This idea is very essential in 21st-century companies and supply networks[1]. The management of material and information exchanges in the logistics process extending from the purchase of raw materials to the delivery of end-products to end consumers is known as supply chain management (SCM). As a result, SCM is in charge of material flows within human civilization as well as material and energy exchanges

with the environment[2]. Environmental performance, social responsibility, and economic contribution are the three major elements of sustainability that should be considered when determining the effects of SCM. However, today's emphasis is mostly on the economic aspect, as shown by the assessment of certain well-known or best practices. "Any technique or experience that has shown its worth or is utilized in an effective manner in an organization, and may be used in other organizations," according to the APQC2. The control of the movement of products and services is known as supply chain management (SCM)[3]. The movement and storage of raw materials, work-in-process inventories, and the transit of products from point of origin to site of consumption are all part of the supply chain. The optimization of the supply chain may result in substantial energy savings and a decrease in carbon emissions. Supply chain management concepts are used by businesses from manufacturers, wholesalers, and retailers to warehouses, healthcare providers, and government agencies to plan, assemble, store, distribute, and monitor goods from the beginning to the conclusion of the supply chain. The specifics are as follows: SCM focuses on supplier selection, sourcing cost optimization, and sourcing risk management in procurement. SCM focuses on production planning and control, production R&D, maintenance and diagnostics, and quality management in the manufacturing industry. SCM focuses on logistics planning, in-transit inventory, and management in the logistics and transportation industry. SCM focuses on storage assignment, order selection, and inventory management in warehousing. SCM focuses on detecting present demand, influencing future demand, and predicting demand in the demand management domain[4]. SCM is heavily using a wide range of technologies, including as sensors, barcodes, and the internet of things, to integrate and coordinate every connection of the chain. Advanced analytics methods are being used to extract useful information from big data, enabling data-driven decision-making. Support vector machine in classification models; heuristic approaches along with spatial/temporal-based visual analysis, which are key approaches in the development of optimization models; and K-means clustering algorithm in clustering, classification, forecasting, and simulation models are some of the main big data techniques used in SCM[4]. Big data analytics in SCM has clear benefits in terms of lowering operating costs, enhancing supply chain agility, and increasing customer happiness, according to empirical research. SCM's graphical categorization framework is divided into four levels:Procurement, manufacturing, logistics/transportation, warehousing, and demand management are all included in the first layer. The second layer divides data analytics into three categories: descriptive analytics, predictive analytics, and prescriptive analytics, with descriptive analytics describing past events, predictive analytics predicting future events, and prescriptive analytics referring to decision-making mechanisms and tools. The most widely used descriptive analytics method is association, which has been used at every step of the SC process, from procurement through production, warehousing, and logistics/transportation to demand management. In descriptive analytics, visualization is the least utilized model. Classification is the most often used model in predictive analytics because it can categorize a large number of data items into preset categories, resulting in high-accuracy predictions. Semantic and forecasting models are two more prominent predictive analytics methods[5]. The most common models for prescriptive analytics are the optimization and simulation models, which are used to aid decision-making.

1.1 Tools to assess SCM practice :

There are a variety of methods for evaluating SCM processes; in this article, we'll focus on evaluation audits. Odette EVALOG, Efficient Consumer Response, the Oliver Wight Class a Checklist, and the SCOR model are four worldwide instruments for supply chain auditing. On

the market, none of them are really necessary. Odette International Limited and the Automotive Industry Action Group collaborated to create the Odette EVALOG standard, which is based on the Odette Logistics Evaluation (OLE) and Materials Management Operations Guidelines (MMOG), which are used in Europe and North America, respectively. The goal of these two organizations was to create the Worldwide Material Management Operations Standards - Logistics Evaluation, a set of global guidelines for materials operations that would help suppliers and customers operate more efficiently[6]. The Odette EVALOG standard, which was established in 1999 to offer companies with an uniform supply chain evaluation tool, is extensively used throughout Europe.It was conceived and developed for the automotive industry, but it is now utilized in a variety of other sectors. It looks at six areas: four are processes (customer relations, supplier relations, manufacturing, and product development), while the other two are research subjects (corporate strategy and corporate structure)[7]. About sixty best practices are evaluated using this criteria. Based on the organization's compliance with the standards, the updated assessment score sheet assigns suppliers a "A," "B," or "C" rating. The Efficient Consumer Response (ECR, 2008) is a tool consisting of a collection of best practices in sustainable transportation that is specific to the retail sector. Companies of any size may use this SCM performance evaluation tool to self-assess against a reference list. It contains thirteen best practices for loading, delivery, driver participation, technology, and the business network[8]. These practices are graded on a five-point scale, from the most fundamental to the most advanced. After the assessment is done, the results are represented in a network strategy that highlights the areas where the business needs to focus. The Class a Checklist for Business Excellence was created by Oliver Wight as a tool to evaluate processes and practices that allow the business to achieve excellence. Strategic Planning, Managing and Leading People, Driving Business Improvement and Integrated Business Management, Products & Services, Demand, Supply Chain, Internal Supply, and External Sourcing are the processes in question. Each exercise is graded on a four-point scale, ranging from 0 – Nothing de facto (this practice is required but has yet to be implemented) to 4 – Excellent (this practice has been perfected and yields the greatest anticipated benefits). The Supply Chain Council (SCC, 2000) developed the SCOR model in 1996 as a common framework for businesses. It establishes a framework for representing, assessing, and diagnosing the supply chain, as well as reference procedures, key indicators, and best practices. For evaluating SCM methods, the SCOR model offers five families of metrics: dependability, responsiveness, flexibility, costs, and asset management. The GREENSCOR is included in the eighth edition of the SCOR model (SCC, 2008). This new module emphasizes best practices such as "installation of an Environmental Management System," "creation of supplier relationships," "identifying green products," "maximization loadings," and so on. The best practices are related to five environmental indicators: carbon emissions, air pollutant emissions, liquid waste generation, solid waste generation, and recycled waste percentage. As the 800 or so participating businesses testify, the SCOR model is undoubtedly the most important global reference for supply chain evaluation. It acts as a benchmark for determining where the supply chain is located, how it is organized, and what kind of operation it employs.

1.2 The sustainability in performance assessment standards;

Several new standards and scientific contributions have recently been released to assist businesses in evaluating their long-term success. We observe that commitment standards like the Global Compact offer certain important concepts but no evaluation mechanism, and that certification standards are, unfortunately, extremely specialized. In fact, SA8000 (SAI, 2008) is

focused on the social component and is seldom relevant to businesses, while EMAS (European Commission, 2009) solely offers an environmental assessment instrument. Note that ISO 26000 (ISO, 2010) proposes an evaluation methodology for environmental and social performance that is relevant to businesses, and GRI, a reporting standard for businesses, incorporates three aspects of sustainable performance. These two criteria, however, do not cover all aspects of sustainable development and therefore are not comprehensive. In terms of scholarly contributions, the earliest conceptual models defined the notion of social responsibility by demonstrating its roots and first evaluation criteria. More recent conceptual models define long-term performance and highlight the main factors to consider when evaluating it. Castka and Balzarova (2008), Jash (2000), Krajnc and. The majority of contributions in mathematical models are focused on one dimension: the economic component. Multi-criteria methods and composite sustainable indices have captured our interest and impacted our work. Until now, multi-criteria approaches incorporating at least two sustainable dimensions have been rare, and none have addressed all three dimensions. The second method involves combining sustainable indicators into a composite index. This level-based approach is intriguing, but the actual models in Krajnc and Glavic (2005), Singh, Murty, Gupta, and Dikshit (2007), Siracusa, La Rosa, and Sterlini (2004), and Jung, Kim, and Rhee (2001) allow for compensations between dimensions, which do not appear to be consistent with the concept of sustainable development in our opinion.

1.3 Needs for framework for sustainable performance assessment of SCM practices:

Although several of the world's top international organizations provide methods for auditing SCM processes, only a few have progressed to the point of assessing sustainability. The SCOR model, with the addition of the GREENSCOR additional model, is the most sustainability-oriented instrument. It does not, however, combine the three. Although several of the world's top international organizations provide methods for auditing SCM processes, only a few have progressed to the point of assessing sustainability. The SCOR model, with the addition of the GREENSCOR additional model, is the most sustainability-oriented instrument. It does not, however, combine the three.

1.4 An analytical model for assessment of SCM practice sustainable performance :

We offer a three-level analytical evaluation methodology for long-term performance that may be used to evaluate any SCM processes. Because the degree to which a business adopts a practice may vary greatly, from very little to complete adoption, the importance of its effect cannot be considered in all instances in the same manner. To account for this variation, we weight the effects of SCM practices according to a maturity level, which reflects the degree to which the SCM practice W(Pk) has been implemented[9].We suggest that a practice's maturity be measured in terms of two characteristics: stability and scope. The consistency with which a practice is implemented by a business shows how often it is done; it may be sporadic (depending on opportunities) or systematic[10]. The perimeter of a practice's implementation is defined by the scope of the practice's implementation. It may be limited to a few products/services or all of them. The following is a breakdown of the four levels of maturity:

Degree 0: The practice is only partially or not at all applied. As a result, its adoption will have no major effect on the fields.

Degree 1: This technique is used on a limited basis for certain supply chain products/services.

Degree 2: The business implements this technique on a regular basis for a subset of the supply chain's products/services, or on an ad hoc basis for all products/services.

Degree 3: The business implements this procedure consistently across all goods and services.

The sub-fields are aggregated into three sustainable indices in our three-level analytical approach for evaluating the long-term success of SCM processes. The idea of a composite index is a novel method that is well-suited to evaluating the socioeconomic application of sustainable development. It allows businesses to convert their various accessible data into words that correlate to economic, environmental, or social benefits. These indices are becoming more widely acknowledged as useful instruments for strategy adjustments and communication. The sustainable indexes simplify, measure, evaluate, and convey information that would otherwise be complex and difficult to understand by displaying events and underlying patterns.

2. DISCUSSION

The literature on buying and supply management, as well as transportation and logistics, has influenced the creation and evolution of supply chain management. As a result, the phrase "supply chain management" is employed in a variety of contexts, although three different definitions predominate in the previous literature. To begin, supply chain management may be used as a convenient synonym to describe a manufacturer's buying and supply operations. Second, it may be used to define merchants' and retailers' transportation and logistical activities. Finally, it may be used to define all value-adding operations, including recycling, from the raw materials extractor to the end consumers. It should come as no surprise, however, that the different descriptions sometimes overlap.Genuinely integrated supply chain management requires a huge investment from all value chain participants. For example, a buyer's buying process may need to be overhauled in order to include a supplier's technical teams and product designers directly into their own decision-making process. Because changing partners may be costly, the buying " "m has the potential to become a slave to its suppliers. The purchaser must be concerned not just about poor supplier performance, but also about the potential of a supplier leaking trade secrets to rivals or striking out on its own with its newfound skills. While trusting suppliers makes excellent economic sense, antagonism may be more pro"table in the long term for many "rms. There are many additional supply chain management problems, such as conflicting goals and missions, insufficient decentralization, and so on "Customer service is defined as the separation of supply chain design from operational choices.

3. CONCLUSION

We have provided a framework to describe a company's sustainable performance in terms of the effects of its SCM practices, as well as a methodology to evaluate its sustainable performance uniformly in this article. This contribution responds to the original issue of how to evaluate the long-term effectiveness of SCM methods. The concept is based on the identification of a collection of sustainable sectors that may be affected by SCM techniques. Reliability, responsiveness, adaptability, financial performance, quality, environmental management, resource usage, pollution, dangerousness, natural environment protection, labor conditions, human rights, social commitment, consumer problems, and business practices are all represented in these areas. We developed a framework for sustainable performance characterization and an analytical model for sustainable performance evaluation to discover, quantify, and aggregate the connections between supply chain management strategies and their effect on performance. The framework is used to describe a company's long-term economic, environmental, and social performance. We used the framework to describe two well-known methods that are regarded "excellent" from an economic standpoint, from the viewpoint of the other two aspects of sustainable development. We were able to determine if a best economic practice is also a best

sustainable practice as a result of this. This approach may be readily adapted to any SCM technique that is now regarded a best practice in a business or that a company plans to adopt. The suggested framework may also be used by a business to emphasize those SCM practices that have a beneficial effect on its long-term performance, depending on its goals. The application of multi-criteria methods on the framework may help one select the best SCM practices for a particular situation, or categorize SCM practices according to the circumstances and goals of businesses.

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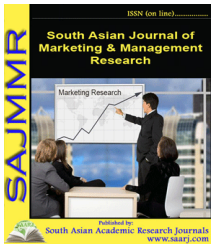

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WATER, AGRICULTURE, AND FOOD: ISSUES AND CHALLENGES

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ABSTRACT

Population growth, rising food demands, increasing competition for water, decreased supply reliability, climate change, climate uncertainty, and droughts, decline in critical ecosystem services, competition for land use, changing regulatory environments, and less participatory water resource governance are all contributing to increased difficulties and challenges in water resource management. The need for sustainable food security for our global population, as well as the need to protect the environment, including natural and man-made ecosystems and landscapes, has increased the demand for integrated, participatory, and scalable solutions that focus on various levels of irrigation and nature water management, from field crop to catchment and basin scales. Meanwhile, in the last 30 years, the challenges and issues surrounding water management for agriculture and food have evolved dramatically, and the role of active management of the components of the water cycle is becoming increasingly important, as their dynamics are critical to ensuring water use sustainability, particularly in agriculture and natural ecosystems. Different areas, however, confront unique problems related to water shortages, climate, governance, and population demands. The most significant and immediate issue is providing adequate food for a rising population, which is inextricably linked to agricultural water management challenges, particularly irrigation management. This study examines the difficulties and gains made in irrigated agriculture over the past 30 years, with an emphasis on water management and its contribution to food security and rural community well-being.

KEYWORDS: *Crop water requirements, Energy, Evapotranspiration, Irrigation management, Water governance, Water management, Water scarcity.*

1. INTRODUCTION

Agriculture's primary challenge is to produce enough food for a growing population in a complex environment that includes population growth and urbanization, poverty, increased food

demands, ever-increasing competition for water and land, climate change, climate uncertainty, and droughts, variable supply reliability, decline in critical ecosystem services, and changing regulatory environments. This problem and its ramifications are inextricably linked to difficulties in agricultural water management, particularly irrigation management, as discussed further in this article. On those different issues, numerous research and information are being generated, especially in relation to food security and nutrition (FSN)[1]. FAO is releasing a series of studies on different aspects of FSN, including climate change's effect on FSN and water-food connections. Among the related recommendations are: (a) ensuring sustainable ecosystem management and conservation for stable availability of water of appropriate quality; (b) an integrated approach to water and FSN policies; (c) improved water management in agriculture and agricultural system adaptation to improve water use performance and water productivity, particularly in the face of water scarcity; and (d) fostering a culture of water conservation. It's worth noting that, although accounting for just 16 percent of cultivated land, irrigated agriculture is projected to provide 44 percent of global food by 2050[2].

The Centre International de Hautesétudesagronomiquesméditerranéennes(CIHEAM) took a unique but complementary strategy to promoting the development of knowledge needed to achieve food security in the Mediterranean, including water problems with those related to other natural resources such as land, climate, biodiversity, and energy. Meanwhile, given the importance of energy resources in the food chain, from the field to the consumer, the integrative idea of Water-Energy-Food Nexus is gaining traction, leading to its acceptance by a number of organizations[3]. Others added the component land use, which highlights the rationale for land use rivalry with non-agricultural sectors, as well as the need of land preservation and landscape conservation.

This article examines a variety of methods to water and energy problems and issues in agricultural processes, with a particular focus on food production. Then there's irrigation water usage, with an emphasis on the problems that come with water use and consumption, as well as irrigation water management, with the goal of evaluating the role of this Journal in innovation in these areas.

2. DISCUSSION

2.1. Water, Energy and Food Nexus:

Irrigation's function in boosting food production has been studied for a long time, but previous methods were restricted in scope, for example, just examining the effects of irrigation performance on food output. Carruthers et al. examined the need for increased food production from irrigation, concluding that not only is efficient expansion and intensification of irrigated agriculture required, but there is also a need to better understand the links between water scarcity, food production, food security, and environmental sustainability[4]. De Fraiture also mentioned the necessity for an integrated and interdisciplinary modeling method to investigate the links between economic trends, agricultural policy, and water usage, and proposed the WATERSIM model to accomplish these goals[5]. Hanjra et al. conducted a review of factors influencing FSN, particularly those related to water, by examining the links between water supply and food security, with a focus on climate change adaptation, land and water conservation, crop development and adoption, irrigation modernization, and international food trade reform[6]. Rosegrant et al. looked at the effects of water shortage on agricultural water usage and the implications for FSN[7]. These writers addressed policies, institutions, and investments required to guarantee availability to water for food production, as well as soil

deterioration, groundwater depletion, rising water pollution, the destruction of water-related ecosystems, and inefficient use of previously established water resources. In their review, few authors focused on the utilization of non-conventional water for food production in water-scarce areas.

When examining the referred integrative concept of Water-Energy-Food Nexus as shown in Fig. 1, it is clear that complexity is added in comparison to the sole consideration of water-agriculture-food interactions: on the one hand, it brings challenging questions about energy into consideration; on the other hand, virtual water enters the picture. The latter is a tough notion to grasp: it is reasonable to include the transfer of water incorporated in food items, particularly grains, but how this transfer is understood is debatable. Virtual water may be useful from a commerce standpoint, but it has little use as a sensible water management problem.

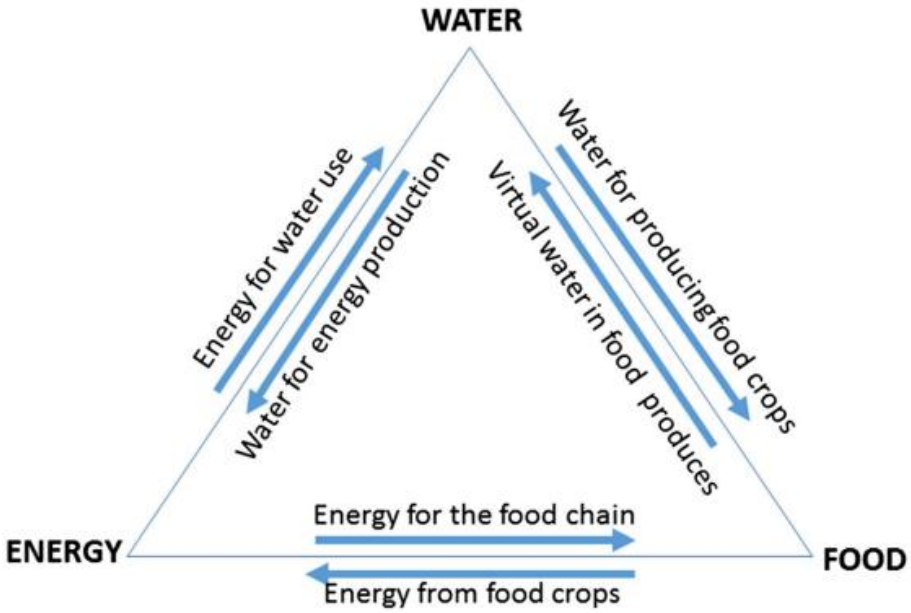

Fig. 1 A schematic representation of the Water Energy Food Nexus[8]

2.2. Food, Irrigation, and Cropping Systems Nexus:

Food production has seen a lot of innovation in the past 30 years, especially in terms of cultivation methods, new crop types, and irrigation. However, the majority of the improvements are technical, and they have not been followed by changes in farmer involvement in water and irrigation system administration. The difference between small and big farms has widened, with the latter adopting a range of contemporary technology and management solutions, as well as continuing to embrace current research findings, especially precision agriculture in commercial farms. Smallholders, on the other hand, suffer financial shortages, limited access to better technology and innovation, lack involvement in water governance, and are often afflicted by poverty. Land fragmentation is substantially linked with inefficiency and poor farm profit in India, while land ownership and crop variety are associated with agricultural efficiency. Small farms, on the other hand, are more intense and may be more efficient in their use of inputs than big farms. Climate, cropping orientation, access to land property, and the kind of political authority all make a difference. Nonetheless, improvements in water management are significant; if they are more readily adopted by big and commercial farms, they contribute to small farm

intensification, better resource use, and increased land and water productivity, for example, drip irrigation.

The Food-Irrigation-Cropping Systems Nexus is shown in Figure 2. Its goal is to show how agricultural systems differ depending on the food crop in question, as well as local knowledge and socio-cultural factors. Irrigation may play a key part in the chosen farming systems to support the crop's suitable water requirements, depending on the local climate, soils, land characteristics, and water availability. Finally, food product qualities, customer and market preferences, and agro-industry needs all influence irrigation management in terms of water deficit control and scheduling. The Food-Irrigation-Cropping Systems Nexus, on the other hand, varies with farm size and orientation, as well as access to technology and money, as mentioned briefly above, and reflects poverty effects.

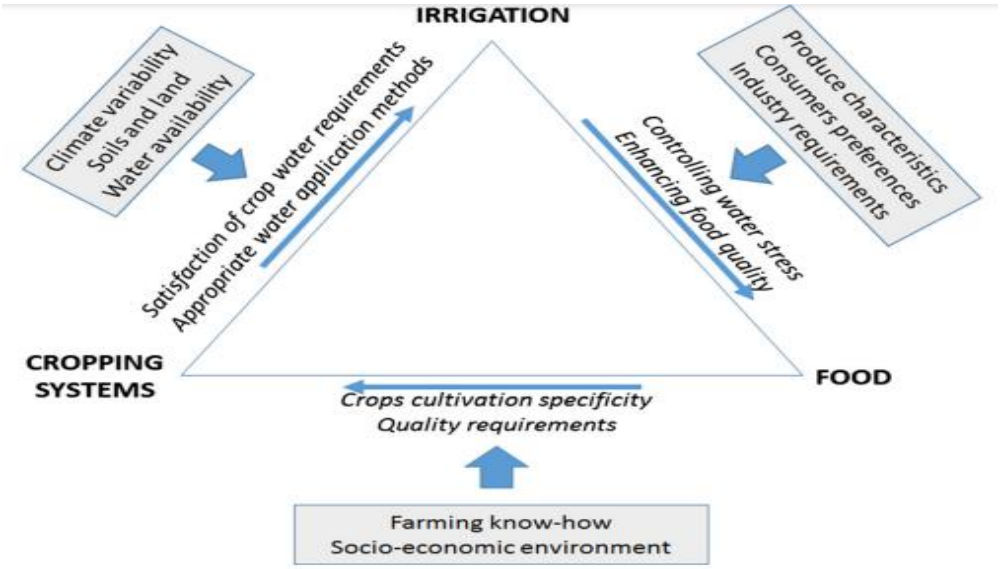

Fig. 2 A schematic representation of the Irrigation-Cropping System-Food Nexus[9]

2.3. Irrigation and Agricultural Water Management Innovation and Challenges:

2.3.1. Reference Crop Evapotranspiration:

The two-step crop coefficient – reference evapotranspiration (Kc – ET_{ref}) method was developed worldwide by Doorenbos et al. to estimate crop water needs in a practical manner[10]. The crop coefficient (K_c) adjusts the reference ET to account for crop-specific impacts on ET and their change throughout the crop growing season. ET_{ref} reflects the main weather-induced effects on water consumption. Standardized Kc values at typical crop stages were given for a variety of crops, and four techniques for estimating ET_{ref} were suggested depending on data availability.

ET_{ref} is defined as the rate of evapotranspiration from a hypothetical reference crop with an assumed crop height of 0.12 m, a fixed daily canopy resistance of 70 s m1, and an albedo of 0.23, which closely resembles evapotranspiration from an extensive surface of green grass of uniform height, actively growing, completely shading the ground, and not short of water. This formulation allowed the Penman-Monteith (PM) equation to be parameterized, resulting in the PM-ET_o equation, a standardized grass crop reference (ET_o) equation. ETo is often referred to as potential ET, especially in hydrologic research. The PM-ET_o equation's parameter calculation was also standardized. The PM-ET_o was chosen as a worldwide applicable reference technique

on the basis that physics are physics everywhere. As a result, if the physics-based PM-ETo technique is properly set up utilizing high-quality weather measurement data from a few sites, it should suffice as a worldwide foundation for crop ET. Comparative investigations of PM-ET_o and local ET measurements, as well as regional studies, have substantially proven the PM-ET_o equation's applicability to a wide range of settings.

2.3.2. Crop Water and Irrigation Requirements:

Crop water needs (CWR) during a crop season or a specific time period are considered to equal the total of crop ET (ETc, mm) for that time period. The net irrigation needs (NIR) are the net depth of water needed to meet CWR in addition to available soil water in the root zone, precipitation and capillary rise, and the depth of water required for salt leaching in the root zone. The ratio NIR/BWUF, where BWUF is the beneficial water usage percentage of the applied water, is used to calculate gross irrigation needs (GIR), which are the consequence of inefficiencies in irrigation water application[11]. CWR is derived from ETc, while NIR is derived from the crop root zone's soil water balance, which often necessitates the employment of models.

2.3.3. Irrigation Scheduling and Management:

To achieve excellent yields and profitability, effective water usage, and manage irrigation's environmental effects, proper irrigation scheduling (IS) is required. Fertilizer timing has long been thought to be linked to IS, resulting in better yields and less nitrogen pollution and greenhouse gas emissions. Farmers' knowledge or observations of plant water status and/or soil water monitoring, as well as remote sensing plant water status, may be used to determine irrigation frequency. Furthermore, models are often used to assist farmers' IS advice, particularly when combined with remote sensing data. These methods necessitate a decision on irrigation depths, which is usually made using models or automated devices. Precision irrigation is the application of these technologies, which include a wide range of measurement and wireless communication devices, on commercial farms, primarily for tree and vine crops, and with pressured irrigation, which is frequently automated. IS choices are determined by soil water holding capacity, crop type (vegetables vs. cereals), and irrigation method (infrequent irrigation with big depth for surface irrigation vs. frequent irrigation with tiny depths for center-pivots and micro-irrigation, as previously discussed). Furthermore, IS choices are influenced by food crop quality needs, which are mostly determined by customer preferences and industry, as well as water availability, which may necessitate the use of deficit irrigation.

3. CONCLUSION

While considering both the food-water-energy nexus and the food-cropping systems-irrigation nexus, the significance of water and irrigation in supporting food security was addressed. Despite the fact that irrigation varies in space and with the socio-economic and environmental circumstances of the people, it has been shown that irrigation may play a dominating role in FSN settings. Increased food crop yields, particularly grains, were clearly affected by fertilizer use, better crop cultivation techniques, and direct and indirect energy use, but it was also apparent that water and irrigation are critical for achieving food security and feeding the world's growing population. However, it should be emphasized that environmental sustainability must be closely linked to food security.

Progress in irrigation, particularly of food crops, shows that the conditions are in place to achieve appropriate FSN: crop evapotranspiration processes are becoming better understood, leading to

advances in estimating crop water and irrigation requirements; irrigation scheduling has advanced dramatically as crop water use becomes better understood, allowing computer modeling to provide advice to farmers. WARM is helping to disseminate information on these topics, primarily in relation to drought and water shortage problems and issues, as well as off-farm pressurized system design, management, and energy control. However, a few other challenges require better solutions, such as controlling increased water competition between sectors, making water allocation mechanisms fair and transparent, improving water actors' participation in water governance, and recognizing and protecting the interests and rights of all users, particularly the most susceptible and disadvantaged, necessitating the development of a new gender paradigm in water use and irrigation and contributing to the welfare of village population.

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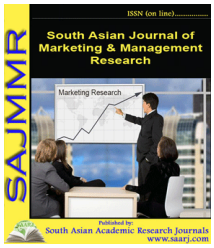

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MANAGING WASTE WATER THROUGH THE AGES: A HUMAN HISTORY

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ABSTRACT

Even though there has been a lot published on the history of water delivery systems, there isn't much on wastewater management. This is unexpected since a lack of sanitation has the same, if not larger, impact on human development as a lack of clean water. While addressing waste treatment may carry a stigma, cleanliness is generally seen as a major demand on financial and political resources, as well as humanity's development. A overview of the literature on the development of sewage disposal through time and its effect on human health and the environment is provided. Hopefully, this knowledge will raise historical understanding in order to influence future legislation and technological advancements. The study emphasizes the link between environmental contamination and the capacity to quantify it, as well as how advancements in scientific understanding have influenced pollution management. The impact of political and social events on wastewater management is also highlighted. A sanitation history has been created, highlighting major advancements in wastewater treatment and advances in analytical environmental sciences. This review was prepared with the hope that historical research demonstrating the communal experience and "philosophy of sanitation" may inspire future challenges.

KEYWORDS: *Environmental, Waste water, Management.*

1. INTRODUCTION

It's amazing how much history can be discovered at the end of a sewage system, from food to sanitary practices, medicines and birth control pills to more personal sexual behaviors. There is no more dependable source of a society's traditions and behavior than its waste products, and this truth is beyond civilization's comprehension. There is no social analysis that is more accurate than a wastewater analysis. “The history of mankind is mirrored in the history of sewers,” says the author, “it has served as a haven for crime, cunning, social protest, religious liberty, thinking, thievery, and everything else that the human law has punished or has persecuted is concealed in

that hole." What is in the sewer does not lie, and it restores equilibrium with the precision of a level. The quest for truth is left in its wake. Disclosure occurs inside this seemingly fleeting yet explosive contact point between civilization and its wastes: "There, the bottom of a bottle denotes inebriation, a basket-handle denotes domesticity, the core of an apple that has entertained literary opinions reverts to an apple core, the effigy on the big soul becomes openly covered in verdigris, Caiaphas' spittle collides with Falstaff's pukin, and the louis-d'or from the coming-house jostles the nail from which hangs the rope's Everything that was previously rouged has been washed away[1].

1.1.Historical considerations

The development of sanitation techniques may be split into five major eras in a timeline.

- The beginnings.
- The Roman Empire
- The Sanitary Dark Age.
- The Industrial Revolution and the Age of Sanitary Enlightenment
- The era of strict environmental regulations

The Beginnings Humans (Homo sapiens) have been on the planet for nearly 200,000 years, the majority of that time as hunter–gatherers with ever-growing populations. The earliest human settlements were dispersed across large regions, and the trash they generated was returned to the earth and degraded naturally. Because they were tiny nomadic hunter–gatherer groups, disposal issues were minimal. Around 10,000 years ago, humanity built permanent settlements and adopted an agricultural lifestyle, ushering in a new age. With human settlement came environmental consequences. The disposal of human excreta was handled via holes in the ground until the creation of the first sophisticated civilization, as described by the Mosaic Law of Sanitation[2].

1.2.Empire of Mesopotamia:

Ancient Civilization, according the literature, spanned portions of Africa, Southern Europe, the Middle East, and Asia all the way to India. The Mesopotamian Empire was the first civilization to officially address sanitary issues resulting from communal living, according to historical sources. There are remnants of houses linked to a drainage system to take away wastes, as well as latrines leading to cesspits, among the ruins of Ur and Babylonia. Unfortunately, despite the existence of this complex system, most Babylonians dumped trash and feces into the unpaved streets, which were regularly filled with clay, ultimately increasing the street levels to the point that steps had to be constructed down into homes[3], [4].

1.3.Indus Civilization :

Indus Valley wastewater management was well advanced. That area has a sophisticated and technologically evolved urban culture. The community's quality of life indicates considerable understanding and application of urban planning, as well as effective municipal administration and a strong focus on cleanliness. the fact that the Indus civilization was densely populated and that "open squatting" was frowned upon Houses were linked to drainage channels as early as 2500 BCE, and effluent was not allowed to run straight to the street sewers without first being treated. Wastewater was first pumped into a tiny sump via tapered terra-cotta pipes. When the

sump was approximately 75 percent filled, solids settled and collected in the sump, while liquids spilled into drainage pipes on the roadway[5].

1.4.Egyptian:

The better homes at Hierakonpolis, as according Herodotus' account (Histories II), included limestone bathrooms and toilet seats. A slightly sloped stone-slab floor would be installed in the bathroom, and battered stone slabs would be used to border the walls to a particular height (about half a meter) to guard against moisture and splashing. Water was drained from the bathroom by placing a basin under the spout of the floor slab, or by drainage pipes flowing through the outside wall into a vessel or directly into the desert sand. Less well-off people who couldn't afford a limestone toilet utilized toilet stools with a ceramic bowl below. Furthermore, temporary toilets were made out of toilet stools with a hole in the center and a clay pot underneath, which were often buried with important figures. The feces was collected in sand-filled jars and dumped into holes outside the house's walls, the river, and even the streets[6].

Civilization in Greece the Greeks were pioneers in the development of modern sanitation systems. Archaeological research have shown clearly that contemporary water management methods have their origins in ancient Greece. They discovered toilets that looked like Egyptian toilets in the Minos Palace in Knossos and the west side of the so-called "Queen's room" in Phaistos. They were linked to a closed sewage system that is still operational after four thousand years (Figure 2). a comprehensive description of Knossos' sewage system, which extends over 150 meters The Ancient Greeks (300 BC to 500 AD) had public latrines that discharged wastewater and rainfall into pipelines that led to a collecting basin outside the city. The wastewater was then transported to agricultural areas through brick-lined conduits, where it was utilized for irrigation and fertilization of crops and orchards. The pipe system's design is understood based on archaeological evidence. Wastewater went from the building via one set of pipes to a bigger channel in the road, which then flowed to larger main channels and finally into a single collector. Archaeologists discovered a system similar to this between the Acropolis and the hill, where a succession of canals converged in a single collector[7].

Figure 1: Parts of the sanitary and storm sewage systems of Knossos Palace[8]**.**

1.5.Period of the Romans:

The Romans were excellent engineers and administrators, and their systems were on par with contemporary technology. One of the wonders of the ancient world is Rome's water system. The water in Rome is well-known, and much has been written about it. The effect of wastewater management on Roman living has received much less attention. Although sewage and water pipes were not invented by the Romans, they were definitely improved by them since they were previously existent in other Eastern civilizations. The Romans continued the Assyrians' engineering efforts, transforming their ideas into massive infrastructure that served all of the people. The Romans controlled the water cycle from collection to disposal, creating parallel networks to gather spring water as well as dispose of storm but also wastewater. They were the inventors of the first integrated water service[9].

1.6.The development of wastewater treatment technology:

Although it is essential to understand different wastewater treatment procedures, the purpose of this article is to outline the most significant advances in the history of wastewater treatment rather than to provide comprehensive explanations that can be obtained elsewhere.

The first line of defense Gravity sedimentation is used to remove heavier particles during primary treatment. Trenches and pits, which have been used for millennia to remove heavy particles prior to application with the goal of decreasing the burden on the land to prevent clogging, were the oldest type of primary treatment. Minoan Tylissos, Palace of Knossos, and HagiaTriada all had sedimentation tanks. L.H. Mouras developed the "fosses Mouras," a cesspit with input and exit pipes that dropped below the water surface, creating a water seal. Donald Cameron patented septic tanks in 1895, which improved on this concept. The Imhoff tank, built by Karl Imhoff in 1906, was a step forward and is currently in use throughout the globe. Until the implementation of the Clean Water Act in 1972, which required secondary treatment, primary treatment was the most prevalent method of wastewater treatment in the United States.

1.7.Treatment in the second stage:

Bacteria convert carbonaceous (organic) elements in wastewater to carbon dioxide, water, and energy for re-growth in secondary treatment. Secondary subsequent advancements relied on two fundamental kinds, which lead to the idea of the fooling filter. The very first trickling filtration was built in Salford, near Manchester, England, in 1893, and many more were used to cleanse wastewater from towns or cities throughout the United Kingdom from 1895 until about 1920. The trickling filter in its current form was never patented.

Attached growth (biofilms) as well as suspended growth (therapy) Microorganisms may attach to and develop on a fixed substrate such as rock or plastic in attached growth systems. BOD is reduced when wastewater runs through this aerated biofilm. The biomass and wastewater are continuously combined in a suspended growth system, resulting in a decrease in BOD. In a later sedimentation stage, the particles are removed, and the bulk of the liquid is reintroduced to the process.

1.8.Attached development:

The notion that wastewater might be purified in this manneraroundthe end, the usage of microorganisms started to appear.During the nineteenth century The Edward Frankland Foundation was founded in 1870 by Edward Frankland.Many of the fundamental concepts of filtration through the soil on which much of the research is basedCooper (2007) said that subsequent advancements were dependent (Cooper, 2007). This resulted in thetricking filter idea.

The first trickling filter was invented in 1893.was erected in Salford, England, near Manchester, and has been operational sinceMany others were employed to remediate wastewater[10].

2. DISCUSSION

It's amazing how much history can be discovered at the end of a sewage system, from food to sanitary practices, medicines and birth control pills to more personal sexual behaviors. There is no more dependable source of a society's traditions and behavior than its waste products, and this truth is beyond civilization's comprehension. There is no social analysis that is more accurate than a wastewater analysis. Although there has been a lot published on the history of water delivery systems, there isn't much on wastewater management. This is unexpected since a lack of sanitation has the same, if not larger, impact on human development as a lack of clean water. While addressing waste treatment may carry a stigma, cleanliness is generally seen as a major demand on financial and political resources, as well as humanity's development. The development of wastewater management through time and its effect on human health and the environment is provided. Hopefully, this knowledge will raise historical understanding in order to influence future legislation and technological advancements. According to the British Medical Association and the American Medical Association, wastewater treatment is the single most important factor in public health and lifespan. This timeline demonstrates how waste treatment has improved economic circumstances, public health, and lifespan. All people on the planet must have access to clean drinking water and sanitation. This is a human right as well as a wonderful equalizer. The study emphasizes the link between environmental contamination and the capacity to quantify it, as well as how advancements in scientific understanding have influenced pollution management. The impact of political and social events on wastewater management is also highlighted. A sanitation history has been created, highlighting major advancements in wastewater treatment and advances in analytical environmental chemistry. This review was prepared with the hope that historical research demonstrating the communal experience and "philosophy of sanitation" may inspire future challenges.

3. CONCLUSION

The long history of urban ecology, wastewater disposal, and social and cultural traditions come to mind when it comes to sewage disposal. Dispersion and dilution were the most frequent, but not necessarily the best, management strategies for a long time. Unfortunately, they are still performed in many impoverished countries and abroad. The path to proper wastewater management legislation has been long and convoluted. Many countries have not embraced wastewater management methods because of corruption or a misunderstanding of the economic benefits of wastewater management, rather than ignorance. Even in impoverished countries, technology is accessible to everyone. Despite the benefits of decentralized systems for small populations and rural areas far from large treatment facilities, many individuals in developing countries do not have access to sanitation. Technical progress is needed to enhance sanitation and waste management in impoverished nations, but taboos, reservations, and social boundary constraints must be carefully addressed. Wastewater treatment is the single most significant element in public health and longevity, according to the British Medical Association and the American Medical Association. This timeline depicts how waste treatment has benefited the economy, public health, and longevity. Clean drinking water and sanitation must be available to everyone on the globe. This is both a human right and a fantastic equalizer..

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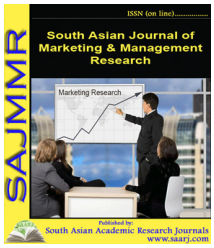

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«KALILA VA DIMNA» AND UZBEK LITERATURE

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ABSTRACT

Kalila va Dimna, based on the wisdom of the great Indian people, had a positive impact on the development of storytelling in the history of Oriental literature, including Uzbek classics, as well as on the themes of morality, friendship and devotion to the Indian cause. comments are made on the stories. Uzbek poets and translators sometimes translated it entirely into their native language, and sometimes included some issues or characteristic episodes in their works, reworked them, and continued the existing literary traditions by giving them a national spirit. comparative analysis.

KEYWORDS: *Kalila Va Dimna, Oriental Literature, Uzbek Classical Literature, Development Of Storytelling, History Of Uzbek Translation, Indian Proverb, Literary Traditions.*

INTRODUCTION

Indian-Uzbek literary relations are rich in scientific materials, these two peoples have a lot of bright pages of literary cooperation in the past. Various versions of the work “Kalila va Dimna”, which came to the field on the basis of the wise of the great Indian people, were created in world literature. This valuable book also had a positive impact on the development of storytelling in the history of all Eastern literature, including Uzbek classical literature.

Interest in Proverbs on the topics of morality, friendship and loyalty, included in the Indian issue, continued even in recent centuries. The Uzbek poets and translators of turned it completely into their native language, and sometimes included some issues or characteristic episodes in their works, processed them, continuing the existing literary traditions by giving them a national spirit.

In his work “Zarbulmasal”, Gulkhani used folk proverbs and sayings that evoke a deep sense of hatred against the intruders of the oppressors in public consciousness. As we look through the "Zarbulmasal“, we will witness that Muhammad Sharif Indian has studied for example ”Kalila va Dimna” with respect and has also included in his book the plot of some proverbs from him.

It is also characteristic that in some places in the work of Gulkhani there was also a direct reference to “Kalila va Dimna”.

The plot of the stories ”The antichrist with the monkey“, ”The scorpion with the tortoise“ of ”Kalila va Dimna“ to ”Zarbulmasal” is included fully in the mixture of prose and poetry. And such tales as ”About the jeweler“, ”The trade on the head of the goose“, ”The story of the donkey” are given in a slightly altered form. It should also be noted that the above stories are explained in both games from the language of other-other personages in a different process. So, the ”Goose story“ of “Kalila va Dimna” from the Sheikh language, as they say, is a Yapoloq qush in the campfire and is presented in a Ko'rqush interview. Again in the same place in “Kalila va Dimna”, a brief description of the “Jeweler's story” is also mentioned.

Now we will dwell on the effect of some episodes in ”Kalila va Dimna” Turkic (practical translation) and ”Zarbulmasal”.

The plot in “Kalila va Dimna” was preserved in the parable of the campfire “Turtle and Scorpion”. But the fact that the tortoise in the ”Zarbulmasal“ goes ”more than Iraq”: “Sangpusht very clever”, “Walking on many trips generates a lot of experiments”, ”Keep us cool when there is water in tears”; Scorpion's “Everyone knows his own advice”, “The game of the donkey in forty”, the tortoise says: ”Do not believe your friend poke cut straw to the coat” a number of phrases and proverbs have turned it into an independent original story. With these, the story is adapted to the living conditions of the Uzbek people.

The goal of the campfire is to create a satirical work, through which the life of the Gulkhani of the XIX century, the nobility, various crooks, ungrateful, cruel officials, dishonest psychics, who live from the account of labor in society, is to take them under satire. Therefore, each image in the ”Zarbulmasal” is a typical representative of the period, each story, even a parable, are elements that characterize the proverbial period, its Persons. In particular, the story” turtle and Scorpion ”Kalila va Dimna”, which imposes on him such content. It is known that the images of the Campfire are figurative. Their speech, behavior reminds a person of the XIX century. It also reminds in a satirical sense when reminded. The Scorpion is the image of a person who does evil to good, both in “Kalila va Dimna” in the work of the Gulkhani. but in the campfire is attached to the vital feature of becoming more concretely. The poet describes Scorpio as a sadistic and cruel person, accompanied by a severe whiplash, a tortoise, although he brought it as a positive image, but completely does not protect. psoriasis is the image of the right, honest people. He is simple, unsuspecting, loyal to friendship. The only thing is to be friends with Scorpion sisters, to serve them, to help – to honor the bad. And this is the same evil, self-suffocation. When the tortoise suffered from Scorpio (having noticed the “strange move”), let him throw it into the water. This is the judgment of the writer. The idea that the unjust should be punished without mercy, was put forward by Gulkhani. The proverbs quoted by the tortoise and the Scorpion denote the truth, the populism of these logos.

The story of the “carpenter with a monkey” in the campfire “Zarbulmasal” “Kalila va Dimna” is given with a 24-byte masnavi. In this place, we will briefly look at both options.

“Kalila aytdi: va har kim takalluf birla martabasidin ortuqcha ish qilsa, anga ul yetushurkim – maymung‘a yetushdi. Dimna so‘radikim, qandoqdur ul.

Hikoyat: “Kalila dedi: Keltirubdurlarkim bir maymun bir duradgorni ko‘radurkim…

Yakuni: “Maymun bechora dard-u alam bilan nola qilib aytur edi: “Mening ishim meva termak erdi, na arra tortmoq va mening hunarim beshada o‘ynamoq erdi va na tabaru tesha ushlamoq. Maymun bu guftugo‘yda erdi, duradgor keldi va andoq ko‘rsakim maymun halokatga yetibdur. Aning uchun debdurlar. Misra’:

Maymunning ishi yo‘q duradgorlik.

Va bu masalni aning uchun kelturdim: “Har kim o‘z ishini qilib o‘z andozasini tashqari chiqmag‘ay, har amalga munosib kishi bordur” [1,39 a-b].

What we see is that there is almost no difference in the translation of Almai, when we do not pay attention to some Egyptians, or some differences in the death of a monkey. But Gulkhani gave this story on a rather broad topic. It is noteworthy that the teacher in this place also linked the names of the Kashmiri region and Khusraw Dehlavs to the come story of India, through which he referred to “Kalila va Dimna”.

The poet first talks about the mountain landscape, the animals that grow there and build the space, and then acquaint himself with a free and peaceful monkey:

Bor edi Kashmir navohisida tog‘,

Bog‘i eram rashkidin ko‘ksida dog‘.

Anda imoratg‘a yarog‘liq yag‘och,

Etti quloch bo‘yi, en ikki quloch.

Bor erdi ko‘p ne’matu alvonlari,

Xurramu ma’mur edi hayvonlariyu

Zulf kabi sunbulu xushbulari,

Rohatijon erdi oqar suvlari.

Uydin ulug‘roq edi bir gulbune,

Anda Vatan tutmish edi maymune.

Jon sotib o‘zin o‘yin etardi tan,

O‘qur edi qissai xubbul – Vatan [2,25].

This illustrative exposition is completed by the fact that the Antichrist, satisfied with his artistry in the picturesque mountain, wears a Farhod like sleeve and reads it from the ghazals of the great poet himself:

Shahrning zindonidin ozod o‘lub,

Tog‘ning Shirinig‘a Farhod o‘lub

Sanur edi o‘zini tog‘ Xisravi,

Tog‘in o‘qub Dehlaviyi ma’naviy.

Elina navkissalarin qistari,

Rasm edi Najjor yag‘och isstari.

Egdi ul dil go‘shasining pardasin,

Belga suqib tesha bilan arrasin.

After all this, Gulkhani begins the main story: “he somewhere forgets about the hole cut by the wood and puts a wedge between the tree he cut from another place, so that the hole comes to mind. At this time says Tasha so that considered himself wise and wise to consider the monkey:

Aydi: “Ulus ichra bir kasbdur,

Kasbni boshina kiysang nasbdur.

Kiysam purzar eshim elga hunar,

Behunar elni deydilar rishi har.

Men dahi najjorlikni o‘rganay,

Bolalarim barchasiga o‘rgatay.

The monkey so wants to lighten the wood, with work the tail is stretched between the cracks of the tree and cannot get out:

Balki nedin bo‘ldi tutulmog‘lig‘i,

Mumkin emas o‘ldi qutulmog‘ig‘i.

Dami jinsiga yo‘q qissasi,

Qoldi aning dumchasining hissasi

This poetic tale is completed in prose as follows: “Bilgilki, maymun najjorlik qilaman deb qo‘lga tushib ertadin kechgacha kaltak birla urib, o‘ynatib baloga giriftor bo‘lg‘andek sen ham muhim xayr ishini bitkarolmay mulla Iso avliyo birla Abdurahmon Oftobachidek xalqning da’nat so‘zidan chiqmay yurma. Yomon isnod sendin qolur.

Although the plot is the same as in this “Turtle and scorpion”, but there is a difference in the conclusion and its individualization, which is drawn. Through the carpenter with the monkey in ”Kalila va Dimna", dishonor, ignorance, an attempt to work without knowing is condemned. These are also foreseen in the ”Zarbulmasal”. But it connects to the modern. The ignorant and fraudsters of that time, when the monkey was “worthy of the people's curse,” Abdurahman Oftobachi and Mullah Jesus are likened to the saints.

This is evidenced by the fact that the story is created directly on practical grounds, which allows you to laugh at the negative people of society.

Taking some of the stories from the “Kalila va Dimna” parable, Gulkhani initially adapted the intended purpose to the khanates of the XVIII-XIX centuries, producing these symbols in his artistic thinking and explaining them in a language and weight, which is understandable for the Uzbek reader, giving the event on a much broader topic.

There is accurate information about the fact that in the past Uzbek and Persian translations of the proverbs ”Kalila va Dimna” were taught even in old schools and madrasas. In the history of our literature, along with reading this work, there were people who were engaged in its wide introduction, promotion. In particular, Hamza also used the stories ”Kalila va Dimna”. He opens a school in a new way in the Ram. Hamza, referring to the spread of education to the broad masses of people, also forms a “relief society” under the school for the education of his poor children and himself creates such manuals as “Light literature”, “Reading book”. This gives serious attention to the moral-educational and educational characteristics of the works included in the textbooks. His 36 Egyptian poetic story ”Turtle and Scorpion“, which is ranked from the reading book, is written on the basis of the plot in ”Kalila va Dimna“. The main content of the story is the same as the translated works we saw above and the story of the Gulkhani. The main differences from them are as follows:

1. Very fluent in the main genre of the plot in poet and understandable for young children;

2. The fact that the scorpion took itself very close to the tortoise and was much more exaggerator is described as follows: “on the way, the scorpion hit the tortoise with an exaggeration, he said:

Boqsam agar o‘ylab turib,

Mancha sanga so‘yguli yo‘q mehribon,

Sen tanu go‘yo anga men misli jon [3,109].

The poet builds the story mainly in the dialogue of the personages, some of the bytes are given only from the author's language.

Hamza juda siqiq mazmundor hissa yasagan:

Hissa: Kimi g‘ayrni ulfat etar,

O‘z-o‘zicha boshiga kulfat etar.

Making such a short and deep-minded contribution in accordance with the demand for poetry from the story is characteristic of the entire pedagogical activity of the Hamza. This work of Hamza has not lost its relevance even now.

As far as “Kalila va Dimna” and Uzbek students are concerned, it is worth mentioning the fairy tale “The traveling frog”, which has long been an important and taught program of higher and secondary schools. This fairy tale, which is included in the “Reading book” of the elementary classes, arose on the basis of the story “Traveling turtle” in “Kalila va Dimna”, the meaning and idea that arises from the plot of the story is of great educational importance.

So, the study of ”Kalila va Dimna” is important not only for covering Indo-Uzbek literary relations, but also for researching classical narrative features, but also for checking the history of Uzbek translation.

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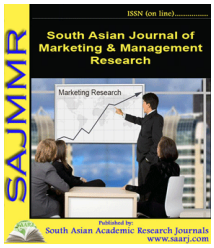

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AN OVERVIEW BLOCKCHAIN APPLICATION IN SUPPLY CHAIN

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ABSTRACT

Blockchain is a new kind of technology that evolved from the first. Bitcoin, a cryptocurrency, is continuously disrupting sectors of the economy. The blockchain idea is evolving, and although Bitcoin's future remains uncertain, although the situation is uncertain (as it is for most aspects of the economy), it is apparent that the Blockchain has a lot of room for development on a big scale. Being, on the other hand, a technology that has the potential to diminish the importance of many of today's major global companies, organizations, and power structures, all of which have a vested interest in maintaining their status. Its potential may likely go untapped due to existing hierarchies. The purpose of this article is to introduce and explain blockchain as a concept and its existing implementations in networks of logistics and supply Blockchain technology offers a level of trust that is unrivaled. Problems, as well as enabling a logistics system that is trustless, safe, and verified. In supply networks, information about supply chains is exchanged. The new applications. Within supply chains, the focus is moving away from blockchain and toward a broader concept of distributed computing. Technologies based on ledgers the purpose of this paper is to provide a description and explanation for existing and future policies. Future blockchain uses in logistics and supply chains are conceivable.

KEYWORDS: *Blockchain, Crypto currency, Distributed ledger, Supply chain Logistics*

1. INTRODUCTION

The 2008 financial crisis. fueled a group of activists' desire to create a stable, decentralized, independent, and sustainable financial system free of the power of individual "too big to fail" institution [1].Moreover, one that would be free of any influence from any institution. Loss of faith in financial intermediaries that privatized profits but socialized losses. Losses prompted tech-savvy fans to use the internet, which had developed by this point. Home computers that are considerably more powerful in new ways. Bitcoin was the first payment mechanism and completely digital money. In 2009, the first crypto currency was established. After two years, the first alternative crypto currencies emerged. There were over 1300 of them at the start of 2018,

while there were over 1300 at the start of 2018[2]. Almost 500 tokens are available. The blockchain technology which is one of Bitcoin's major contributions—is one of the currency's main contributions. The fundamental structure the blockchain idea is developing, and although the future seems bright, although the future of Bitcoin is unknown (as it is for other aspects of the economy), It's clear that the blockchain has a lot of room for large-scale improvements. Many various aspects of the economic system are represented. Being a powerful disruptor, on the other hand, many of today's big multinational companies may be brought down by technology. Institutions and power structures have a vested interest in maintaining the status. Its potential may possibly be underutilized due to hierarchy Blockchain has found uses and is being developed in the logistics and transportation industries. As well as supply chain operations Telematics, radio-frequency identification (RFID), Sensor-enabled technology, the Internet of Things (IoT), and barcodes and 2D codes other technologies are utilized to monitor goods as they move through the supply chain. However, their entire potential was not completely realized until recently, since the underlying technology was not properly used. Only inside an institution a company was data accessible, and it was perhaps shared. With a small number of reliable partners normally, there are a lot of supply options. Members of the chain each have their own information systems, but communication is key[3]. At best, communication between these systems is restricted. The major stumbling block was (and continues to be) a shortage of resources. In sharing information, there is a lack of confidence. Blockchain technology has the potential to be very powerful. Trust problems and enabling a logistics system that is trustless, safe, and authenticated in supply networks, information about supply chains is exchanged. Based on these characteristics and the rate of new implementations within supply chain blockchain development in genera. The chain is moving at a breakneck speed. Pilot projects are being established all around the globe, and supplies are being made available. The retail sector is anticipating changes. When it comes to the bulk of businesses, blockchain is still a mystery[4]. Use in logistical and supply chain operations. The purpose of this article is to introduce and discuss explain the blockchain idea and its existing supply chain applications management. The main characteristics of blockchain that apply to supply chains and which supply chains they apply to are there any chain locations that are presently being used? What are the possibilities for future development? What are the future prospects for blockchain applications in the supply chain? The paper is divided into four sections. The second chapter follows the introduction. Shows the current status of supply network developments. The third chapter examines the characteristics of blockchain as it arose from the bitcoin world, while the next one discusses its existing supply chain deployments and benefits logistics. The sixth chapter comes to a close[5].

1.1 Supply Chain:

The supply chain is defined as "the sequence of actions and organizations through which commodities pass on their way from original suppliers to ultimate consumers." Supply chain management is defined as “a conscious effort by supply chain firms to develop and run supply chains in the most effective and efficient ways possible” when organizations “actively (and collaboratively) manage activities and relationships in the supply chain to maximize customer value and achieve a sustainable competitive advantage”. New product creation, sourcing, manufacturing, logistics, demand management, coordination, and integration are the most essential supply chain operations[6]. In this respect, logistics is a component of supply chain management. Positive economics demonstrates that all economic structures that provide products and/or services from the origins to the final consumer are shaped as networks, with numerous participants (supply networks members) on each level and multiple links between them, despite

the fact that normative logistics and supply chain management use the term "supply chain." As a result, the term "supply networks" (also known as "supply chain networks" or "distribution networks") is more appropriate because it refers to more complex spatiotemporal structures that emphasize the number, location, nature of relationships, activities, business objectives, capacity, information services, and technology base of its participants. Supply network as seen through the eyes of a company. The supply network of a certain supply chain member (in this instance, a manufacturer) is made up of two parts: the supply side (or supplier network) and the demand side (or customer network) (or distributive network)[7]. The supply side includes all supply chain entities that give inputs to the focal2 business, either directly or indirectly. All supply chain participants that the product travels through on its route to the final customer are included in the demand side. Both the supply and demand sides of the network have a set of tiers that reflect different supply chain levels or echelons. A focal business may have different supply and demand tiers depending on its location in the supply network[6]. Upstream operations are those performed on the supply side of the network, whereas downstream activities are those performed on the demand side. They're all aimed at enhancing supply chain flow[8].

1.2 Application Of Blockchain In Supplychain :

1.2.1 Enhancements to Traceability and Visibility:

So far, the most widely used use of blockchain in the supply chain is in the process of validating product origin (primarily location, time, and who produced it) as well as information about the route that goods take from their point of origin to the ultimate customer (or just from any supplier to any consumer)[9]. Traceability and visibility have always been major concerns when it comes to delivering excellent logistical support to consumers. The ability to give information about where a product comes from, who produced it, how and by whom it was delivered, or simply where it is now, is very valuable to all consumers and a genuine competitive advantage for the business that provides it. On the one hand, this data enables improved planning and synchronization of customer processes, resulting in additional operational improvements. On the other hand, most companies or individuals acting as customers have little or no knowledge of what is happening with products upstream in the supply chain, and as a result of this lack of transparency, they are making less accurate assessments of product value and raising questions such as: Are these apples truly organic? Is this product really made without the use of children's labor? What are the real figures behind this car's pollution levels[10]. Blockchain has the potential to offer consumers with accurate information about product sources and freight routes, allowing for better product assessment before making a choice. Blockchain technology is frequently used in conjunction with radio frequency identification technology (RFID) transponders (or tags) on products that carry different product information and are read (or written on) in a contactless way through radio waves imitated by different “scanners) to increase product tracking of origin and path through supply network. Abeyratne and Monfared emphasize the need of combining RFID with blockchain technologies (particularly in the industrial supply chain). The quickest non-contact transmission of product information into a digital format from a product to a computer, or from a computer to a product is provided by an RFID system. It enables you to read data from a large number of goods at the same time and to add new data to them. The capacity of the information to be written to (depending on the size of the memory chip in the product tag) may be considerably more than that of the presently most commonly used product labeling method barcode technology.

1.2.2 Public Access:

Depending on the kind of blockchain, information/records on the distributed ledger may be accessible to everyone or just a small number of people. This open access to information throughout the supply chain may result in advantages such as faster paperwork processing, fewer direct contacts, and more information for the end client and/or consumer. When it comes to logistics and supply chain, the advantages of open access are most well-known in the transportation industry. Maersk and IBM have been working on cargo tracking systems (particularly for containers) as well as applications for the digitization of global commerce for some time. From June 2016, they began an open broad collaboration (with other participants such as Microsoft, DuPont, Dow Chemical, Tetra Pak, Port Houston, and the Rotterdam Port Community System Portbase) to enable container shipping and connected data on blockchain to interested parties, primarily insurance companies and banks, but also all supply chain members, throughout the entire time of goods traveling and by the end of the year. They declared their aim to create a worldwide trade digitization platform with a tamperproof repository and secure transactions based on open blockchain standards and intended for usage by the whole global shipping industry in early January 2018. Maersk used the example of transporting a container of flowers from Kenya to the port of Rotterdam, which required approximately 200 contacts across linked companies and resulted in a lot of waste, spoiling, and flaws. International imports of mandarin oranges from California and pineapples from Columbia are also tested. Document and information processing for container shipping is expected to cost as much as the physical conveyance itself. They were able to ensure that all documents and activities in the supply chain were available and visible to every partner, supported by information about who, where, and when they were issued or moved the goods, by involving all participants in the information and material flow into the blockchain application and creating a digitized document workflow. This reduces the need for direct domestic and international communication, eliminates errors, delays, and other waste, and ensures considerably quicker information transactions and, consequently, faster material flows in the supply chain. All information becomes decentralized and accessible, which reduces delays and fraud. The main benefit for ports, terminals, ocean carriers, and intermodal transporters would be accurate and real-time information about the disposition of shipments, allowing for more efficient preparation and planning for their own activities as well as end-to-end visibility in supply chain activities.

1.2.3 Preventing Fraud:

Verification of authenticity and origin, as well as free access to this information, may be an effective tool in the fight against fraud and counterfeit goods. In the pharmaceutical and luxury jewelry industries, these blockchain capabilities are very useful. There are many places where medications pass in the pharmaceutical supply chain (raw materials suppliers, medical institutions, manufacturers, repackagers, wholesalers, logistics companies, retailers, and patients), and blockchain could help manage such a complex supply chain by ensuring medicines visibility and prompt response in the event of a recall. But counterfeit medicines remain the most serious problem according to PricewaterhouseCoopers (PwC), the pharmaceutical market is the world's largest fraudmarket, with sales of counterfeit medicines ranging from US $ 163 billion to $217 billion per year and this is especially true when it comes to online drug purchases, where the World Health Organization estimates that 50 percent of drugs purchased on the Internet are counterfeit. As a result, pharmaceutical serialization (a prescription drug labeling system that allows for authentication throughout the supply chain from manufacturer to consumer) is becoming a standard practice in almost all developed countries, and it will be mandatory in the European Union starting in 2019 (Commission delegated regulation EU 2016/161). The use of

blockchain as a distributed ledger containing data on medications and their origins makes serialization easier and has the potential to reduce fraud substantially. Consumers may be able to select medications based on genuine and confirmed information from blockchain, avoiding the health risks associated with the use of counterfeit medicines. In the luxury jewelry business, a similar mix of blockchain usage for traceability and fraud prevention may be seen. Everledger, a company, has identified this need and is working to make the diamond supply chain more transparent, reducing fraud, illicit markets, and trafficking. They digitally secure records of 40 metadata points that define a diamond (e.g. serial number, color, carats, cut, clarity, angles) on blockchain with links to the laser inscription on the stone's girdle. So far, 1.6 million diamonds have been uploaded to the blockchain network [39]. Their services are mostly utilized in the transaction verification process by insurance companies, banks, and open market places, and they have recently expanded their company idea to include other luxury items such as fine wines and artworks.

2. DISCUSSION

Because the original blockchain was intended to be a transaction protocol and a payment system, its programming language was purposefully limited: no loops or sophisticated features were included. Every command in the Bitcoin code (scripting language) is only ever performed once, in a straight line. This guarantees scripts have a low level of complexity and predictable execution durations, which is referred to as a non-Turing-complete9 programming language in computer science. This also implies that Bitcoin can't run complex functions with endless loops, which is a security measure designed to keep Bitcoin safe from malicious or careless users who could otherwise block the network.However, since Bitcoin's data format had a limited amount of open space, programmers created apps that might take use of it. Although purposefully restricted, the Bitcoin protocol is not limited to simple input-output transactions; it may also communicate transaction instructions such as locking the cryptocurrency for a certain length of time and/or needing multiple signatures for spending an amount.

3. CONCLUSION

Although it is unclear (at this moment) whether the blockchain is an overhyped solution15 searching for issues it can solve just another technical breakthrough that gets people enthusiastic but fails to deliver or a true disruptive force that will sweep the economy, its promise is undeniable. Despite the fact that it was the initial blockchain designers' perspective that brought the blockchain to public notice, the subtle change in nomenclature from "blockchain" to "distributed ledger technology" implies a distancing and detachment from their philosophy. Controlling and controlling it may also eliminate its primary selling point: decentralization. Although blockchain as a technology will not replace current supply chain technologies, its features of secure data storage and interchange, as well as transaction automation, may ensure its position as a critical support and upgrade in supply networks (SWOT analysis in Table 2). Regardless of its flaws and threats, Blockchain significantly alters the information and financial flows that support material flows, allowing for optimization of material flows (by lowering costs and increasing customer satisfaction) as well as an increase in exchange based on improved supply chain trust. Improving current consensus algorithms and creating new ones is at the core of the blockchain's development. Cryptography, by significantly improving communication between components in the supply network, may create the groundwork for creating trust.

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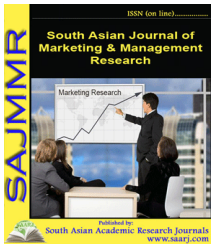

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SUSTAINABLE TOURISM: BASED ON CRAFT AND CULTURE

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ABSTRACT

India's national pride is based on the intangible data represented by those people, who are the society's main actors. Cultural Heritage Preservation and Growth, a method that maintains the value of knowledge and its change, requires a comprehensive approach. Traditional civilizations that include their own art history represent the historical knowledge of the people who lived in them. Such cultural significance has survived through India's heritage's unbroken bloodline, which is continuously developing. Though numerous attempts are made to preserve quantifiable art capital, intangible knowledge needs a deeper examination. The goal of this article is to highlight the value of intangible knowledge and how a place's artisan culture may help promote historically sustainable tourism. Take advantage of the fact that studies of various projects are concluding with the negative effects of these kind of models and their integration into various scales.

KEYWORDS: *Sustainable floating community, Floating villages, Ecotourism, Climate change.*

INTRODUCTION

India's crafts push the boundaries of skill, craftsmanship, and other physical concepts. Indian ships are a reflection of regular people's incredible ingenuity in their pursuit of happiness and self-expression. India was formerly thought of as a workshop and a craftsman's home. India's craftsmen and artisans are an essential component of the country's vernacular traditions and absorption of a millennia-long past. Even if they are real, Skill-based understanding is dwindling, indicating a major loss to the artisan community, culture, and life. Growing interest and knowledge of design-related activities, with substantial industrial output impacts Craftsmen who practice the trade suffered in that business, even if it was due to a lack of exposure, economic volatility, and a lack of consumer coverage[1].

Many government initiatives and schemes exist to resuscitate crafts and crafts products, such as the marketing support program and the national aid to Indian Handicraft Creation program. The vast majority of them are either focused on developing new items or marketing and exporting

goods. There aren't many programs dedicated to preserving and passing on knowledge of the art form. Only via experience and the research and manufacturing process can scientific information become available[2]. To really appreciate the crafts, one must be a part of them and experience all of their feelings. It is critical to create contact with the crafts in order to maintain, repair, and uncover the full potential of the craft field and a new perceptual ecology[3].

Handicraft tourism is one sector that may help unleash the full potential of a craft ecosystem. It is, in fact, a positive thing. Tourism subgroup focused on visiting the region's indigenous way of life in its built environment and natural habitat. These problems pique the attention of those who travel. Tourism seeks to diversify its offerings by adding fresh experiences from a different culture, but with the same crafts and methods of interaction and connection with the local population. According to the European Tourism and Leisure Education Association (ATLAS), "Culture, crafts, and the tourism sector are all becoming more intertwined. Local crafts are important cultural elements, and people travel to see and learn about different cultures, traditions, and ways of life, all of which are intertwined. A visitor still wants a remarkable and exciting experience, and a tourist also wants to carry mementos of the craft as a memento of their trip[4].

Tourists spend about 40% of their souvenir money on shopping and other artisan items, according to UNEP and UNTWO. Recent trends show that tourist revenues have become more reliant on the ability to participate. It's becoming more important to create a program for systematizing the output value chain while also providing a compelling tourist craft experience. This has just become a big fad." However, comprehension is essential. Because of the existential character of tourism interactions, they are complex; perception is mirrored in human beings, experienced individually, and can only be transmitted to others, not heard. This was helpful in comprehending India's craft/tourism index in accordance with UNESCO standards. This article is an effort to discuss and encourage the development of a new concept in travel: a travel experience that has not been covered in earlier bibliographical works.

Connecting tourists with local artisans and manufacturing methods is one of the most important aspects of the tourism business. This not only broadens the tourist's understanding of craftsmen and creative techniques, but also raises awareness of the social, cultural, and environmental issues that are connected with the craft industry. Engineering Objects were seen to be carriers of local culture and history. When a visitor purchases such products, he or she is sending a message or advertisement for the goods to indigenous people in the tourist's area. Craft interaction in tourism allows tourists to engage directly with either the supply chain or the creative process, which not only allows for the exchange of information and raising awareness of the artistic process, but also aids in the better understanding and enjoyment of crafts[5].

Tourism may also help towns preserve their historical and cultural legacy by promoting music, crafts, and other creative activities. The Innovation and Craft Resource Center in India has created a "conceptual tourist model of art," which utilizes a theoretical framework to transform a traditional art cluster into an experiential center for crafts. This is intended not just at preserving traditional crafts, boosting the sector, increasing salaries, and giving artisans more exposure, but also at promoting understanding of the contextual factors that form both art and craft enterprises.

Meaning of sustainable development

In order to prepare the conference on which this article is based, I solicited feedback from colleagues on the content and problems. A debate on definitions of sustainable development was not required, according to many colleagues, since its meaning was obvious, and that what was

more important was a focus on how it might be implemented. Initially, I agreed with that attitude since so much has been published on the subject in the past decade. However, a closer look at the literature revealed that, at least in the context of tourism, some debate of the term's meaning was necessary, not because there isn't one, but because there are so many. Because there are so many meanings of the word, as other authors have pointed out, each person has been able to argue that his or her usage of the phrase is acceptable. As a consequence, in many instances, the widespread acceptance of the word cited above is merely acceptance of the phrase without regard for its meaning. The Brundtland Commission defined sustainable development as "development that satisfies the demands of the present without jeopardizing future generations' capacity to satisfy their own needs," as stated in Our Common Future.

STRATEGIES FOR SUSTAINABLE CULTURAL TOURISM

Model for Craft Experience Tourism:

The Craft Experience Tourism Model (CET model) is a step-by-step approach for transforming a craft community into a developing artisanal experience vision tourist destination. There are many villages in India that are developing or creating art clusters, and the idea of developing a DICRC model to assist these communities is a good one. Companies are also developing a strategy plan to identify and implement these opportunities. These artisan clusters are evolving into a tourist innovation hub. The concept is dynamic and, if required, may be replicated at various sizes by other organizations for various craft clusters. The aim is to provide a functional framework for inquiry, creative thinking, consistent output, and clear reflection. Then follow different phases of the CET model, which may be followed as is or modified to fit a particular environment and set of objectives.

Determine the location of a potential craft cluster village:

The main goal of this stage is to conduct structured behavior research and fieldwork, as well as to identify suitable sites (villages and towns) for artisanal experience tourism in the near future. The gathering of villages with established craft typology classes is one of the requirements. The site identifier will also take into account contextual factors such as historical significance, nearby communities, and natural and man-made tools.

Begin the Conversation:

The aim is to start a conversation regarding the project goals as well as an outline of the dimensions and effects of a craft tourist center. Identifying key stakeholders and associated groups in the art clusters is an important element of this. Typically, this step entails making a number of declarations about the tourist artisanal experience strategy, as well as ensuring complete community participation and establishing a level of trust. This approach represents the amount of individuals that are engaged in this project in a meaningful way. This also aids in the development of a long-term connection and a knowledge of tourist receptivity.

Organize Contextual Programs:

This stage is aimed at co-creation and involves equal participation from the design community as well as project stakeholders. The aim of that stage is to cause new ideas and concepts in the craft community, as well as their acceptability among key stakeholders, once a connection has been established with the local society and a conversation has begun. The goal is to introduce stakeholders to a new working method, not only to improve crafts practices and the chain of beliefs, but also to demonstrate them possible tourist effects. This stage aims to generate, recall,

trigger, and stimulate new thinking ideas while also functioning as a group. This is accomplished via a variety of seminars, training workshops, group activities, art knowledge, and informal Tea discussions. This level is extremely demanding and prepares the group to upgrade village / town craft to a production that is experienced at the tourist center[6].

Bringing Craftspeople into the Craft and Design Community:

The goal is to connect the craft public with a wide range of specialists, including other craftsmen, artists, industry experts, businesspeople, prospective consumers, and employees interested in the arts and design sectors. The objective is to expose handicraftsmen to growing economies as well as product development, which is in accordance with the village's goal of becoming a tourist destination focused on handcrafted experiences. It's also a time for organizers and members in the group to form a network, as well as a brotherhood of higher workmanship, which will be useful for future shipbuilding tourist websites.

Identify and evaluate the infrastructure:

Some basic equipment, as well as services, will be needed to equip a town or hamlet to welcome visitors for different kinds of activities. It is essential that the different tourism activities be carried out in dynamic and well-equipped venues in order to create viable pathways. This procedure evaluates the group's accessible infrastructure and built environment, as well as potential growth and upgrade plans. The method is an all-encompassing and consultative procedure in which the craft community explains the importance in engaging with design professionals about physical capital and development plans. The stage ends with suggested actions and development plans based on the first study and assessment of the existing infrastructure available in the community.

Alternative forms of tourism and sustainability

The desire to connect a variety of types of tourism with the idea of sustainable development has added to the uncertainties mentioned above. The bulk of these are types of tourism that may be classified as "green" or "alternative," in that they are not part of mainstream or conventional tourist. The inherent assumption that mass tourism is non-sustainable and therefore has nothing to do with sustainable development has been an unfortunate consequence of this connection. Indeed, some of the most outspoken opponents of mass tourism are also the most passionate advocates of sustainable development and alternative kinds of tourism, perhaps believing that supporting the latter would solve the former's issues. This is a concerning trend for two reasons. To begin with, it is almost impossible to have a kind of tourist growth that does not have an effect on the area in which it takes place[7].

The naïve notion that nature-based tourism is inherently sustainable may not only be wrong, but potentially detrimental. All other things being equal, small-scale tourist projects may fairly be anticipated to have fewer and less severe effects than large-scale developments, making them more sustainable. However, they may not be completely sustainable, because in fact, nothing is truly equal. Many types of alternative tourism, such as ecotourism, take place in extremely sensitive and fragile ecosystems, some of which are unable to sustain even modest levels of usage and have little or no infrastructure to cope with development. Because of the area in which they occur or their cumulative effects, the resultant consequences, however little they may be individually, may become severe.

Second, all instances of mass tourism have yet to be shown to be unsustainable. While the available data tends to support this viewpoint, the comparatively little empirical study on the impacts of mass tourist growth leaves a lot to be desired. More significantly, this assumption seems to have diverted attention away from the tough but critical job of figuring out how to make mass tourism more sustainable[8]. The main issue with tourism sustainability is not guaranteeing the continuing introduction of small-scale, ecologically and culturally acceptable types of tourism, but rather ensuring that current mass tourist developments are as sustainable as feasible. Studies like Prat's on the Costa Brava are very uncommon in this area of sustainable development[9].

Tourism development in various settings that is sustainable

The environment in which tourism happens has dominated much of the debate on sustainable development and tourism, with many of the locations studied being in the Third World. This emphasis is likely due to the fact that, in many respects, examining new or planned developments in virgin or 'greenfield' locations and arguing how they might be made more sustainable is much simpler than dealing with mature and declining urban tourist destinations. Furthermore, the tourist sector has been quick to recognize the commercial viability of the idea of sustainable development. It recognized that ignoring the outpouring of support for the idea would expose it to criticism and potentially strict restriction, if not outright ban, in certain areas[10]. As a result, it has embraced the idea of sustainable development in name if not in practice in many instances. As a result, numerous small-scale tourism businesses in a variety of places have suddenly started to refer to themselves as "sustainable" in the hopes of competing effectively for the "suitable tourist."

DISCUSSION

As previously said, this is still a significant issue, and because of the ambiguity, virtually any kind of tourism may be labeled as sustainable. The topic of how sustainability could be monitored and assessed if and when a suitable definition of sustainable tourism is developed and adopted is related to this basic problem. Despite all the hype in manufacturing and political circles to convince voters that much is being aimed to accomplish sustainable tourism, there is implicit, though not overt, opposition to evidence that indicates that very little new or existing tourism development is sustainable, or at best, that a decision on its sustainability cannot be made for many years. Furthermore, many proponents of sustainable tourism seem reluctant to recognize that just because a business claims to be sustainable does not mean it is. Even if the components and processes of sustainability are recognized and comprehended, there is no assurance that they will be implemented in tourist destinations. If sustainability is to be accomplished, it will be essential to guarantee that all stakeholders are willing participants in the process. If the industry, at all levels, cannot be convinced that adhering to certain sustainability principles is in its own best interests, then other stakeholders' efforts will be in vain. Few people will adopt sustainable policies and behaviors if the government is unwilling to educate and, if necessary, enforce them.

CONCLUSION

There are many circumstances and possibilities for connecting local artisans and society in today's quickly developing society, not only from the perspective of raising the value of crafts but also from the perspective of starting an immersive visitor experience with the location and background. One such huge opportunity is tourism's art expertise. The breadth of beneficial

information and style gained as a result of this will assist not just artisans, but also a variety of tourist effects. Such a tourism approach Activities will provide tourists with the chance to get personal experiences that they will find beneficial. This craft tourism model was developed using a strong theoretical foundation and a variety of practical pilot projects for assessing and executing the framework. The model may be scaled, replicated, and mutated depending on the environment and group. This model board of directors, organizations, and autonomous practice may be used by various craft clusters, tourism, and other industries. An informal design framework will be developed around the step-by-step approach. In the current zeal to promote sustainable tourism, there is a worrying trend to declare that any small-scale, ecologically or culturally oriented type of tourism is sustainable, especially when it is created by or for local people. Without precise and trustworthy indicators and monitoring, it is impossible to assess a company's long-term viability until many years after it was founded, and only then after comparing its operation and consequences to the condition of the environment at the time of its founding.

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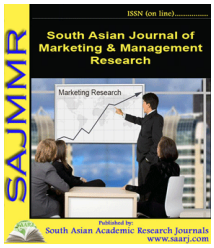

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INVESTIGATING IDENTITY FRAUD MANAGEMENT PRACTICES IN E-TAIL SECTOR

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ABSTRACT

Identity theft is becoming a bigger problem for internet retailers. The research on this topic is fragmented, and none of the studies take a comprehensive look at identity theft management methods in the online retail environment. As a result, the goal of this paper is to look at identity fraud management methods and provide a complete set of guidelines for the e-commerce industry. The research discovered that there is a lack of literature on identity fraud management methods. The results also show that businesses see identity fraud as a technical problem, which is one of the main causes for a lack of efficient identity fraud management. This research recommends that e-tailors should be created in technical, human, and organizational elements to cope with this problem as a management challenge. This research is restricted to data from publicly available sources. Studies based on actual data will be useful in bolstering this study's thesis; furthermore, future studies should cover a broad range of datasets. This research will assist e-commerce businesses in comprehending the whole identity fraud management process, as well as developing and implementing a complete set of practices at each step for successful identity fraud management. This research adds to the body of knowledge by integrating current literature at each step of fraud management and taking into account social, organizational, and technical factors. It would also assist academics in gaining a comprehensive knowledge of existing research and will offer up new avenues for future research.

KEYWORDS: *E-tailer, Fraud management, Identity fraud, Identity theft, Managerial practices.*

1. INTRODUCTION

E-commerce has revolutionized the way people conduct business by providing online merchants with limitless possibilities such as lower operating costs, more effective client relationships, and borderless services. However, these possibilities have also presented them with difficulties, particularly in the area of identity theft. When a fraudster utilizes personal information to impersonate someone else or establishes a false identity to make a transaction or start an account

in order to defraud, this is known as identity fraud[1]. This scam has a negative impact on industrialized nations such as the United States and the United Kingdom. In 2016, 15.4 million Americans were victims of identity theft, costing $16 billion; this was a 16 percent increase over the previous year. In the United Kingdom, the situation is almost same, with 172,919 instances of identity theft recorded by just Credit Industry Fraud Avoidance System (CIFAS) member companies in 2016, indicating a steady rise.

There are several research in the literature that look at different elements of identity fraud management. Some academics have proposed frameworks in the provided context to offer a complete picture of the identity fraud management process, however these studies lack in-depth insights into the fraud management actions at each process level inside the business. On the other hand, other studies concentrate on only one or a few fraud management actions and procedures. As a result, no research provides a complete picture of identity fraud management methods at all levels. Furthermore, nothing is known about the nature of the problem, such as if it is a technical or organizational issue.

Organizations are unable to properly control identity thefts in the absence of such research; thus these scams continue to grow. As a result, the difficulties of controlling identity frauds in the e-commerce sector need a comprehensive strategy that includes practices at each level of fraud management and investigates the grounds to successfully fight it. It was essential to consolidate the existing literature on techniques at each level of identity fraud management in order to achieve the goals of this study[2]. Five well-known databases were used to conduct the literature search. This research includes only peer-reviewed publications. The findings indicate that no thorough research of methods for successful identity fraud management in the e-tail setting has been conducted. There were many papers that focused on one or two elements of identity fraud management, but only a few academics suggested a framework for complete fraud management. As a result, this article makes a unique addition by integrating the disparate literature in order to create a complete set of practices.

With the increasing usage of internet business possibilities, the frequency of identity scams has risen. These statistics only include frauds reported by CIFAS member organizations; the actual number of identity-related scams in the United Kingdom is likely to be greater. The large number of identity thefts is a major source of worry for internet businesses in the UK, since they suffer the brunt of the losses[2].

This research compiles a substantial and representative sample of the existing literature into a single, complete study. It will aid academics in comprehending the state of the art in identity fraud management and will open up new research paths in the future. This research added to the existing literature by defining a set of complete organizational, social, and technical elements of identity fraud management, giving it a holistic perspective. Future studies will be able to take a wider perspective of identity fraud management. Much of the study, according to the literature, is focused on the function of the e-tailer inside the confines of their company[3]. Other stakeholders, such as consumers, banks, and identity issuing agencies, have a vital role to play in the management of these scams, which is often overlooked. As a result, this study encourages academics to involve additional stakeholders in the creation of an effective identity fraud management system.

Identity fraud management is a major issue for e-tailers all over the world. This research will assist e-commerce managers in gaining a comprehensive understanding of identity fraud management. Identity fraud management has always been thought of as a technical problem[4].

This research provides a complete set of management strategies for dealing with identity theft successfully. Managers will be able to examine organizational, social, and technical arrangements for improved performance in the management of identity frauds if they have a broader perspective of identity fraud management. Identity theft is carried out mostly by e-tailers, according to literature, and most identity information is taken at the customer's end. As a result, e-tailers should go above and beyond to raise awareness and educate consumers in order to reduce the danger of such scams.

Because fraud is a long-standing practice, there is a wealth of literature focused on different elements of fraud management. Concerning the behavioral elements of fraud management, it is a well-established notion that the fear of being detected and penalized may discourage prospective fraudsters. The deterrence theory, which has been extensively researched in many settings and has been shown to be important in controlling aberrant behavior, inspired the idea of altering the behavior of prospective fraudsters. Fear appeal ideas are at the heart of deterrence theory.

Fear appeals affect fraudsters' attitudes, intentions, and behavior, and may even prevent a scam. The importance of this deterrent has been proven in a variety of settings, including accounting and auditing, as well as employee theft. Similarly, although there are many studies that concentrate on consumer education and threat as fraud deterrent methods, there are none that provide a holistic perspective of identity fraud deterrence techniques in the e-tail sector. As a result, further study is required to provide a comprehensive picture of managerial techniques for preventing identity theft in e-commerce businesses[5].Despite the use of deterrents, scams continue to be attempted. The presence of a chance to perpetrate a fraud in the Fraud Triangle Theory refers to the system's limitations in preventing and detecting frauds. As a result, in addition to deterrent, businesses should have mechanisms in place to prevent and identify fraud.

Effective prevention, which is based on information security systems and organizational structures, is a major instrument for safeguarding against fraud attempts[6]. A successful anti-fraud measure is a well-designed preventive strategy. Various studies have been conducted to prevent identity theft, but no major study has been discovered to propose a set of complete practices in identity theft prevention. Despite the fact that security safeguards exist to prevent identity fraud attempts, research shows that criminals utilize real customers' information, allowing some fraudulent transactions to slip through the cracks. As a result, as the next step beyond prevention, businesses must identify these transactions. According to the available literature, fraud attempts are simply the consequence of an assumption of lack of detection, therefore businesses should invest in a robust detection system that also serves to instill a fear of being discovered and penalized. Having an automated detection system and verifying suspicious transactions are methods that have been suggested by many academics in various situations.

Furthermore, some fraud detection investigations are solely technical in nature. There is yet to be a research that covers the whole spectrum of detecting techniques in the e-commerce sector. When fraud is discovered, the next step is to stop it before it is completed or to minimize the fraud's consequences and prevent it from recurring. This is referred to as the mitigation stage in the fraud management domain. Mitigation is a crucial step of fraud management that enables you to reduce the consequences of identified fraud to a bare minimum by checking and confirming client identifiers[7]. It also entails the retrieval of a customer's credit history as well as the exchange of information. After fraud has been discovered and mitigated, it is essential to determine the kind of fraud, the techniques and means used, and the reasons why it slipped through the cracks in the prevention system.

This collection of procedures is known as fraud analysis in the field of fraud management. Identity fraud analysis is a crucial step in developing rules and methods for successful fraud management. Although there are several studies on fraud analysis in the literature, none of them have presented a complete set of methods for identity fraud analysis in the e-tail industry. Anti-fraud rules provide layers of security for the organization and its workers at each level of fraud management[8]. The creation of an anti-fraud policy would aid in the protection of personal information that might be exploited in identity fraud, and such rules are intended to enhance the efficiency of identity theft management. Although there are several studies in the literature, none of them provide a comprehensive perspective of identity fraud management strategies in the e-commerce industry.

The above-mentioned fraud management phases concentrate on measures taken before and during a fraud attempt, but successful identity fraud management requires further investigations and prosecution in order to recoup fraud losses and bring criminals to justice. Although law enforcement authorities are responsible for fraud investigations, companies also have a role to play[9]. The phases of fraud investigation and prosecution are important in fraud management. Successful prosecutions assist businesses in recouping fraud damages. Second, a successful prosecution will send out a warning message to prospective fraudsters that they will be discovered and punished (deterrence). Third, it aids businesses in defending their reputation from fraudsters, and lastly, it maintains a stronger client relationship[3]. Although there are several research on fraud detection and prosecution in the literature, a complete set of methods for identity fraud management in the e-commerce industry is unknown.

As the preceding section demonstrates, the literature on identity fraud management is dispersed. Because the articles in this area concentrate on just a few issues, the management of identity theft in the e-commerce industry is not well known. E-tailers are losing a large part of their sales due to identity fraud losses due to the lack of research that takes a comprehensive perspective of identity fraud management methods. Academics face a research problem in the absence of such research. In this case, a single empirical research may not be sufficient to fully comprehend identity fraud management. In addition, a single or a few articles may not cover all of the organizational, social, and technical elements of fraud management at each of the eight phases[10]. This research attempts to bridge this gap by reviewing the existing literature in order to comprehend and advance a holistic perspective of identity fraud management, as well as suggesting methods at each level of identity fraud management. This study will also draw academic attention and offer new paths for research in the present environment. This research may also aid e-tailer management in preventing such scams, reducing company losses, and establishing positive client relationships.

2. DISCUSSION

Identity fraud is often regarded as a technical problem in the internet commercial world. As a result, a significant percentage of publications are constrained by technical constraints. While the bulk of research have concentrated on one or two phases of fraud management, this paper examines the problem holistically to encompass all eight stages of fraud management and suggests organizational, social, and technical solutions. Various research on each step of fraud management may be found in the literature. Some research on deterrence have concentrated on both elements, i.e. consumer education and fear appeal, while the majority of studies have focused on either customer education or fear appeal.

Although there has been considerable study on many areas of deterrence, the least has been done in the area of identity fraud management in the e-tail environment. The bulk of the literature on the preventive stage focuses on information security and data breach, which are important aspects of identity fraud prevention, but more is required in this area. The majority of the research on preventing identity fraud focuses on information security and authentication. The importance of detection in fraud management has piqued the interest of numerous academics. The significance of fraud detection is also shown by the huge number of publications on the subject (see Table V). Extant literature focuses on behavioral factors, biometric technology, and cue-based auto-detection systems for fraud detection. The existing research recommends real-time mitigation to reduce fraud losses and account recovery.

At present time, the majority of studies recommend that customers' records be kept and updated on a regular basis, since this will aid in verifying real client identities in the event of a questionable transaction. Some publications also recommend calling consumers to verify their identities. Knowledge exchange is also suggested by certain writers for successful mitigation. The majority of fraud analysis research is concerned with information security concerns. More study is required to better understand the importance of identity fraud analysis and associated procedures, particularly in the e-commerce industry. There is a substantial amount of literature on policy and related problems, although it is mainly in the context of information security. Despite the importance of policy in identity fraud management, no research in the e-tail environment were identified. The literature was also used to provide the details of management practices in policy creation, communication, awareness, and compliance.

Business companies should become engaged in private investigations and follow the prosecution process to achieve better outcomes, according to research on fraud investigations and prosecution. It is a widely held belief that law enforcement authorities are preoccupied with more pressing problems, thus e-tailers are recommended for private investigations and the establishment of tight cooperation with police. E-tailers need also be familiar with state laws surrounding fraud prosecution in order to prosecute effectively. The results indicate that although there are studies on each step of fraud management in the literature, none of them provide a complete picture of the problem and solutions.

These research are divided into three categories: technical, human, and organizational elements of identity fraud management. As a result, successful fraud control can be inferred as a combination of technical, human, and organizational approaches. Based on the existing literature, this research discovered that identity fraud management is a managerial problem that requires attention from all aspects of company operations, with an emphasis on top management. Top management, operational personnel, and strategic planning, as well as day-to-day company operations, would all need to contribute to the collected practices at each level. As a result, e-tailers should rethink their identity fraud management strategy and approach it as a managerial issue rather than a technical one.

3. CONCLUSION

Identity theft is a rising issue, particularly for online retailers across the globe. Every year, the frequency of identity thefts and the resulting losses rise. Some research on fraud management and associated problems have been published, although they are dispersed. As a result, none of the studies take a comprehensive look at identity fraud management and procedures. Due to the lack of such research, e-trailers are losing a substantial portion of their income to these scams. Identity frauds that are out of control may stymie the growth of e-commerce and result in

substantial losses in the financial markets. Such a scenario presents a challenge for researchers and encourages academics to do study in this area in order to improve the real-world situation in the fight against identity theft. This research carefully analyzes the existing literature and provides a holistic perspective of identity fraud management as well as a complete set of associated practices to assist bridge this gap. We discovered that the majority of research are focused on one or a few elements of fraud management, which may not cover the whole field. The majority of businesses, according to this study, regard identity theft as a technical problem.

deterrent, prevention, detection, mitigation, analysis, policy, investigation, and prosecution, are equally essential in managing identity frauds in the e-commerce industry. Only a few studies have fully focused on the organizational, social, and technical elements of fraud management, according to this research. Identity fraud is usually regarded as a technology problem, according to this study. Identity fraud management, according to this research, is a managerial rather than a technical problem, thus it should integrate technological, human, and organizational structures. This study synthesizes the existing fraud management literature, provides a holistic perspective of identity fraud management, and proposes managerial strategies at each step of the process. E-tail managers will also get guidelines on how to successfully handle identity theft, reduce losses, and build positive customer relationships. This study will also aid in the growth of e-commerce by increasing consumer confidence in online purchasing.

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AN OVERVIEW ON ASSESSMENT AND DEVELOPMENT OF EXECUTIVE FUNCTION (EF) DURING CHILDHOOD

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ABSTRACT

The difficulties surrounding the evaluation of executive function (EF) in children and teens are discussed in this review article, as well as the developmental pattern of executive functions throughout childhood. EF is defined first, followed by a description of the cognitive and behavioral deficits associated with cognitive deficits (EDF). A developmental model of EF is suggested, which includes four distinct but interconnected executive subdomains (selective attention control, mental abilities, goal planning, and information processing), all of which work together to allow ‘‘executive control." The characteristics that make up conventional EF measurements, as well as the issues with test interpretation, are addressed. The ecological validity of EF tests and neurological assessment techniques is investigated, and additional measuring methods are given to allow a more complete and reliable EF evaluation. The maturity of executive domains is mapped based on developmental and normative research. Attentional control seems to develop quickly in early life, beginning in infancy. Cognitive flexibility, goal planning, and information processing, on the other hand, go through a crucial phase of development between the ages of 7 and 9, and are reasonably mature by the age of 12. At the start of adolescence, there is believed to be a transitional phase, following which ‘‘executive control" is expected to develop. Longitudinal studies combining structure and function neuroimaging are needed to validate our present knowledge of EF development and to further improve our understanding of thinking abilities.

KEYWORDS: *Cognitive, Development, Evaluation, Executive Function.*

1. INTRODUCTION

The phrase "executive function" refers to a group of interconnected systems that are accountable for goal-directed, intentional action. These executive functions are involved in the synthesis of external stimuli, the formulation of objectives and strategies, the planning for action, and the

confirmation that plans and activities have been carried out properly. Anticipating, goal identification, planning, start of action, self-regulation, cognitive agility, deployment of attention, and feedback use are just a few of the processes involved with EF. Executive functions develop during infancy and adolescence and are crucial to a child's cognitive functioning, behavior, emotional regulation, and social interaction. Because executive skills impairments often accompany injury to the prefrontal cortex, the anterior areas of the brain are believed to mediate executive functioning. Functional brain scans have shown substantial activity in the prefrontal brain in those who take EF tests, corroborating this theory. The prefrontal cortex is reliant on efferent and sensory connections with nearly all other brain areas, such as the brain stem, occipital, frontal, and parietal lobes, as well as emotional and subcortical areas, to support EF. Cognitive and/or behavioral impairments may arise from damage or loss of function at any level of one of these brain systems. Executive dysfunction is not necessarily linked to prefrontal disease as a result of this complex neural network, but it may be linked to network disconnections such as white matter injury or impairment in other brain areas. In conclusion, it may be claimed that prefrontal cortex integrity is a required but not necessary precondition for intact impulse control[1].

1.1 Executive Dysfunction (EDF):

Executive dysfunction (EDF) isn't a single condition. It denotes EF deficiencies in one or more components, and it may manifest in a number of ways. Low impulse control, problems able to monitor or trying to regulate performance, management and organizational issues, poor reasoning ability, problems able to generate and/or implement a strategy, perseverance and mental inflexibility, poor feedback utilization, and reduced working memory are some of the cognitive issues associated with EDF in children. Some of these actions may not be deemed "deviant" in a developmental context, such as in the instance of a baby or young kid. As a result, it's essential that executive procedure development expectations be clearly defined. EF is involved in more than just cognitive processes; it's also involved in emotional reactions and behavioral behaviors. In children and adults with EDF, mood, affect, energy level, initiative, moral and social conduct may all be disturbed. Children with EDF may be apathetic, uninspired, and unresponsive, yet they can also be impetuous and combative. Some children with executive dysfunction ask humiliating or socially incorrect questions and make harmful remarks, indicating a lack of awareness and intuition. They may also find it difficult to appreciate comedy or make offensive jokes. EDF may also be identified by a disregard for the repercussions of one's conduct as well as a disregard for societal norms and customs. Resistance to alter activities, difficulty to adjust previously acquired habits, and failure to learn from errors are all signs of inflexibility and rigidity in youngsters. Many children with EDF, predictably, have poor interpersonal skills and have difficulty sustaining meaningful social connections[2].

1.2 Conceptualization of EF:

EF has traditionally been thought of as a single entity, with the central executive being in charge of multimodal processing and high-level cognitive abilities. EF, on the other hand, has been conceived as a collection of interconnected, interconnected process-related systems that work as a single supervisory or control system. Given that global executive impairment is uncommon, various executive functions are believed to be linked with different frontal systems, and executive processes have varied developmental histories, the latter paradigm is probably more realistic[3].

Interpretation of the Test: The majority of contemporary EF tests include complicated, demanding, and multi-faceted activities that engage both executive and non-executive processes, making them susceptible to cognitive impairment. However, it is difficult to separate the effects of distinct cognitive processes when evaluating task performance, and as a result, these tests often fail to distinguish particular cognitive impairments. Because personal and environmental variables, as well as essential task behaviors, are not taken into consideration, an over-reliance on quantitative data when evaluating performance may restrict a test's diagnostic usefulness. To overcome this limitation, test performance can be assessed using a segments and sub approach that combines quantitative (e.g., success/failure, latency, number of errors, etc.) and qualitative (e.g., motivation, energy, attention, distractions, etc.) methodologies with intellectual (e.g., process, strategies, actions, etc.) methodologies. The diagnostic usefulness of EF tests is expected to be improved by "scoring systems" designed to capture as much information about task performance as feasible[4].

1.3 Evaluation of EF:

Executive abilities are believed to be engaged in novel or difficult activities because they demand the person to develop new plans and tactics and evaluate their efficacy, while easy or routinized tasks are carried out intuitively and without the need of executive processes. Walsh (1978) agrees with this assumption, stating that in order to evaluate EF, a test must be new, complicated, and entail the integration of data. Defining a job as routine, overlearned, complicated, or new, on the other hand, is not always easy, since what is complex or novel for one individual may be simple or regimen for another. Furthermore, some theories argue that executive functioning is involved in all cognitive assessments to some degree[5].

1.4 Ecological Validity:

Discrepancies between conventional EF performance and real-life behavior are often reported. Patients with a history of significant behavioral difficulties, for example, may behave perfectly in clinic or properly answer questions on social and moral challenges, but lack judgment and self-control in real-life circumstances. The sheer nature of EF tests' design, which necessitates novelty, calls into doubt their ecological validity. Furthermore, neuropsychological tests are usually conducted in well-structured, calm situations with little distractions, and are unlikely to be reflective of home, school, or social contexts. The examiner frequently becomes the patient's "frontal lobes" throughout the evaluation process, providing support and encouragement as well as planning and initiating tasks. The BRIEF is a newly created questionnaire that offers a profile of EF behaviors in the home, school, and social settings for parents and teachers of school-aged children. The degree of agreement between the BRIEF and very well EF mental performance is at best moderate, indicating that each kind of evaluation offers distinct information[6].

1.5 Pediatric Population Assessment:

Executive processes appear in infancy and evolve throughout infancy and into early adulthood, according to new research. Because these abilities are susceptible to early brain injury and are critical for continuing cognitive development and academic success, standardized EF assessments that are appropriate for children and relevant for particular developmental stages are needed[7].

Several tests have been developed in the past decade for various age groups throughout childhood. It's tough to create activities for children that are appropriate for all stages of growth. When evaluating the results of neuropsychological tests in children, additional variables such as

the maturation rate of particular abilities and the impact of brain damage on future development must be considered. As a result, validating assessment instruments in a developmental context is typically more challenging than doing so with adult populations[8].

1.6 The evolution of EF:

One of the difficulties in understanding EF in children is that these abilities grow quickly during infancy, with evidence suggesting development is not always linear but may occur in bursts. Furthermore, it seems that various components of EF have diverse developmental paths, adding to the domains' complexity. Given that executive functions rely on the integrity of frontal lobe systems, it's probable that these abilities will show functional improvements that may be linked to prefrontal cortex neurobiological changes. The growth of the frontal lobes continues throughout maturity, which is unusual. Claims that executive functions did not develop functionally until the neural pathways matured in the second decade of life have been debunked[9].

1.7 Controlling Your Attention:

Newborns under the age of nine months have difficulties suppressing previously acquired responses, but by the age of twelve months, most infants can block specific behaviors and transition to a new response set. By the age of three, children have a good handle on ‘‘instinctive" habits, but they still make the odd perseverative mistake. Up to 6 years of age, there are improvements in speed and accuracy on impulse control activities. Children aged 9 and above are more likely to be able to control and monitor their activities, but there is a brief rise in impulsivity around the age of 11.

1.8 Processing of Information:

Increases in reaction speed and verbal fluency are seen in early infancy, particularly between the ages of 3 and 5. Processing speed and fluency continue to increase throughout middle childhood, with substantial improvements in processing speed seen between the ages of 9–10 and 11–12. Improvements in efficiency and fluency occur throughout adolescence, but beyond 15 years of age, the gains are likely to be minor.

1.9 Flexibility of Thought:

Persistent behavior is frequent in early childhood, decreases in early and middle childhood, and is uncommon in puberty. Between the ages of 3 and 4, children have the ability to switch quickly between two basic answer sets, but when the rules grow more complicated, children in this age range have trouble switching. When switching behavior is dependent on many dimensions, seven-year-olds struggle, but their ability to deal with these multi-dimensional switching tasks increases dramatically between the ages of seven and nine. Throughout middle childhood and throughout puberty, switching fluency improves. Early infancy promotes the ability to learn from errors and create alternate methods, which continues throughout middle childhood[10].

1.10 Setting Objectives:

4-year-olds demonstrate basic planning abilities, while younger children struggle to plan and arrange activities in advance. Similarly, basic conceptual thinking is too complex for 3-year-olds, yet youngsters may generate new ideas by the age of four. Planning and organizing abilities grow quickly between the ages of 7 and 10, and then progressively throughout puberty. Young children use basic tactics that are typically inefficient, unplanned, or fragmented, but strategic

behavior and reasoning skills grow more structured and efficient between the ages of 7 and 11. Despite having access to a larger repertoire of tactics, regression from conceptual to piecemeal methods may occur between the ages of 12 and 13, indicating a developmental phase when cautious and conservative strategies are favored.

1.11Gender Disparities:

According to the majority of studies, males and girls develop executive functions at the same pace throughout infancy. On certain tasks, minor gender differences have been discovered, but these results have not been reliably reproduced in subsequent research. Verbal fluency, information processing, and spatial organization are among the areas where females have been found to outperform guys. On the other hand, males outperformed girls in a spatial reasoning/working memory test.

2. DISCUSSION

According to research, the executive domains develop at various speeds. Proposed developmental pathways for executive domains are shown using results from developmental and normative research. These profiles are just estimates that will need to be confirmed in overall development research. Throughout infancy and early childhood, mechanisms in the attentional control domain seem to develop rapidly, and by middle childhood, self-control and self-regulation procedures appear to be quite sophisticated. Although information processing, cognitive flexibility, and goal planning are all reasonably mature by the age of 12, several executive functions are not completely ‘‘established" until mid-adolescence or early adulthood, albeit following somewhat different developmental paths. Between the ages of 11 and 13, developmental regressions have been observed, especially in the domains of self-regulation and strategic decision making. This regression may be linked to a developmental transition stage, resulting in conflicts between growing cognitive processes. The execution of self-regulatory procedures, for example, conflicts with the implementation of conceptual and ‘‘holistic" methods, which demand careful monitoring of performance and favor the ‘‘de-construction" of activities. Balancing and prioritizing these conflicting needs requires "executive control," which may be only feasible after each executive domain has reached a particular degree of maturity. The long-term development of executive domains is likely linked to neurophysiological changes in the prefrontal cortex, especially synaptogenesis and myelination. Five episodes of fast development in the frontal lobes, based on EEG data, have been recorded, indicating an increase in the number and/or strength of frontal lobe connections. From birth to five years of age, the frontal lobe has its first growth spurt, which coincides with substantial developmental improvements in attentional control processes. The other comprising three domains (information processing, cognitive flexibility, and goal planning) develop rapidly between the ages of 7 and 9, which coincides with the frontal lobe's second growth surge. Between the ages of 11 and 13, the third development spurt occurs, during which all four executive domains mature and ‘‘executive control" develops. Furthermore, myelination of prefrontal connections happens progressively during early infancy, middle childhood, and puberty, according to the findings. Progressive myelination is expected to result in faster and more efficient nerve impulse transmission, better information processing, and increased cognitive coherence and executive control.

3. CONCLUSION

The foundation for developing assessment procedures, interpreting test performance and adaptive functioning, and formulating treatment and management strategies is provided by

conceptual models for psychological variables such as EF. Large-scale exploratory and confirmatory factor analytic research are needed to uncover common executive components and investigate their inter-relationships in order to validate or alter current EF models. Executive functioning includes both cognitive and behavioral components; yet, cognition and behavior may often be at odds. The functions of distinct prefrontal systems may play a role in the dissociation between cognitive performance and behavior/personality traits. Behavioral manifestations of EDF, for example, seem to be more strongly connected with orbital and ventral medial parts of the prefrontal cortex, whereas cognitive elements of EF appear to be firmly related with dorsolateral sections of the prefrontal cortex. To establish the differences and overlap between the neuroanatomical correlates of cognitive and behavioral components of EF, further research is needed. Measures that are both ecologically sound and developmentally appropriate are required. EF measurements for children have lacked sufficient validation and trustworthy normative data in the past. Children's exams must be more selective, ensuring that they are relevant, have undergone sufficient standardization, and have been validated in suitable childhood settings. Given that most cognitive activities involve some level of executive functioning, identifying performance characteristics linked to EF rather than labeling particular measurements as executive or non-executive may be more useful. Finally, a micro-analytic approach to assessment, combining quantitative, qualitative, and cognitive-process methods, should be used to improve the diagnostic usefulness of EF measurements. The majority of EF research is focused on cross-sectional studies. Longitudinal studies are more accurate and reliable for evaluating developmental changes, but they are uncommon since they are expensive, need years of follow-up, and are hampered by sample attrition and "learning effects." Prolonged studies will be needed in the future to confirm our knowledge of EF development. We can now monitor the development of neural systems and cognitive functioning at the same time thanks to structural and functional neuroimaging, significantly improving our knowledge of brain-behavior connections.

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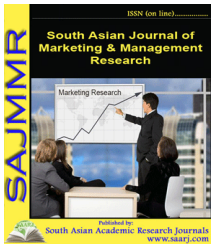

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TASKS FOR PRESCHOOL EDUCATORS

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ABSTRACT

The article reveals the features of the professional training of preschool teachers at a university in the context of a competence-based approach. In the context of modernization of education, the role of the preschool teacher is increasing.

KEYWORDS: *Competence-Based Approach, Modernization Of Education, Preschool Education, Quality Of Education, Professional Pedagogical Competencies*

INTRODUCTION

The first years of life are a time of active mental and physical development, the formation of basic knowledge and skills, the determination of the child's individual abilities and the creation of conditions for their implementation. Therefore, preschool pedagogy is considered the basis, the foundation of general pedagogy.

For the full development of children in preschool educational institutions, specialists solve a whole range of problems: ensure the physical, intellectual, creative development of each child through the implementation of educational programs for preschool education; introduce kids to the rules of behavior in society, cultural norms; teach children to communicate with each other and with adults; introduce children to a healthy lifestyle, strengthen their physical and mental health; stimulate the initiative and activity of kids, the desire for self-expression, curiosity; educate children to respect freedoms and human rights; identify, correct and compensate for the shortcomings of the physical and mental development of pupils (if necessary); provide methodological and advisory assistance to parents and guardians of children.

Amplification plays an important role in modern preschool pedagogy. This term is understood as the acceleration of child development through the introduction of new subjects (computer science, natural science, computer literacy, etc.) into the educational program. Complex disciplines are taught in a form accessible to kids, often playful, so study does not interfere with fully living all stages of childhood.

The professional competence of a teacher in the preschool education system presupposes the following characteristics of its components:

- a cognitive component, including professional knowledge in the field of psychological and pedagogical sciences;

- an activity component, including professional skills and experience;

- professional and personal component - personal qualities and professional values of the teacher's orientation.

The basis of the professionalism of a preschool teacher is his subjective position, which is based on such personal qualities as reflexivity, meaning-making, selectivity, autonomy. Determining the level of professional competence of a preschool teacher is associated with the task of identifying the specifics of professional and pedagogical activity, due to such factors as the personality and activities of the teacher in his interaction with the subject (culture and its model - the content of preschool education) and the object of labor (a child of preschool age).

The analysis of numerous studies of this problem made it possible to establish the following.

The specific characteristics of professional and pedagogical activity in ECE apply to all components of the teacher's professional competence, which include: personality; competence and preparedness (psychological, pedagogical, methodological knowledge conditioned by the purpose, content and technology of education, training and development in preschool educational institutions); professional and pedagogical skills, readiness (the teacher's knowledge is implemented in practical activities, therefore, they are organically linked with general pedagogical skills); psychological and pedagogical activity in general (the process of communication and activity in pre-school education is predominantly developing and educating, which affects the results of educational practice).

Despite the existing developments, the question of the degree of development of the ability and readiness for professional and pedagogical activity of preschool teachers, which characterizes competence, remains controversial.

The development of criteria for the professional competence of a leader and their empirical indicators is still relevant. It is obvious that the development of professional competence will take place most effectively with a competent assessment of the teacher's activities.

The formation of professional competence is considered as a multi-level and multi-stage process of systemic transformation of the teacher's experience in the course of interaction with the professional pedagogical culture (content of activity) and the subject of the educational process - the child (the goal of professional activity).

The development of professional competence and the professional formation of a teacher are considered as a process of developing the teacher's subjectivity in the course of his education and self-education, which is constantly becoming more complicated in terms of levels, on the basis of emerging managerial influences and management of his own professional development. Thus, the competence-based approach allows us to intensify the learning process and enable graduates to start their professional activities more confidently and successfully. The model of professional competence of preschool teachers is represented by a set of blocks of motivational (value-semantic), theoretical, technological and effective readiness for work.

What is a professional pedagogical task?

A task is a reasoned prescription for performing an action (set, sequence of actions). The task includes: requirements (goal), conditions (known) and sought (unknown), formulated in a

question or task. The implementation of the solution to the problem is the search and determination of unknown elements through the known ones. To solve a problem means to achieve a specific, desired result.

The solution of professional pedagogical problems has its own characteristics. The professional pedagogical task is characterized by objective and subjective criteria. The first include: the scale of the task; insufficiency (redundancy) of conditions; context (more precisely, the need to "transfer" the previously obtained solution to new circumstances); ambiguity (multivariance) of the solution. The second includes the amount of resources spent on solving the problem: time, information, psychological, physical, material, organizational.

Content characteristic of the task - on what material (facts, positions, judgments, etc.) the task is built.

Procedural characteristics of the task - what actions (elements of behavior, operations, actions, relationships, assessments, situations of choice and dialogue) are assumed in the course of solving the problem.

Contextual characteristics of the task - how a specific task is related to the general problem context - personal, social, educational, informational, communicative, cultural, etc.

At the heart of the "product" of solving a problem can be: information, actions, operations, attitudes, judgments and assessments, a form of behavior (including emotional-volitional, ethical, psychological).

The "product" can be presented, for example, in the form of text (program, speech, book brochure, lesson outline, presentation, poster, advertisement, leaflet, methodological recommendations, project, methodological development, etc.), as well as description text (behavior strategies, mode of action, operations, technologies, etc.).

An important feature of mastering the skills to solve professional pedagogical problems is the determination of one's position regarding the world of pedagogical science, the possibilities of the pedagogical process, the role of the teacher in solving the problem of promoting the formation of a person, education as a factor in the development of man and society. It is this position that determines the choice of solution methods and the choice of the result of solving the problem. Therefore, when starting to solve professional problems, it is important for a teacher to determine the position on the basis of which a solution to a specific problem will be found.

What professional tasks does a teacher usually face in their professional activities? In accordance with the concept of development of professional competence, developed by scientists, the following typical tasks can be distinguished, for the solution of which a graduate of a pedagogical university should be ready [1]. Each of the tasks is complex in nature and is revealed through various options for manifestation in real professional activity:

The task “to see the child in the educational process” means that the teacher must be able to:

set goals for educational activities (or any other activity) in accordance with the age and individual characteristics of children;

select indicators of the pupil's development in accordance with age characteristics;

select and use diagnostic tools for studying the individual characteristics of pupils;

to create motivation among pupils to participate in different types of activities;

track the effectiveness of the development of the work program by the pupils of the group, identify their achievements and problems;

build activities so that children feel their success, celebrate even the smallest successes of children;

2) The task "to organize the educational process" means that the teacher must be able to:

choose teaching and upbringing technologies that are adequate to the development goals and age characteristics of the pupils;

develop ways of pedagogical support for pupils, help to overcome difficulties and problems;

to activate the creative possibilities of children, to encourage cognitive interest;

to formulate the goals and objectives of the various activities of children on the basis of the program objectives of education, training and development;

to design situations and events that develop the emotional and value sphere of the child.

The task "To create a developing subject-spatial environment and use its capabilities" means that the teacher must be able to:

to design a developing subject-spatial environment in accordance with the age, gender and individual characteristics of the pupils;

use information resources (mass media, Internet, etc.);

use the resources and potential of the system of additional education in the educational process;

organize and use various educational environments within the educational organization to solve a specific pedagogical problem; select objects of the educational environment and use them to solve specific pedagogical problems.

The task "to work with information" means that the teacher must be able to: navigate professional sources of information

(pedagogical and methodical journals and websites, educational portals);

to adequately use information educational resources in work (with colleagues, parents, children);

effectively use the means of information and communication technologies and information educational resources available in the institution.

The task "to establish interaction with other subjects of the educational process" means that the teacher must be able to:

organize interaction with different people, organizations;

use different means of communication (e-mail, Internet, telephone, etc.);

use forms and technologies of interaction with colleagues to solve a specific professional problem;

to design and use various forms and technologies of interaction with parents in accordance with the educational situation;

interact with the administration of the educational institution to solve professional problems;

interact with community organizations and social partners.

The task "to design and carry out professional activities" means that the teacher must be able to:

effectively organize daily teaching practice and its development;

effectively use time and space in order to solve pedagogical problems;

appropriately create groups of pupils in order to solve the problems of their development;

analyze your own activities; choose technologies for self-education;

determine the scope of professional interests, identify problems in the implementation of professional activities and determine ways to solve them;

resolve conflict situations adequately and professionally;

rely on key competencies in solving problems of professional growth (ways of working with various sources of information, compliance with social and legal norms, using different languages to solve a problem);

choose technologies for self-education;

determine the scope of professional interests, identify problems in the implementation of professional activities and determine ways to solve them.

The pedagogical process is developing, new children and teachers come to educational institutions, new pedagogical tasks arise. The above list can be supplemented, some tasks are corrected and developed, which is due to constant changes in pedagogical activity.

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CONSUMER IDENTITY THEFT: INTRODUCTION AND FRAUD SOURCES AND DETECTION

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ABSTRACT

The purpose of this paper is to investigate consumer behaviour as it relates to identity theft and fraud. The components are physical prevention measures, account monitoring, agency monitoring, password security, and risky behaviour avoidance. These components were found to be almost orthogonal, implying that consumers tend to "buy into" a particular component of behaviour. The proposed model of consumer behaviour, while statistically significant, did not have high predictive value. Consumers use all the behaviours in one component without regard to other components. This can leave "holes" in consumer defense against identity theft and fraud. Consumer education on identity theft and fraud needs to stress that consumers need to employ all behaviours that can minimize risk and loss. This paper puts forward an initial model of consumer behaviours as it relates to identity theft and fraud. The derivation of the orthogonal components of behaviour is a new and important finding.

KEYWORDS: *Consumer Behaviour, Financial Crime, Fraud, Identity Theft, Identity Fraud, Theft.*

1. INTRODUCTION

Identity fraud is a growing concern especially for online retail organisations throughout the world. Every year the number of identity frauds and their losses are increasing. There have been some studies on fraud management and related issues but are scattered. Hence, none of the studies presents a holistic view of identity fraud management and practices in detail. In the absence of such studies, e-tailers are losing a significant amount of their revenues in these frauds[1]. Uncontrolled situation of identity frauds may also hinder the development of e-commerce and significant loss in capital markets. Such a situation is also a challenge for researchers and invites academics to research in this field to change the real-world situation against identity frauds.

To help bridging this gap, this study systematically reviews the extant literature and presents a holistic view of identity fraud management and forwards a comprehensive set of related practices. We found that most of the studies are focused on one or some aspects, which may not cover the whole of fraud management. This study also found that most firms treat identity frauds as a technological issue. We found that the eight stages of fraud management named as deterrence, prevention, detection, mitigation, analysis, policy, investigation and prosecution, are equally important to manage identity frauds in e-tail sector.

Fraud is an old activity, so the literature is rich focusing on various aspects of fraud management. Regarding the behavioural aspects of fraud management, it is a well-established argument that the potential fraudsters can be deterred by the fear of being caught and punished[2]. The concept of changing the behaviour of potential fraudsters is derived from the deterrence theory, which has widely been studied in various contexts and is proved to be significant to control the deviant behaviour. The root of deterrence theory lies in the fear appeal theories. The fear appeals influence attitude, intention and behaviour of fraudsters and may prevent a fraud. So far, the significance of this deterrence has been confirmed in various contexts mainly in accounting and audit and employee theft. Similarly, there are numerous studies focused on customer education and threat as measures of fraud deterrence, but there are no studies presenting a comprehensive view of identity fraud deterrence practices in relation to the e-tail industry. Therefore, research is needed to present a holistic picture of managerial practices for identity fraud deterrence in e-tail organisations. In spite of deterrent practices, frauds are still attempted[3]. One of the major reasons, in Fraud Triangle Theory is the existence of an opportunity of committing a fraud, which refers to the system's weaknesses to prevent and detect frauds. What follows is that in addition to deterrence, organisations should also have systems to prevent and detect frauds.

This study found that identity fraud is generally treated as a technological issue, only a few studies have comprehensively focused to include organisational, social and technological aspects of fraud management. This study suggests that identity fraud management is a managerial issue rather than a technological, so it should include technological, human and organisational arrangements. This research synthesises the extant literature on fraud management, presents a holistic view of identity fraud management and suggests managerial practices at each stage of identity fraud management. Guidelines are also given for e-tail managers to effectively manage identity fraud, control losses and develop favourable customer relationship[4]. This research will also help in building customers' trust on online shopping, which will lead to e-commerce development.

The quintessential crimes of the information age are identity theft and the use of stolen identity to commit identity fraud. Management of identity fraud is a significant challenge for e-tailers throughout the globe. This study will help e-tail managers to understand a holistic view of identity fraud management. Generally, identity fraud management has been regarded as a technological issue. This study presents a comprehensive set of managerial practices to effectively manage identity frauds. Broader view of identity fraud management will also help managers to consider organisational, social and technological arrangements towards better performance in the management of identity frauds[5]. E-tailers are the ultimate bearers of identity frauds and literature suggests that mostly identity information is stolen at customer side. Therefore, e-tailers should go beyond the boundaries to create awareness and educate customers to minimise the risk of such frauds.

The responsibility for identity theft prevention can be said to fall on three groups: the consumers that provide the information, the organisations (including businesses and governments) that collect and use the information, and legislative bodies (including national and regional governments) that regulate the handling of personal information. The Organisation for Economic Cooperation and Development, for example, emphasises regulation and calls for the standardisation of definitions and statistics, the enactment of legislation to provide legal remedies for the victims, and deterrence and enforcement for the perpetrators. The privacy commissioner for the province of Ontario stresses the importance of the role of organisations in protecting personal information.

Despite all the efforts of legislators and organizations, however, the consumer still has a vital role in protecting his or her personal data. Carelessness or lack of attention on the part of the consumer such as neglecting to protect passwords, disposing of identity information in regular trash, failing to secure regular mail or access to personal laptops, or responding to "phishing" attacks, can undo all the preventative work of governments and businesses. These groups recognize this reality and have encouraged consumer education regarding identity theft and fraud. Consumers, now and in the future, will play a critical role in identity theft prevention and identity fraud detection. Without a concerted program of customer education, legislation and technical solutions cannot prevent identity theft and fraud.

Although measures are there to prevent identity fraud attacks, the literature findings reveal that fraudsters use genuine customers' information, as a result, some fraudulent transactions still pass through the security net[6]. Therefore, organisations need to detect these transactions as the next stage after prevention. The extant literature suggests that fraud attempt is merely a result of an assumption of the lack of detection, so organisations should have an effective detection system that also helps to create the fear of being caught and punished. The practices of having automated detection system and verification of suspicious transactions are recommended by various researchers in different contexts.

Once the fraud is detected, the next stage is to stop it before completion or to minimise the fraud effects and prevent it from reoccurring, in the fraud management domain, it is called mitigation stage. Mitigation is a significant stage of fraud management that allows keeping the effects of detected fraud to the minimum by verifying and validating the customer identifies. It also includes the recovery of customer credit history and information sharing[7]. Once fraud has been detected and mitigated, it is necessary to identify its type, methods and means used, and the reasons why it passed through the prevention system. In fraud management, this set of practices is called fraud analysis. Analysis of identity frauds is a critical stage that helps to develop policies and strategies for effective fraud management.

At each stage of fraud management, anti-fraud policies create layers of protection for the organization and its employees. Development of an anti-fraud policy would help to protect the personal information that may be used in identity fraudsand such policies are meant to improve the effectiveness of identity theft management[8]. The extant literature has some studies, but none of these presents a holistic view on identity fraud management policies in e-tail sector.This paper examines the precursors and attitudes that relate to the behaviours that consumers use to prevent and detect identity theft and fraud. Specifically, does past experience with identity theft and fraud relate to the level of concern about being a victim? And does the level of concern affect consumer behaviours?

Identity theft is the unauthorized access to personal information or documents; while identity fraud is a crime involving the use of false identity. Generally, most identity fraud relating to financial and credit accounts is categorized as existing account or new account. Existing account fraud involves the illegal use of an existing account or credit relationship[9]. New account fraud entails the creation of a new credit account using a fraudulent identity and subsequent illegal use. There is some discussion as to whether credit card theft and subsequent fraud should be considered identity crimes. In most cases, the loss of a credit card and its subsequent fraudulent use is less damaging to the customer than the loss of cash. No personal information other than name and number is divulged, the card is usually replaced promptly, and the customer is not usually responsible for any fraudulent use.

Despite the importance of the role of consumers and significant survey work, there has been little analytical work done on the behaviour of consumers to prevent, detect and mitigate the effects of identity theft and fraud. identity fraud would exist in equilibrium, balancing the cost of increased fraud against the cost of increased conclusiveness in identification. In addition to these "macro" models, there are some "micro" models that address specific aspects of consumer behaviour concerning identity theft; for example, personal information disclosure, the effects of privacy seals, and behaviour in the online environment[9]. There appear to be no general theoretical models proposed for the behaviour of consumers in preventing and detecting identity theft and mitigating the effects of identity fraud. This paper explores the relationships between consumer experience, attitude and behaviour in relation to identity theft and fraud. In particular, it investigates the kind of theft/fraud experienced in the past in relation to the level of concern and change in the level of concern about identity theft, and the effects of concern on the behaviours of consumers. This approach very loosely follows the theory of reasoned action (TRA)[8].

At a high level, TRA proposes that beliefs affect attitudes which precede intentions which in turn result in behaviours. Within this study, behavioural data are captured and attitudes are operationalized as concerns over identity theft. Owing to the limitations of the data collected, intentions and beliefs are unavailable. There are, however, some data which may be antecedents of attitudes, i.e. past experience with identity theft and fraud. A high-level model diagram of the relationships, indicating that the level of concern is expected to have an impact on the behaviour components. Given the financial and emotional costs of identity theft and fraud, one might expect that those who have experienced identity theft and fraud would have a different attitude and be more concerned with the possibility of being a victim of identity theft in the future[10]. In particular, recent victims of identity theft and fraud may be expected to change their levels of concern.

Owing to the different characteristics of credit card fraud, the response in concern level could be at variance with those experiencing other identity fraud. There are many behaviours that consumers exhibit in preventing and detecting identity theft and fraud. It is useful to group these behaviours using factor analysis. Few researchers, however, have done so. This paper groups both online and offline identity theft and fraud prevention and mitigation behaviours into behavioural components.

2. DISCUSSION

The difference in concern level by those who experienced credit card theft and fraud and from those who experienced new account, existing account and other identity theft and fraud indicates that, in the view of consumers, credit card crime is distinct. This is probably due to the fact that credit card companies, and not consumers, take the risk for credit card fraud, provided that

consumers notify their credit card issuers when credit cards are stolen, lost, or unauthorized payments are detected in the accounts. Indeed, the finding that consumers who have never been victims of identity theft are intermediate in level between the consumers that have been victims of credit card fraud and those who have been victims of other identity fraud, indicates the differences in attitudes of the two groups that have been victimized.

The effect of the timing of the experience of identity theft on the level of concern is somewhat surprising. When respondents were victims in the most recent year, whether it was credit card or other fraud, their concern levels were lower than those who were victims previously. On the other hand, a large number of victims in the most recent year reported their concern level was higher than the previous year. The implication of these two findings is that victims of identity theft and fraud in the most recent year previously had below average levels of concern. This suggests that consumers with low levels of concern are more likely to be victims. The five-component solution to the principal component analysis produces a logical categorization of identity theft prevention behaviours.

The final components of physical security, password security, avoidance of risky behaviours, and monitoring of accounts and agencies make intuitive sense. It is remarkable perhaps that the items loaded so cleanly. There is no reason other than general vigilance, for example, to expect that someone who shreds confidential documents would also use a locked mailbox. Conceivably, the most surprising finding is that the components are almost orthogonal. The correlations between most components are quite low. For example, individuals who monitor their bank accounts and credit cards do not necessarily also use physical security or avoid risky behaviours. It appears as if individuals “buy into” a form of identity theft protection and use all the behaviours associated with that form without reference to other forms. Consumers act selectively in the types of behaviours they employ.

3. CONCLUSION

This selectivity can have significant consequences for consumers. Consumers need to be encouraged to use all forms of defensive and detection behaviours if identity theft is to be avoided and if costs are to be minimized when identity fraud does occur. The effect of level of concern on identity theft and fraud prevention and mitigation behaviours is statistically significant but small. The reason is suggested by the fact that the behaviours of those who are not at all concerned about being victims are statistically the same as those who are extremely concerned. Those who take identity theft and fraud very seriously may use measures that they believe protect them from victimization.

Concern may thus be moderated by the perceived effectiveness of behaviours intended to prevent identity theft. Similar results were obtained for changes in behaviour. While changes in concern had statistically significant effects on the changes in most behaviours surveyed, the effect was small. Again, the changes in concern may have resulted from the perceived effects of changes in behaviour. While concern about being a victim of identity theft and fraud is influenced by and in turn influences consumer behaviours, the relationships are not strong or linear. Other attitudes may be more effective in explaining consumer behaviour. Rather than concern, perhaps better attitudes to measure would be the perceived prevalence and/or perceived seriousness of identity theft.

The contribution of this research is largely the identification of the principal components of consumer behaviours that are intended to reduce exposure to identity theft and fraud. The finding

that the components are almost orthogonal adds a new dimension to the understanding of the ways consumers handle the threat of these offences. For practitioners, this highlights the need to educate consumers in the necessity of employing all forms of identity theft protection. This research also fills a "hole" in models between the macromodels that explain the overall functioning of identity theft and fraud, and "micro" models that concentrate on specific aspects of identity theft.

Identity theft and fraud are wide spread and have significant financial impacts in both the costs of prevention and the costs of fraud when prevention fails. In addition, there are emotional and psychological impacts on victims. While businesses and governments have significant roles to play in minimizing the occurrence and consequences of identity theft and fraud, a critical role remains for consumers. A better understanding of the factors that influence their defensive behaviours is key to controlling the greatest threat to consumers today.

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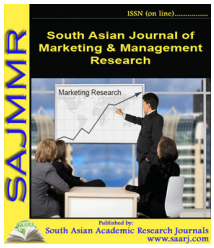

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USING THE BEST WORST METHOD TO ASSESS THE SOCIAL SUSTAINABILITY OF SUPPLY NETWORKS

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ABSTRACT

The economic, environmental, and social aspects of sustainability must all be considered by a genuinely sustainable company. Although many academics and practitioners have studied the economic and environmental aspects of sustainability, the social dimension has received less attention in literature and practice, particularly in developing countries. Other sustainability efforts are enabled by social sustainability, and ignoring this component may have a significant negative effect throughout supply chains. This research offers a methodology for evaluating the social sustainability of supply chains in manufacturing firms to solve this problem. To demonstrate the applicability and effectiveness of the proposed framework, a group of 38 experts evaluated and prioritized social sustainability criteria using the 'best worst approach,' a multi-criteria decision-making technique (BWM). The criteria are ordered by their average weight as determined by BWM. The most significant social sustainability criteria, according to the respondents, are "contractual stakeholders influence." The findings of this research may assist industry managers, decision-makers, and practitioners in determining where to concentrate their attention during the implementation stage in order to improve social sustainability in their organization's supply chain and progress toward sustainable development.

KEYWORDS: *Best Worst Method (BWM), Social Sustainability, Sustainable, Supply Chain Management.*

1. INTRODUCTION

Several studies have suggested sustainability frameworks that include all three aspects, albeit with a focus on economic and environmental sustainability. However, just a handful has attempted to use empirical analysis to investigate social standards. This article offers a comprehensive assessment methodology to examine social sustainability in the context of Iran's manufacturing industry in order to rectify this mismatch. The 'best worst method' (BWM) is a new multi-criteria decision-making technique (MCDM) that is used in this research to assess and

prioritize social sustainability criteria [1]. The Iranian industrial supply chain was chosen for two reasons. To begin with, the Iranian economy is heavily reliant on its industrial sector (after oil and gas).

At the same time, it is a sector that confronts significant difficulties, ranging from strikes over workplace safety and health to employee rights in the face of unfair labor practices. Second, the industry is expanding, necessitating some kind of best practices in terms of supply chain social sustainability to assist new entrants and current businesses in making sustainability-related choices in order to improve the sector's bad social image. Although the triple-dimension (economic, environmental, and social) should be addressed simultaneously in order to have a sustainable supply chain management (SSCM), we concentrate on the social component to further our knowledge of this factor. As a consequence, the findings of this research may be helpful as input for long-term supply chain management choices. The following goals are explicitly addressed in this paper.

To accomplish these goals, a literature review is conducted within the sustainable supply chain management discipline to identify potential social sustainability criteria, which are then subjected to several rounds of review by industry experts in order to propose a comprehensive supply chain social sustainability framework, which is then evaluated using BWM. In other words, we evaluate the relative significance (weights) of the criteria and rank them in order of importance to the organization's long-term viability. There are two major contributions in this article. To begin, we create a framework for studying social sustainability in the manufacturing industry. Second, to study and evaluate social sustainability, we offer a novel MCDM technique (BWM).

1.1. Managing a long-term supply chain

Supply chain management (SCM) is a collection of methods and practices for managing and establishing efficient coordination within and across businesses in a supply chain, with the goal of enhancing customer service, asset utilization, profit creation, and cost reduction. Multiple decision-makers are engaged in a supply chain's management of processes, resources, and information that aren't always under their direct control. To put it another way, to make supply chain operations sustainable, companies throughout the supply chain must integrate their operations and collaborate. Sustainable supply chain management (SSCM) is defined as the management of supply chain activities, operations, resources, information, and funds with the goal of maximizing supply chain profitability as well as social well-being (e.g., the impact of supply chains on employees, customers, and society) while minimizing negative environmental effects. SSCM has many elements, and it necessitates multi-operational tasks in order to get a competitive edge.

SSCM focuses on preserving the environment and improving the socio-economic dimension for long-term sustainable development SSCM encourages businesses to enhance their supply chain's social, economic, and environmental performance. The environmental and social implications of a company's supply chain activities are enormous and complex to control. As a result, SSCM reduces negative operational impacts and increases firm value/efficiency in terms of environmental, economic, and social dimensions, resulting in sustainable development. SSCM is seen as a way to improve supply chain management, with a significant impact on the company's competitiveness and supply chain operations, with the goal of building the necessary capabilities to compete and succeed.

According to Chardine-Baumann and Botta-Genoulaz, supply chain sustainability is one of the ways to improve organizational performance. This has an effect on a company's competitiveness as well as the operation of its supply chain. Managing these projects and programs entails a wide range of problems, including supplier selection and the use of green technologies to boost long-term joint competitive advantage [2]. In the SSCM literature, it is evident that adopting sustainable initiatives and programs strengthens partners' and stakeholders' competence and collaboration by increasing environmental performance, reducing waste, and saving money [3]. This emphasizes the need of combining economic, environmental, and social elements of business theory and practices in order to achieve long-term supply chain management. As a result, in order for companies to improve their sustainability, business operations must manage their operations with the long-term goal of preserving society, the economy, and the environment. Many businesses are starting to utilize sustainability indicators to assess their degree of sustainability, with an emphasis on environmental sustainability.

Srivastava developed an SSCM decision-making framework that focuses on five major strategic areas: product design, material selection, manufacturing, completed product delivery to the customer, and end-of-life product management at the conclusion of their life cycle. Despite the fact that Srivastava established a sustainability framework, the operational criteria did not contain explicit criteria for the social dimension, and any sustainability effort without that social component is likely to be inadequate and incapable of dealing with the social effect. Carter and Rogers developed an SSCM framework based on resource dependency theory, population ecology, and the corporate resource-based perspective, taking into consideration fundamental supporting facts that are needed in the application of SSCM practices. In order to achieve long-term economic viability in an SCM setting, the authors looked at the connections between social, environmental, and economic performance. The global demand for water, energy, and mineral resources has recently increased, pushing the global price of these resources up. Figure 1 discloses the Distribution of papers based on sustainability dimensions

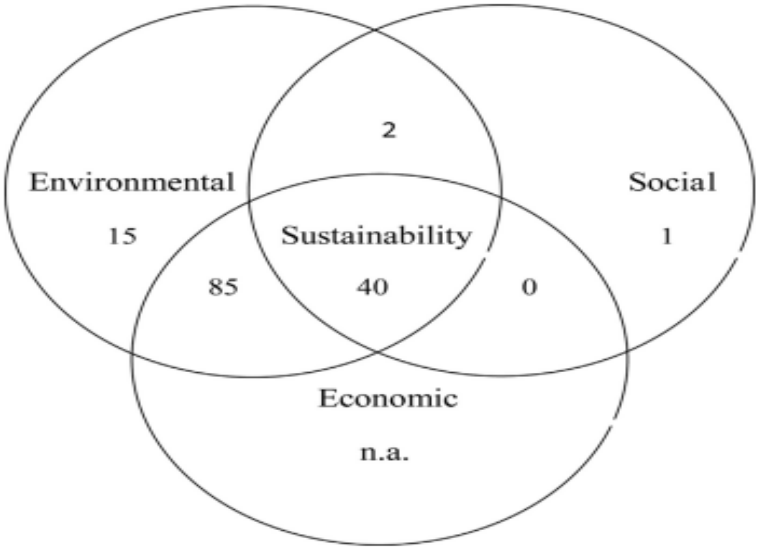

Figure 1: Distribution of papers based on sustainability dimensions

2. DISCUSSION

The economy should be focused on long-term development. Most of the time, the primary emphasis has been on long-term economic viability. Social issues, on the other hand, Environmental sustainability has a significant effect on economic growth. Choices and policies that have a long-term economic impact. Iran, the study's example nation, is a developing country in the Middle East. Asia is in the west. Iran is still in the early phases of sustainable development [4]. The non-economic elements of sustainable development have received a lot of attention in recent years. Despite the many laws and policies aimed at moving the nation forward, Iran, like many other developing countries, is working for long-term growth. This project has not yet proven effective in any of the nations involved. The explanations may include the government's failure to implement regulatory policies.

Government and a lack of senior management commitment on the side of industries/companies to execute such efforts, which tend to be more concerned with long-term economic viability. As a consequence, there has been an increase in Various social activists have exerted pressure on Iranian manufacturing firms on both a national and international level, causing some to shut down. According to Mani et al. research, in emerging nations, social problems have been especially difficult. And that additional study on social sustainability is needed in underdeveloped nations. In the industrial sector, supply chain activities are managed by organizations. It's one of the few studies on the subject, particularly in emerging countries. In Iran, researchers are looking at societal sustainability. The goal of this article is to help industrial managers, decision-makers, and practitioners understand how supply chains work. The social sustainability component of the supply chain may be utilized to reduce the industry's social effect and make supply networks more sustainable.

To progress in the direction of long-term development as an example of the planned to assess the framework's applicability and utility, as well as to offer a thorough assessment of social sustainability, a group of 38 Iranian manufacturing sector practitioners from a variety of sectors was chosen Automotive, electric and electrical, chemical, telecommunications, cement, tile, and other related industries Manufacturers of motorcycles with more than ten years of experience. There are 10 general managers and fifteen supply chain managers among them.

Interviews and discussions were performed by the study team. By alerting the practitioners about the project, we were able to collect data. The BWM in Practice Determination of decision criteria [5]. The decision-makers established a set of criteria to be used in the first phase. Explain the topic at hand. The criteria were determined using a variety of methods. Review of the research and feedback from decision-makers and practitioners The requirements for social sustainability have been established [6]. There were 38 specialists in all, each with over 10 years of expertise in their respective areas. A questionnaire containing questions was used in the beginning. The 16 social sustainability criteria listed above were given tithe experts for evaluation at various periods, as well as instructions on how toot finish up the questionnaire the experts were asked to identify which ones, they thought were the best. Because some of the criteria are more relevant to their company's activities Choosing "1" for important and "0" for unimportant.

The specialists were then consulted. Prompted to propose additional relevant criteria based on their previous experience within terms of their company's social sustainability and organizational sustainability in general. The study team was in agreement with the findings. Specialists agreed that criteria accepted by at least thirty experts would be a be considered for the next round of review there are two more requirements. Two of the specialists made suggestions. Three rounds of interviews were conducted in all. Finally, eight societal issues were identified. The criteria for

sustainability were chosen. The 38 responders indicated the most and the least in the second stage.

As well as the most essential and least significant social sustainability criterion utilizing a questionnaire as a criterion the greatest and worst result are given bel. Choosing the best criterion preference out of all the options the responders were asked to choose the best option in the third stage. Criterion's preference above all other criteria, measured on a scale of 1–9 scale. Identifying the other criteria that have a higher priority than the worst criterion the respondents were asked to select their choice in this stage. Through a questionnaire, the ratio of all criteria over the least important criterion, again using a measurement scale o the results [10].

One of the responding managers' replies the optimum weights of the criteria is determined in this stage. Each of the 38 responders was given the task of solving the BWM optimization model. Then, for each criteria, a simple weighted average is calculated to provide a single weight vector, which shows the average consistency ratio comparisons are made because L*) is near to zero. For the time being, the numbers are small. The s.d. indicates that the responses are all the same. The study's final findings are listed in [7]. The outcomes offer information to help managers make strategic choices From The greatest score is in, "contractual stakeholders' impact (SSC3)." The weight of the social sustainability criteria is 0.292. Stakeholders under contract When these organizations try to attain social sustainability in particular, influence is the most essential and important criteria. In general, organizational sustainability development. This was then followed by "workplace safety and health (SSC1)" and "training education and development" community impact (SSC2), with criteria weights of 0.120 and 0.140, respectively.0.118 in each case. The ramifications of this finding for the industrial industry Contractual stakeholder influence necessitate the highest and most urgent management attention in Iran and other developing countries. a focus on assisting in the attainment of improved social sustainability and, in general, sustainable development It will establish part of the agenda after contractual stakeholder influence has been created and executed. lays the groundwork for the addition and growth of the other criteria, eventually leading toot the overall program's improvement This finding also indicates [9].

3. CONCLUSION

Manufacturing activities have a huge negative worldwide environmental and social effect. Best and Worst criteria determined by Experts. Criteria for social sustainability Experts voted it the best. Experts have rated it as the worst. Workplace safety and health (SSC1) 0.120 0.029Occupational health and safety management system (SSC4) 0.035 0.011 Training, education, and community impact (SSC2) 0.118 0.032 Contractual stakeholders influence (SSC3) 0.292 0.031Iran is one of 104 developing economies. Several manufacturing companies have started a number of initiatives to address these issues. In addition, a number of studies have attempted to address the issue of organizational supply chain sustainability. However, these initiatives and early attempts tend to focus on a broader spectrum of sustainability rather than specifically on supply chain social sustainability. Only a few studies and organizational interventions that have incorporated social dimensions into their SSCM frameworks and initiatives have focused on specific aspects of supply chains.

When it comes to the resources and competencies required to manage the manufacturing industry's social impact completely and systematically, as well as to achieve sustainable operations, the isolated and varied frameworks created are ineffective[8]. Currently, there is no way to combine these disparate concepts into a complete framework that can assist the industrial

sector in incorporating social sustainability into their supply chains. To address this issue, this study began by reviewing previous sustainability studies in order to identify possible criteria in the manufacturing environment, which were then subjected to multiple rounds of evaluation by industry experts in order to offer a complete framework. Using a sample of 38 experts, we developed and utilized the "best worst method" (BWM) to evaluate and rank the suggested criteria to aid managers in their decision-making process.

The relative weights of the criteria were established, and they were then prioritized based on their worth and significance to the organization's long-term viability. According to the findings, the most significant criteria for attaining social sustainability were "contractual stakeholder impact," while the least important criterion was "occupational health and safety management system." The proposed framework can assist businesses in developing the capabilities they need to achieve long-term development. The framework, in particular, may assist supply chain managers and practitioners in developing nations in more effectively evaluating and determining the significance and impact of social sustainability practices in manufacturing companies, as well as implementation routes. Managers at Iranian manufacturing firms (and, by extension, in other developing countries) now have a tool to assess and execute social sustainability.

There are some limitations to this study, and more research is needed. The restrictions provide plenty of opportunity for development and may serve as a good starting point for further study into this topic. The exploratory character of this research is one of its major drawbacks. The results provided here are exploratory in nature, since they only look at one industrial sector in one area (Iran), making them difficult to generalize. Given the respondents' similarity, we may be reasonably confident about specific actions and concerns linked to attaining social sustainability among Iranian manufacturing firms and the manufacturing sector as a whole.

There is clearly a need for greater and wider empirical study. The findings are also limited to a particular research period. To see whether the rankings of the criterion vary over time, longitudinal research is needed.

Future studies should utilize additional MCDM models to establish the weights, as well as our social sustainability criterion framework, and compare the findings of these models to our BWM results. It is obvious that social sustainability in developing economies is a topic that deserves and needs further research. This study, in our opinion, serves to set the groundwork for a research subject that will only grow in significance in the coming years.

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FOR SUCCESSFUL OFFSHORE OUTSOURCING ADOPTION HYBRID BWM-ELECTRE-BASED DECISION

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ABSTRACT

The goal of this research is to provide an enabler choice framework to aid managers in the adoption of offshore outsourcing by concentrating on the key enablers and their intensities. The applicability of created offshore outsourcing focused enablers across four automotive business organizations in India is tested using a hybrid Best Worst Method (BWM) – Eliminations and Choice Expressing Reality method, as well as the adoption score of the framework across case organizations. BWM is utilized to analyze the intensity of offshore outsourcing-oriented enablers and the Elimination and Choice Expressing Reality methods are used to rate organizations and calculate adoption index scores. Across the example organizations, the created methodology has a high acceptance rate in offshore outsourcing efforts. According to the study's findings, managerial and strategic enablers are the most important, followed by technical enablers and organizational enablers. This research also includes a sensitivity analysis to test the resilience of the proposed framework by doing experiments under various circumstances. This study will aid managers and experts engaged in offshore outscoring efforts, resulting in greater labor and raw material cost advantages, improved economies of scale, and more long-term company growth.

KEYWORDS: *Best Worst Method (BWM), Enablers, Electra, Offshore, Outsourcing.*

1. INTRODUCTION

The current industrial type of situation has become challenging for both the old industry giants and new entrepreneurs. The old industry giants are continuously offering high-quality products at premium price; whiles the new entrepreneurs are providing the same products at economical price to establish themselves in the market. In this sense, the manufacturers need to be highly focused and proactive in their approach for sustainable business development. Simultaneously, constantly changing customer requirements for customized design, specifications and on time delivery requirements has also posed numerous challenges among the manufacturers. These issues are comparatively managed by the service industries, while the manufacturing industries

are still struggling to achieve the optimum solution .From managerial viewpoints, to take advantages of cheap labor and quick accessibility of raw materials and maintaining effective supply chain, the, etc [1].

The offshore outsourcing gained higher popularity in the developing countries due to the availability of cheap labor and raw materials. The offshore outsourcing becomes a prime choice among the service as well as manufacturing organizations to maintain their profit margins. In context to service industries, the offshore outsourcing portrayed noticeable benefits but as far as manufacturing industries are concerned, due to existence of physical goods, still substantial work is needed to extract the desired benefits. To enhance the adoption rate of offshore outsourcing, many researchers suggested various elements that serve as facilitators or drivers Offshore outsourcing projects may be successfully completed by concentrating on these enablers. Furthermore, only a few studies have focused on the enablers that influence the adoption of offshore outsourcing in the industrial environment. There is no research in the literature that established a methodology for assessing the strength of relevant enablers, apart than a list of enablers to offshore outsourcing. The associated enablers will aid in improving the success rate of offshore outsourcing, although their relative importance may not be comparable. As a result, it becomes critical to assist managers in developing a decision framework for identifying and evaluating enablers in the implementation of offshore outsourcing projects [2].

An extensive literature study is conducted in order to achieve the above-mentioned goals. The expert panel discusses the list of enablers that assist the adoption of offshore outsourcing that was derived from the literature. Following the completion of the enablers, a framework is created and tested for application to four case organizations engaged in offshore outsourcing projects. Original Equipment Manufacturers (OEMs) in India's automobile industry are the focus of these case studies. These example companies are market leaders in their respective passenger vehicle and truck product categories, with a worldwide presence. A major component, the transmission gearbox, is manufactured offshore by passenger vehicle manufacturers.

Suspension systems are outsourced by truck manufacturers. To determine the intensity and the relative significance of the enablers, a hybrid Best Worst Method (BWM) – ELimination and Choice Expressing Reality (BWM – ELECTRE) Multi-Criteria Decision-Making (MCDM) method was used in this study. In addition, the adoption rate of the proposed framework is assessed across four case organizations using a hybrid BWM-ELECTRE method. A sensitivity analysis check is performed in accordance with this to ensure the robustness of the established framework. The current research is divided into seven parts, the first of which is the introduction. Describes the research technique used and the framework that was created. The implementation of the established methodology across case organizations is described. The study's contributions and consequences for academics and practitioners are described. Exploring the different enablers/drivers/critical success factors described in the literature is very important for successful offshore outsourcing adoption. The authors used the Systematic Literature Review (SLR) method.

To gather research papers, the authors used Scopus and Google Scholar databases. To include or omit a specific study, the keywords in the abstract and main body of the article were analyzed. In addition, we established some additional criteria for article inclusion and exclusion; Only peer-reviewed journal articles and book chapters were considered conference proceedings were excluded [3].

We scrutinize the gathered material using these criteria, and then use the forward and backward snowball techniques. Articles related to this project are collected in this manner. All papers were deemed to be indicative of the existing body of knowledge connected with outsourcing and offshore implementation, as well as drivers and enablers that aid in the decision-making process for outsourcing and off shoring in production study. Institutional considerations, organizational factors, technical factors, economic factors, social and behavioral variables, and others all influence the acceptance of offshore outsourcing efforts taking these variables into account, industry experts may successfully complete their outsourced tasks. Offshore outsourcing's primary goal is to decrease total production costs by using low-cost labor, raw materials, and modern information and communication technologies.

The large industrial behemoths operate on the credo of maximum profit with little investment, thus assisting emerging countries in creating jobs and improving their economies. The flexibility to move up the value chain and the availability of quality labor are important enablers for the successful adoption of offshore outsourcing initiatives. Adoption of sophisticated information and communication technologies, data protection, and the usage of the Internet of Things aid in project management and tracking, which may be done in-house or outsourced. Data privacy, in this context, refers to an effective data privacy system that guarantees the protection of data throughout the whole production system. It aids in increasing the organization's trust and sustaining production quality standards [5].

2. DISCUSSION

Fill up their client's needs According to the findings of this study, managerial and strategic enablers have the highest weight (0.313) among the main criteria enablers, followed by technological enablers (0.218), organizational enablers (0.193), sociocultural enablers (0.170), and individual enablers (0.103). It is clear that management's strategic decisions and long-term policies improve the organization's capability, allowing them to take on offshore outsourcing projects. Manufacturers gain flexibility to produce highly customized products while maintaining high-quality standards by upgrading technological databases and employing advanced information and communication technology [6].

It's worth noting that a strong application of modern statistical and optimization techniques, as well as a multi-stage quality checks system, aids in the development of organizational capability and the improvement of the offshore outsourcing adoption index. Because the fluctuation of currency value directly increases/decreases the estimated project cost within a nation, accurate project cost estimation is also critical to the successful adoption of offshore outsourcing.

Organization 2 had the highest adoption index (8.404) among the four case organizations, followed by Organization 3 (8.111), Organization 1 (7.628), and Organization 4 (7.628). (7.417). According to the findings, the framework developed has the highest adoption rate of 84% and the lowest adoption rate of 74% during validation across all case organizations. The proposed framework's applicability is further enhanced by the use of sensitivity analysis. When the created framework is evaluated under various circumstances, the results of sensitivity analysis reveal relatively few modifications. This shows that the framework is robust and can be applied to other organizations that are similar to the ones in the case study. The current study is a first in the field of offshore outsourcing because it presents a unique set of enablers that influence offshore outsourcing adoption [10].

It also employs a novel BWM-ELECTRE combination for evaluating enabler weights and calculating each organization's index scores.Several researchers have highlighted the critical success factors that influence the adoption of offshore outsourcing in service industries, but very few studies have been able to link the same to the automotive manufacturing industry. As a result, this research adds to the theory by providing a comprehensive list of enablers for offshore outsourcing in the industrial setting. Several research papers in the literature addressed the presence of offshore outsourcing enablers; however they failed to depict the intensity or relative significance of enablers. The greatest theoretical contribution provided by this study in the context of offshore outsourcing is the identification of relative significance of the enabler. The current research is a first attempt to use a hybrid BWM-ELECTRE method to assess the enablers that make offshore outsourcing more accessible to companies in the automobile manufacturing industry [7].

- It is very difficult to infiltrate all of the enablers inside an organization at the same time. In order to cope with this, industry practitioners may use assessing the influencing intensity of the enablers to assist them implement offshore outsourcing more effectively. In such situations, it's conceivable that certain enablers have a greater impact on the adoption of offshore outsourcing than others. As a result, practitioners may concentrate on the high intensity facilitators based on their intensities by identifying them. The comprehensive list of offshore outsourcing enablers and their intensities given will assist industry practitioners in removing possible barriers to successful offshore outsourcing adoption [8].
- By analyzing the adoption index of organizations engaged in the automotive industry, this study offers an in-depth insight to managers in the successful adoption and execution of offshore outsourcing projects. This study will help academics and practitioners in emerging economies like India, China, Brazil, and Thailand improve the success rate of their offshore outsourcing decision efforts and create more job opportunities.
- Researchers and practitioners will benefit from the hybrid BWM-ELECTRE method used in this work. When dealing with a big number of enablers with different options, ELECTRE is the best option. The academics are eager to expand their knowledge on how to implement offshore outsourcing projects. Figure 1 discloses the Sensitivity analysis for condition (A) [9].

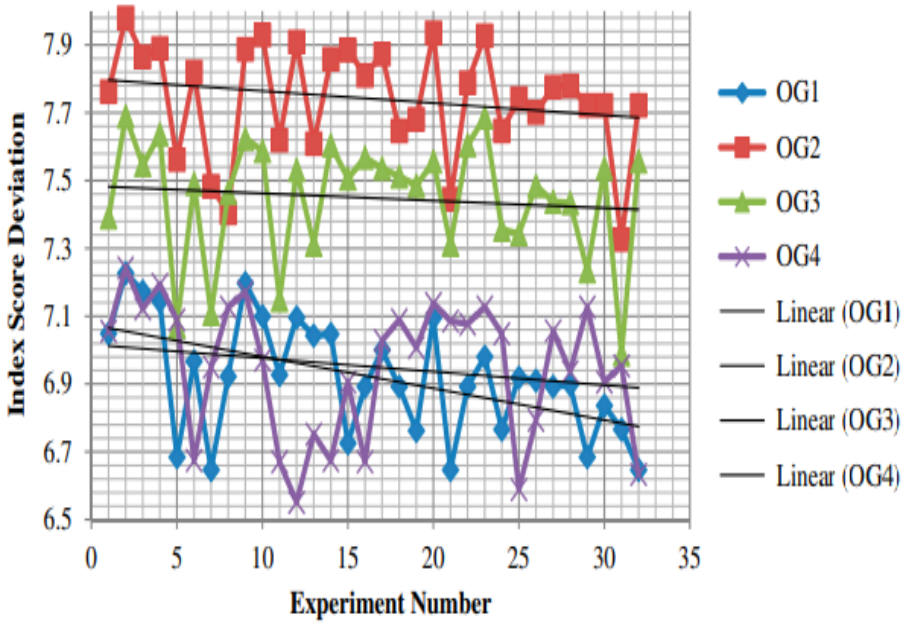

Figure 1: Sensitivity Analysis for Condition (A).

3. CONCLUSION

This paper is a first effort to look at the benefits of offshore outsourcing for companies in the automobile industry. The finalized enablers are assessed using a hybrid BWM-ELECTRE method to provide an offshore outsourcing decision framework. The enabling weights are computed using BWM, and the ranking of automotive case organizations in successful offshore outsourcing adoption is evaluated using ELECTRE. This research also reveals the adoption index score of each established offshore outsourcing choice framework to assist practicing managers. Those managerial and strategic enablers are the most important among the major enablers. Then there are organizational enablers and technical enablers. During the validation process, the framework created in this research had the greatest adoption of 84% and the lowest adoption of 74% across all case organizations. Automobile manufacturers may expand their customer base by improving their organizational index score. Of offshore outsourcing initiatives that will immediately increase the number of qualified experts employed. The sensitivity analysis test is used to ensure that the created framework is stable.

This study will make things easier. Managers and professionals that engage in offshore outscoring efforts benefit from greater cost savings. Increased economies of scale in labor and raw materials, greater sustainable company development, and so on. Despite a thorough study of the literature, it's likely that certain key facilitators affecting offshore outsourcing adoption were overlooked. More studies like these will encourage academics to look at a variety of other aspects of offshore outsourcing. To improve the offshore, the researchers may use aspects of the Internet of Things and Industry 4.0.Organizations in the automotive sector may benefit from outsourcing possibilities. The BWM-ELECTRE hybridResearchers may use the approach-based created decision framework used in this study to evaluate its effectiveness. Applicability across manufacturing sub-domains (electronics & electrical manufacturing, process manufacturing,

etc.)Based on industry objectives and expert feedback this research may serve as a solid basis for offshore outsourcing. Among linked organizations in the automobile manufacturing industry.

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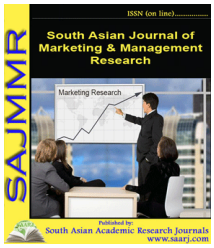

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SELF-MANUFACTURING OR OUTSOURCING DECISIONS IN PREFABRICATED CONSTRUCTION: A MARKET EQUILIBRIUM SUPPLY CHAIN MODEL

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ABSTRACT

Prefabricated construction is a more environmentally friendly option than conventional on-site building. The prefabricated building method, however, still faces many difficulties. Self-manufacturing or outsourcing choices, for example, are critical to the prefabricated building industry's industrial structure and organization, as well as the company's production and operation decision-making. The prefabricated building supply chain in this study is made up of one upstream component manufacturer and two downstream contractors. The big contractor may self-manufacture or outsource the precast component, while the small and medium-sized business (SME) contractor can only purchase components from the component maker. Under various choices, such as component self-manufacturing or outsourcing, a complete game model (Cournot-Stackelberg model) was developed. The equilibrium solutions of production, price, and profit may be obtained by solving the profit functions of various firms in the prefabricated building supply chain. The optimum choice on production and operation, as well as the profit boundary conditions, are indicated by these equilibrium solutions. The profit levels of businesses in the supply chain are evaluated through a dynamic simulation in the changing process of prefabricated construction market size under various behavioral choices once important factors are assumed. The following are the findings: profit levels of all supply chain enterprises and the entire supply chain increase as market size increases, downstream contractors and the entire supply chain have a higher profit level under the component self-manufacturing decision, but upstream component suppliers have a higher profit level under the component self-manufacturing decision. Managerial implications are proposed from the perspectives of extensive publicity, mandatory implementation, strengthening industrial chain integration, and intensifying component factory guidance to promote the development of prefabricated construction, based on the results of the game-theoretic analysis and numerical simulation. Finally, the major issues that should be researched more in the future are given.

KEYWORDS: *Market Equilibrium, Outsourcing Decision, Prefabricated Construction, Supply Chain, Self-Manufacturing Decision,*

1. INTRODUCTION

The building sector has a major effect on the environment, society, and economy. Traditional cast-in-situ building techniques have long been chastised for their low productivity, lack of cost and safety management, lengthy construction time, substantial resource consumption, and enormous waste generation. As a result, sustainable building is critical for attaining global sustainability goals and producing a healthy built environment. Prefabricated building techniques have gained global recognition as a sustainable alternative to conventional construction methods. Manufacturing structural components at factories, transporting structural components to construction sites, and assembling structural components to make a building are the three major stages in the prefabrication process. Prefabricated construction techniques have showed tremendous promise in terms of improving building quality, decreasing construction time, boosting resource usage efficiency, minimizing construction waste, improving health and safety performance, and expanding economies of scale. Prefabricated steel buildings, for example, may save 81 percent in embodied energy and 51 percent in material mass, according to Aye. According to the project utilizing semi-prefabrication technique decreased greenhouse gas emissions by approximately 1.1 tons per 100 m2 when compared to the project using conventional construction methods. Due to the use of prefabricated construction methods, Vance, the largest residential real estate developer in Mainland China, reported that the construction of the Vance Xinlicheng Project in Shanghai reduced energy consumption by 70%, raw material consumption by 50%, construction waste by 40%, and on-site labor by at least 50%.

As a result, promoting prefabricated building is a realistic need for transitioning from the conventional resource/labor-intensive construction mode to a green built environment and long-term growth. In different nations, prefabrication methods have been gradually used in the building sector. Precast concrete solutions, for example, account for 20–25 percent of the building sector in the European Union, and the proportion is much greater in northern European nations, where it accounts for 40–50 percent. Despite the many benefits of off-site building and the widespread popularity of prefabricated construction throughout the globe, prefabricated construction adoption in China remains low. According to the "Deep study report on China prefabricated construction industry investment planning," prefabricated buildings accounted for just 2–3 percent of newly constructed structures in China in 2015 .In the 1960s, prefabricated buildings were first brought to China. However, it has just begun to develop since 2012, as a result of governmental support for the transformation and upgrading of China's conventional construction sector, as well as the Chinese government's promotion of the construction industrialization plan [1].

In the field of prefabricated building, a number of academics have looked at supply chain management. Existing efforts have primarily focused on four aspects: organizational form, information integration and supply chain optimization, building component production and management decision support, and knowledge sharing, all of which have unquestionably contributed to the prefabricated construction industry's better development. Existing research, on the other hand, focuses on identifying specific barriers to prefabrication construction growth, which is insufficient for integrated supply chain management and system thinking. As a result, it is necessary to consider how to promote prefabricated construction from a whole-system perspective, which includes implementing supply chain management to realize the integration

and collaboration of the prefabricated construction industry's main members in the supply chain, resources, and information [2].

This article investigates the prefabricated building industry's organization from a market equilibrium standpoint in the prefabricated construction supply chain. Following the investigation and survey conducted by Sustainability of into prefabricated construction in China, it was discovered that establishing a precast component enterprise necessitates a plot of land, a factory building, advanced production lines imported from abroad, and other factors, all of which necessitate a significant investment. However, due of the unpredictability of market demand and a lack of technological management expertise, most precast component businesses are not effectively managed. This study attempts to address the following research questions using a combination of literature review and field inquiry in the area of prefabricated construction:

Should structural components be precast by creating a self-owned plant or provided by upstream independent component manufacturers for big building enterprises. How can small and medium-sized construction businesses (SMEs) engage in the prefabricated building sector, given that they lack independent component manufacturing capacity. What effect does the choice to self-manufacture or outsource have on the whole supply chain, various businesses, and the prefabricated building industry.

To address the aforementioned questions, this paper examines the prefabricated construction supply chain, which consists of one upstream component manufacturing enterprise and two downstream construction contractors, and develops a comprehensive game model that integrates the Cournot and Stackelberg models (Cournot-Stackelberg model) from the standpoint of market equilibrium. The market equilibrium findings for component self-manufacturing vs. component outsourcing are given. The paper goes on to examine how it affects the organizational structure of prefabricated building by maximizing the profitability of upstream and downstream businesses in the supply chain.

2. DISCUSSION

The remainder of the paper is laid out as follows. Gives an outline of the relevant background. The modeling assumptions and research methods, as well as the complete game model and numerical analysis, are presented in. The findings of the comparative study of the game model and the numerical simulation are discussed in. The management implications for supporting the growth of the prefabrication construction sector are discussed in. Finally, brings the study to a close and proposes research possibilities for the future.SCM may be defined in three ways: as a management philosophy, a collection of activities for putting that philosophy into practice, and a set of management procedures. First, the supply chain is seen as a whole rather than a collection of disparate pieces as a management philosophy, emphasizing the synchronization and convergence of intrafirm and interfere operational and strategic capabilities. Second, various activities, such as mutually sharing information among supply chain members, sharing risks and rewards, cooperation, integration of processes from sourcing to manufacturing and distribution across the supply chain, and building and maintaining long-term relationships, are required to successfully implement the SCM philosophy. The aforementioned actions are part of a coordinated effort known as supply chain management (SCM) amongst supply chain partners to dynamically react to end customer requirements. Third, SCM is defined as the process of coordinating connections, information, and material flow across organizational boundaries. Through coordinated control of the flow of physical products and related information from source to consumption, SCM may provide improved customer service and economic value [3].

The SCM theory was developed in the manufacturing sector and has since been extensively applied to a variety of other industries, including construction, mining, transportation and storage, and property and business services, to increase efficiency and reduce costs. Because the construction sector is extremely fragmented, with major negative consequences such as poor productivity, cost and time overruns, conflicts and disputes, and the resultant claims and lengthy litigations, SCM is seen as a possible solution. The construction supply chain is part of project-based construction management, which differs from the manufacturing industry's process-based production management. Successful SCM techniques have been extensively used in construction project management, according to previous study [10].

The SCM approach is more appropriate in the prefabricated construction management sector than conventional construction management, which is confined to the secondary-level supply chain between the raw material supplier and the contractors. One of the most important features of prefabricated building techniques is industrialization. Prefabricated construction has a more complex supply chain structure than traditional building, for example, component design, prefabrication, and installation may all be combined. Self-development has benefited the component manufacturing industry the most, as it has generated many possibilities, set the groundwork for adopting supply chain management, made adequate use of labor specialization, and formed industrial alliances. However, the component manufacturing company is the weakest market player in the current prefabricated construction supply chain due to a variety of constraints, including a lack of professional technician and management personnel, a large upfront investment for the automated production line, and insufficient production and management experience. As a result, rather than increasing production capacity blindly, component manufacturing businesses should adjust their firm size and growth rate to the prefabricated building industry's development stage and needs [4].

Shifting from "conventional and on-site building" to "innovative and industrialized housing" poses significant difficulties. More measures and government assistance are therefore required to promote prefabrication adoption and better support the prefabricated building industry's growth.

First and foremost, greater government measures in support of prefabricated building are required. On the one hand, prefabricated building must be promoted in order to satisfy market demand in the construction industry. Every year, Chinese central and local governments fund and build a significant number of public housing units to meet the housing requirements of low-income households. To guarantee a particular market size, mandatory regulations may be established to use the prefabricated construction technique in public buildings, government structures, and inexpensive housings. Prefabricated building, on the other hand, may help to enhance the circular economy. Construction component manufacturing that is standardized and industrialized may help to minimize waste of building materials, water, and land, as well as enhance resource recycling. Mechanized assembly construction may significantly decrease labor demand, speed up building, minimize wet activities, and accomplish environmentally friendly construction [5]. Second, it is essential to improve the direction for component manufacturing companies in terms of technical innovation, operation, management, and investment, as well as to collaboratively promote prefabricated building. The process of prefabrication is very complicated [6].

Various prefabricated components have different structures and functions. As a result, coordination and cooperation are critical throughout the prefabricated building process. On the one hand, not only should hardware equipment be imported from developed nations and regions,

but component makers should also resort to sophisticated technology and management expertise. Establishing standards and clarifying investment needs for precast component manufacturers is critical, taking into account the present state of growth and the size of the prefabricated building sector in China. Component standardization and building information modeling (BIM) technology, on the other hand, are excellent techniques for achieving architectural design, manufacturing, and construction synergies. Component standardization, for example, may be used to connect the many parts in the prefabricated building supply chain, thus improving technical cooperation. BIM technology may help to enhance information exchange and transmission across various topics and processes, as well as address issues like geographical constraints, standard discrepancies, and communication hurdles, and boost the coordination of the whole prefabricated building process [10].

Third, for the overall growth of the prefabricated sector, the integration of industrial chains must be enhanced. Market study, land resource development, project design, material supply, component manufacturing and transportation, component integration and assembly, commodity circulation, and property administration are all part of the prefabricated industrial chain. There are numerous embedded dynamic chains for a particular procedure. Product design, staff training, material supply, component production, product design amendment, product testing, and component parts transportation, for example, are all part of the embedded chain in the component production process. As a result, establishing an integrated industrial chain between product design, production, and construction firms can improve mutual complementation of technology, resources, and information while also achieving risk sharing [7].

Fourth, more education and motivation are needed to improve public awareness and understanding of the advantages of prefabricated construction. The successful transition away from centuries-old construction methods necessitates a shift in culture and public perception [8]. More public awareness, for example, through the use of multimedia such as newspapers, televisions, and radios, as well as in various forms such as press conferences, expos, and advertising videos, will inform the public about the benefits of prefabricated construction, such as higher construction quality, improved safety, and a better living environment, and thus stimulate potential market demand for prefabricated construction [9].

3. CONCLUSION

A prefabricated construction supply chain with one upstream component manufacturer and two downstream contractors is examined in this study. The large contractor can self-manufacture or outsource precast components, whereas the small contractor can only buy them. components from the manufacturer of the components comprehensive game model component self-manufacturing or component self-manufacturing model) is established under two decision scenarios, component self-manufacturing or component self-manufacturing model). outsourcing. The output, price, and profit equilibrium solutions are calculated by solving Profit functions in the prefabricated construction supply chain that indicate the best choice on the profit boundary conditions, production, and operation Profit levels are calculated using dynamic simulations that vary market sizes. Prefabricated construction is subject to a variety of decisions. The findings of this research show that: The profit levels of the entire supply chain, as well as all of the businesses that make up it, are rising in tandem with the growth of the economy.

Downstream contractors have a higher profit level under the component because of the market size, and downstream contractors have a higher profit level under the component because of the market size. Self-manufacturing decision than component outsourcing choice, while on the

contrary, self-manufacturing decision Upstream component suppliers profit more as a result of the component outsourcing decision. In the market competition, the SME contractor is at a disadvantage, the equilibrium the output of the small contractor is reduced as a result of the large contractor's outsourcing decision, and when the market is small, there are many risks; however, a higher profit level can be expected. With the expansion of the market Managerial implications, according to the previous analysis are presented from the perspectives of widespread public awareness, mandatory implementation, and strengthening In order to promote the integration of the industrial chain and the intensification of component factory guidance, prefabricated construction is being developed. This paper focused on the prefabricated supply chain's short-term supply chain equilibrium problem. The construction market is still in its early stages. The limited number of people in this stage is one of its most distinguishing features market dominated by big corporations, a market infrastructure that is inadequate, and a lack of support Industries. As the industry's demand grows and the market's size expands, more and more companies are entering the market. Prefabricated construction will include more businesses from various areas of the supply chain. It has the potential to alter the industrial structure and organizational style significantly. Consequently, it isIt is essential to develop a more realistic model based on the current constructed scenario. Market for building Furthermore, choices on component self-manufacturing or outsourcing will be made. For the big contractor, this results in various transaction costs, which will be investigated further in the future.

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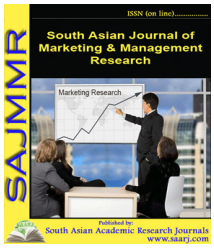

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TECHNOLOGIES AS A FACTOR OF SOCIAL CHANGE IN THE GLOBAL COMMUNITY

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ABSTRACT

Due to serious inaccuracies in the formed concept of the structure of technogenic civilization, the concept of the organic connection between the natural and social sciences and their laws is currently underdeveloped. As a result, within the framework of each discipline, the solution of many problems associated with the development of technogenic civilization in these disciplines is analyzed. Current article discusses the main problems of the technologization as factor of social change.

KEYWORDS: *Technogenic Society, Global Community, Social Change.*

INTRODUCTION

As a result of the transformation of the human mind in a technogenic civilization, not only science, but also philosophy recognizes that it is no longer able to understand the problems of social development. An example of this is the opinion of W. Dizard that Western futurists can no longer "predict the future of their civilizations." [1]. Indeed, philosophers studying the problems of social philosophy recognize that in the context of the current global evolutionary crisis, the specificity of the historical period in which we live can be attributed to any structural type used in the philosophy of history, sociology, political science, economic theory, etc. it is impossible to understand through civilization, formation, modernization, etc.

Materials, Methods and Discussion

This is why modern sociologists say that economists are lagging behind the demands of the times [2]. This is not surprising, because the relationship between globalization and global crises, the old order in human society is also disappearing, the state of chaos is intensifying, and cases of bifurcation are increasing. However, near the bifurcation point, only randomness usually prevails. For example, many did not expect that a society with such a strict totalitarian order as the USSR would disintegrate so easily. Typification of societies, their rational observation,

rational analysis, study, logical conclusions, definition of the laws of development, etc. They can only be used if they have a certain order and stability. This leads to the conclusion that there is no history in the life of society, and its future cannot be predicted. Such views are held, for example, by the Austrian and British philosopher K.R. Popper (1902-1994), the German philosopher G. Rickert (1863-1936), the Russian philosopher and theologian S.N. It was put forward by Bulgakov (1871-1944) and others. They sought to base their views on different approaches: the impossibility of identifying the most important aspects of the historical process, the influence of unexpected scientific discoveries, the impossibility of predicting the extraordinary role of the individual in history. Today, the factor of the global crisis of evolution has been added to this, which has further complicated the problem. Therefore, in the present period, as the Spanish scientist H. Ortega y Gasset (1883-1955) said, who will rule the world tomorrow, what ideology, what rules of life will rule not only for several decades, but also for several years [3]. Even months, weeks, it's hard to tell even before the day. The Russian philosopher L. V. Leskov concludes that "only one thing can be said: if there is no good way out of the current crisis, there will be a global Armageddon in the 21st century" [4].

We know that in the second half of the twentieth century, as a result of the achievements of the natural and social sciences, a new approach to the relationship between an object and a subject, society and a person, various societies began to form. At the same time, in the interpretation of globalization processes based on synergy, the idea that the relations of all countries on Earth should not be expressed through the antagonism of contradictions, but rather, these relations should be based on solidarity, cooperation and unity. It should be noted that the interpretation of the multifaceted development of certain societies in the historical field does not deny modern philosophical views. However, if certain conditions are created for the alternative development of globalization on the planet, as mentioned above, the development of all countries will reach a high level, which will create mutual equality and solidarity between them.

Based on the development of artificial civilization, the laws resulting from chaotic divisions both in nature and in society have become predominant. According to the Austrian-American physicist Capra Fritof (born 1939), "Although the Cartesian scientific worldview had a positive impact on the development of classical mechanics and technology, it had serious negative consequences for many aspects of human development [5]. According to numerous testimonies, many problems in the modern world are associated with the Cartesian worldview. "Due to serious inaccuracies in the formed concept of the structure of technogenic civilization, the concept of the organic connection between the natural and social sciences and their laws is currently underdeveloped. As a result, the definition of solutions to many problems associated with the development of anthropogenic civilization in these disciplines is analyzed within the framework of each discipline. However, given that there are common patterns between the natural and social sciences and the essence of these problems depends on the depth of views on the heuristic foundations and synergetic models of transformation of human consciousness in a man-made civilization, it would be much easier to find solutions. Uncertainties in the study of heuristic foundations [6] and synergetic [7] models of transformation of human consciousness in a man-made civilization led to the search for solutions to various problems within the framework of narrow concepts and endless branching or differentiation of sciences. With a synergistic approach to this issue, it is possible to indicate alternative paths of human development, in contrast to the "path of development" proposed by the West. This is not the growth of subjects at the expense of others, but the simultaneous development of several social systems with their own national economy based on modern technologies. This creates a picture of a multipolar world in

which one of the concepts of synergetics, the phenomenon of bifurcation [8], that is, due to changes in the parameters of dynamic systems, acquires a new quality.

In the current era, when human thought is believed to have reached its highest point in millennia of its development, it is faced with the task of solving global problems that need to be addressed immediately. Scientific and technological progress and economic growth have shaped a new quality of life, ensured a constantly growing level of consumption, and an improvement in the quality of medical services has led to an increase in life expectancy. Many people began to look to the future with great hope, relying on similar events in civilization. However, almost half a century ago, no one could have assumed that a civilization created by man would lead to global decline and that such development would lead humanity to the stage of self-destruction. Environmental degradation, anthropological degradation, the growing process of alienation, the discovery of new means of mass destruction, threats that can lead to a catastrophe for all mankind are the product of anthropogenic development. In our opinion, solving global problems requires, first of all, a radical change in human thinking. Any culture forms the corresponding thinking in people. On the other hand, a person relies on his own thinking for most of his life actions.

The process of forming a healthy worldview in a person is associated with the formation of a worldview that has certain points of contact among representatives of social culture. In our opinion, this task can be solved by the formation of synergetic thinking, which has an all-encompassing basis in humanity [9].

At present, the role of natural sciences in the formation of a new technological image of civilization has increased dramatically. These include physics, chemistry, biology, genetic engineering, molecular physiology, and many other fields. Advances in these sciences create conditions for serious reforms in health care, agriculture, food and pharmaceutical industries in developed countries. In particular, the innovation and business activity of firms developing and using technologies based on advanced scientific developments has sharply increased. The creation and improvement of new technologies in these disciplines has become one of the most lucrative businesses. For example, at the junction of biophysics and plant physiology, a method for express diagnostics of the physiological state of plants was developed. A number of developments have been developed related to the use of laser radiation in medicine, including plastic and cosmetic surgery.

Today, there is also a rapid development of synergetics. Synergetics is becoming an independent branch of not only natural sciences, but also social and human sciences. Modern science has a complex structure. Because experimental and theoretical methods in science have become much more complex. For example, the existing database in the field of synergetics offers completely new approaches to some issues, while relying on a historically formed set of knowledge, their classification and categorization. Among the newest of them are nonlinearity, self-organization, bifurcation, fluctuation, attractor, dissipative systems. In the Dictionary of Contemporary Western Philosophy, synergetics is an interdisciplinary field of scientific research that emerged in the 1970s [10]. In our opinion, even such a definition does not reflect an integral scientific and philosophical picture of synergetics."

The second half of the twentieth century is characterized by two major discoveries in world science, which radically changed the outlook of the entire world community. The first of these discoveries is the understanding that quasi-stochastic modes can exist in certain areas of activity of the identified systems (Lorenz, Arnold, Haken). The second is understanding the possibility of

self-organization in time and space under the influence of random fluctuations in simple systems (Prigogine, Turing, Chernavsky). These discoveries, made taking into account the previous achievements of world science (Poincaré, Landau), limited the natural science paradigm of linear determinism, which prevailed in science since the Renaissance. The science of nonlinear processes is currently experiencing its own phase of exponential growth. In Germany, France, USA, Italy and Russia, the network is growing rapidly. For example, complex nonlinear systems are studied in all major universities in Europe and America. Russian researchers have achieved certain results in this area. In particular, thousands of articles in the world scientific literature are devoted to the chemical reaction discovered by Belousov and Zhabotinsky. Arnold's research on the mathematical theory of chaos scenarios, the study of Krinsky and Ivanitsky's autoimmune modes in the cardiac nervous tissue and the model of intracellular movement and morphogenesis of Chernavsky and Romanovsky caused a lot of controversy.

Nonlinear models are of particular importance in natural science, because living systems are open and thermodynamically unbalanced systems, therefore, the processes occurring in them can only be described using nonlinear equations. At present, world science is focused on finding solutions to the following problems: assessing the state of crisis situations, predicting criteria and an impending crisis, developing scenarios (methods) for overcoming crises in complex systems. The analysis of these problems of science, scientists-researchers believe, develops in close connection with experimental research. In this case, general rules from the field of nonlinear dynamics and mathematical results are used to describe various crisis phenomena. Thus, the general theoretical principles of the theory of nonlinear systems find their real expression in the study of real processes in complex open systems.

Over time, everything will renew itself. Let us assume that as the system of social management changes, it is quite natural that instability or disorder will arise in such cases. In addition, different views and ideas arise in the new society, which emerges from the old society. Even a simple coincidence can play an important role in such a situation. The exchange of such systems in the life of society is relevant in all areas. Take technology, for example. Today, technical progress is one of the most advanced areas. However, in the eighteenth century, technology development and attention was slow. But over time, the growing demand and need for technology led to their development. As a result of the discovery by mankind of a number of new technical areas, technology has progressed.

While the role of technology in the development of society is great, time and time also play an important role. Social development can create various inequalities in society. In the recent past, the countries of the world were divided into rich and poor as a result of inequalities in development and production, instability, colonial rule and the injustices of over-exploitation and distribution of natural resources. It is known that humanity has been trying to master nature since ancient times. As a result of the recent expansion of such actions in the world community, another dangerous situation has arisen - an environmental problem. Soon, these environmental problems, which have arisen since the beginning of the last century, turned into international global problems. Today, as the First President of the Republic of Uzbekistan Islam Karimov noted, "the problem of environmental safety has already gone beyond the national and regional spheres and has become a common problem for all mankind." [11]. But this danger began to be realized much later, in the early seventies. Nature and man interact with each other according to certain laws. Violation of these laws leads to unbalanced environmental disasters. As a result of the violation of these laws, the following serious problems have arisen: lack of fresh water;

pollution of the oceans; drying up of the island sea; catastrophic air pollution; soil erosion; deforestation; Natural disasters. For example, such well-known scientists as S.P. Kapitsa, S.P. Kurdyumov, G.G. Malinetskiy: although they did not try to figure out how to eliminate them and what can be done in the future ... they discovered and ate new sources of energy, but they also created very serious problems, such as disposal of radioactive waste and nuclear terrorism ... they gave antibiotics to humans, while at the same time enhancing the natural selection of harmful microorganisms." [12].

Synergetics highlights the emergence of such problems from a scientific point of view and develops theoretical recommendations. The field "develops the concept of the development of society and reveals a number of fundamental features." Society as a self-organizing system develops from the bottom up, from simple to complex. The role of the human factor in the development or decline of society is important. While the observance of social laws by individuals leads to the development of society, a blind approach to it and the use of these laws in their own interests leads to its decline.

Synergetics provides a scientific justification for the fact that the rapid transition of society into the development process depends on the point of quality change, the appearance of various options in the process of the leap and the "choice" of them [13]. The development of unbalanced systems in the process of development justifies their movement, various violations and the formation of new systems in them. It also shows that there is a close relationship between macro and micro levels in development. "Synergetics mainly explains the nature and laws of physical, chemical and biological phenomena, as well as economic, technical and social processes such as self-organization, self-government, the transition from order to disorder, linear and non-linear." [14]

So far, knowledge and technological mastery of complex systems of self-development determine the strategy of advanced scientific and technological development. Such systems include objects of modern biological technologies, primarily genetic engineering, modern design systems, cultural environment, and others. The analysis of these systems from a synergistic point of view is the basis for the formation of new knowledge in this area. Indeed, there are such opportunities in synergetics.

The depth and seriousness of understanding the humanistic dimensions of the transformation of the human mind requires the study of specific problems that are characteristic of different periods of historical and personal development. Therefore, as a rule, in crisis situations, the solution of this problem is of great importance. The versatility and multi-vector nature of this phenomenon lies in the complex nature of the relationship between people, nations, generations, the acceptance of responsibility for others, the spiritual interdependence of people. It embodies the dignity and humanistic essence of human responsibility. The twentieth century was a period of a qualitatively new understanding of the goals of human life. Changes in the understanding of this responsibility are not accidental. In the past, the absolute human illusion of natural elements and the explosion of the atomic bomb in Hiroshima revealed the other side of this force and became a signal of a catastrophic threat to the future. The second global nuclear disaster is Chernobyl, and the third could be the end of human life. Mr. Jonas notes that all existing global issues can also reflect doomsday elements in and of themselves. The influence of humanity on nature is growing exponentially. The issue of the planetary balance of man and nature has become so acute that even irresponsible actions cause cataclysms of a global nature. It is

imperative, that is, it is responsible for the environment. He affects human nature, rejecting the idea of his immutability and self-respect.

Humanism means treating people with love and affection, respect for them, increasing the material well-being of a person and taking care of the development of high spiritual qualities in people. This concept represents a concern for human dignity, freedom, happiness, equality and the creation of conditions for the realization of all principles of humanity. According to him, the most valuable thing in the world is a person, the whole being, a being should serve a person, his happiness. Caring for the fate of humanity, the interests of the people, the people of the country is the main idea of humanity.

The ideas of humanity have a long history. They are reflected in oral traditions, literature, religious and philosophical teachings of ancient people in the form of dreams of happiness and justice. The ideas of humanity have long been widespread in Eastern philosophy and social thought and are closely related to its centuries-old history. In the works of Central Asian thinkers Abu Nasr Farobi, Abu Raikhan Beruni, Abu Ali ibn Sino, Mirzo Ulugbek, Alisher Navoi and others, the ideas of humanity, human freedom and dignity were put forward. Farobi strove to prove that the coexistence of people in harmony and friendship would bring great benefit to the peoples of the country, and he firmly maintained peace and devoted all his activities to serving man. Navoi made human destiny, the interests of the people, and care for the country his main life goal. He promoted the idea that the most valuable thing in the world is a person. According to him, the whole being, the being should serve a person, his happiness. The ideas of humanity are reflected in world religions, including Islam. He encourages the poor, the disadvantaged, those in need, to be generous.

Humanism is an integral part of the national psyche of the Uzbek people. His nature is inherent in cruelty and violence. During its rich thousand-year history, our people have gone through a lot - culture, science, the joys of the achievements of their statehood, suffering from conflicts, the loss of their best sons and daughters. But neither the game of history, nor the brutal wars, natural disasters and famines have tarnished the human nature of our people. Today, the Uzbek family is full of kindness and light, love for children, respect for adults, sympathy for the grief of loved ones and others. Therefore, in a man-made society, humanity cannot but realize the scale of destructive processes occurring due to their mental activity.

In this sense, ecology, which is the main problem of anthropogenic society, can be characterized as a torment of conscience awakened by humanity, albeit much later. Indeed, tragic events such as the tragedy in Hiroshima, the Chernobyl accident left a deep wound in the human heart, the ozone layer is depleted, the climate is changing, rainforests are being destroyed, fires and floods, land, water, air pollution, tsunamis, chemical and bacterial warfare - such facts are impossible to enumerate, and you no longer need to be a scientist to see them. It's no secret that these processes raise the question of how long we can live on Earth. Because now we are talking not only about the depletion of natural resources, energy resources, poisoning of nature, but also about the loss of the ability to breathe fresh air, clean food in this environment, the disappearance of all rivers, forests, seas, oceans. , land Blue, stony soil is suffering irreparable damage. That is, as human intellectual potential and civilization develop, the more comfortable it becomes, the larger and deeper it becomes, and technology becomes a tool for human self-destruction through the exploitation of nature.

There is also a general anthropological crisis in a man-made society. “The most important of them, as noted by Academician V.S. Stepin is a direct cause of environmental pollution (due to

chemical and radioactive effects) in the gene pool formed over millions of years of human evolution, and the second (microbes and viruses that cause various diseases) are immediate strong changes that occur. However, in human society, the action of natural factors (that is, natural selection) that serve to preserve this gene pool has a certain limit. For example, in wars of choice, mostly healthy and fertile people died. Modern social life, which takes place in a rapidly changing unstable social situation and competition in all spheres, aggravates the anthropological crisis with its own stresses. This leads not only to an increase in cardiovascular diseases, oncology, but also to mental illness.

CONCLUSION

In conclusion, it should be noted that in recent years, such a mental illness as depression (severe depression) has become the most common disease of the late XX - early XXI centuries [15]. Not only philosophers or humanists, but many scientists themselves now admit that civilization has come to a standstill because of these advances, without denying some optimists of scientific and technological advances that still seem to be a positive phenomenon. For example, representatives of the Russian synergetic industry write: “Scientists have more than once transferred to politicians weapons capable of destroying life on the planet, although they did not try to figure out how to lose them in the future and what to do ....” they discovered and consumed new sources of energy, but they also created very serious problems such as disposal of radioactive waste and nuclear terrorism ... they endowed people with antibiotics while improving the natural selection of harmful substances, "microorganisms." [16] However, the restrained intellect of other categories of scientists continues to burn with the desire to create new inventions and technologies that are still unknown, how much more they can sell per human head. Now they are conducting serious research in the field of nanotechnology, machine intelligence, genetic medicine and other similar areas of science and technology, which are of great concern to many scientists, and are achieving significant results.

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6. Heuristic - 1. A set of logical methods and guidelines used in the process of discovering innovations in theoretical research; such a method or methodology theory; 2. The science that studies the processes of productive creative thinking.
7. Synergetics is a theory of self-organization. Defines the need to limit the state of chaos and order. There is also the science of synergetics, which is the doctrine of the universal laws of self-organization, the dynamic development of which can change dramatically in irregular periods.

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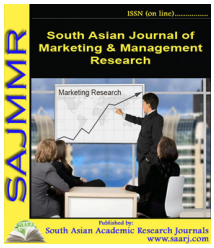

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COOPERATIVE CACHE MANAGEMENT PERFORMANCES WITHIN MANETS

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ABSTRACT

Mobile Ad hoc Network are autonomously structured multi-hop wireless links in peer to peer fashion without aid of any infrastructure network. Due to lack of infrastructure support, each node in network act as router, coordinating to forward data packets to other nodes. Caching of frequently accessed data in ad hoc networks is a potential technique that can improve the data access, performance and availability. A cooperative cache-based data access framework lets mobile node cache the data or the path to the data to reduce query delays and improve data accessibility. Due to mobility and resource constraints of ad hoc networks, cooperative caching techniques designed for wired network may not be applicable to ad hoc networks. The objective of cooperative caching is to improve data availability and access efficiency by collaborating local resources of mobile devices. This paper reviews the various cooperative cache management techniques in the mobile ad-hoc networks.

KEYWORDS: *Mobile Adhoc Networks, Cooperative, Caching, Cache Resolution*

1. INTRODUCTION

Rapid progress in portable computer technologies allows MANET to be used in number of areas such as military application, industrial and commercial areas. Example of Ad hoc Network is a battlefield. Several Commanding Officers and group of soldiers form an Ad hoc Network. Each higher Officer have relatively powerful data center all Officers under them have to access data centers of higher officers to get various data needed by them. Soldiers under these lower rank Officers access data from stores of these Officer[1]. If one Soldier access some data, it may be possible that nearby soldiers share common operation and require same data sometimes later. Such scheme saves large amount of bandwidth, time and battery power. Mobile host cooperate with each other to forward data and mobile host have peer to peer connection among themselves.

There are several characteristics of Mobile Ad Hoc network. Firstly, Mobile devices are frequently disconnected due to mobility or the need to conserve power. Secondly, Devices

employ multi-hop communication through unreliable links, which may cause long Communication delay. Third, Broadcast in Mobile Ad Hoc Network is costly thus traditional cache consistent scheme are not suitable for these networks. Mobile Ad hoc networks are ideal in situations where installing an infrastructure is not possible because the infrastructure is too expensive or too vulnerable. This type of network can communicate with external networks such as Internet through a gateway [2].

1.1. Caching

Let consider a scenario in which mobile devices always retrieve data from the data center. This may result in a large amount of traffic in the MANET. This, apparently, is undesirable as traffic directed tothe data center consumes wireless bandwidth as well as power of mobile devices. In addition, a mobile host suffers from high access latency if it is distant from the data center, and packet loss probability for long-distance data access is high[3]. Furthermore, traffic near the data center will be heavy, and this leads to a potential performance bottleneck. These problems are more pronounced when the network size is large, which results in poor scalability of the system. The above observations motivate researchers to investigate data caching techniques for MANETs.

With data cached in mobile nodes, a data request may be satisfied by a nearby caching site, instead of being serviced by the data center. In many applications, mobile nodes in a MANET share common interests. In this scenario, sharing cache contents between mobile nodes offers significant benefits. Typically, nodes cache data items for serving their own needs[4]. Cache sharing, however, allows geographically neighboring mobile nodes to access each other's cache contents. By doing so, the number of long-distance data accesses to the data center can be reduced. The key to this technique is that a node has to know if there is some node in its vicinity that has cached the data it requires and where it is, if any. One approach to deal with this requirement is to let a mobile node record the caching information about a nearby node while forwarding the data requested by the node.

The caching information can subsequently be used to direct requests for the same data to the caching site. If mobile users around infestations, which have limited coverage, form an ad hoc network, a mobile user who moves out of the range of a particular infestation can still access the data it contains. If one of the nodes along the path to the data source has a cached copy of the requested data, it can forward the data to the mobile user, saving bandwidth and power. Thus, if mobile nodes can work as request forwarding routers, they can save bandwidth and power and reduce delays. Since MANETs are mobile and constrained by limited energy, bandwidth, and computation power, which is a big concern when designing protocols for such networks.

1.2.Cooperative Caching in Mobile Adhoc Network

As we have seen that cooperative caching is helpful to reduce the use of network bandwidth and access time to retrieve the data from the data center. Many researchers provide various techniques in order to retrieve the data more efficiently. Some of the techniques are described here.

1.2.1. Push and Pull Approach

The two basic types of cache sharing techniques are push based and pull based. With push-based cache sharing, when a node acquires and caches a new data item, it actively advertises the caching event to the nodes in its neighborhood. Mobile nodes in the vicinity will record the

caching information upon receiving such an advertisement and use it to direct subsequent requests for the same item. This scheme enhances the usefulness of the cached contents. The cost we have to pay is the communication overhead for the advertisement; an advertisement is useless if no demands for the cached item arise in the neighborhood. In the push-based scheme, the caching information known to a node may become obsolete due to node mobility or cache replacement. The pull-based approach may overcome this problem.

With pull based cache sharing, when a mobile node wants to access a data item that is not cached locally it will broadcast a request to the nodes in its vicinity. A nearby node that has cached the data will send a copy of the data to the request originator (a pull operation)[5]. Unlike pushing, pulling allows the node to utilize the latest cache contents. However, in contrast with the pushing technique, the pulling scheme has two drawbacks:

- In case the requested data item is not cached by any node in the vicinity, the requester node will wait for the time-out interval to expire before it proceeds to send another request to the data center. This will cause extra access latency, and the pulling effort is in vain.
- Pulling resorts to broadcast to locate a cached copy of an item. In addition, more than one copy will be returned to the request originator if multiple nodes in the neighborhood cache the needed data. This introduces extra communication overhead[6]. Another issue of concern is the limited cache space that is available in a mobile node. Hence, a cache replacement mechanism must be in place for evicting data items from the cache to make room for a newly acquired one, when the cache is full. Since cache contents of a node are shared by other nodes, a good cache replacement policy should take into consideration the access demands from the entire neighborhood.

1.3. Cache Resolution

Cache resolution addresses how to resolve a data request with minimal cost of time, energy, and bandwidth. In cooperative caching, the emphasis of cache resolution is to answer how nodes can help each other in resolving data requests to improve the average performance. In COOP the authors give three cache resolution schemes: 1. Hop-by-hop cache resolution 2. Zone-based cache resolution 3. The cocktail resolution scheme for on-demand data access applications, the traditional way of resolving a data request is to check the local cache first and send the request to the server after local cache misses. This scheme is referred to as Simple Cache[7]. This scheme works well as long as the connection to the server is reliable and not too expensive; otherwise, it results in failed data requests or request timeouts.

To increase data availability and reduce the cost in terms of increased data access latency and increased energy consumption, hop-by hop cache resolution allows a node on the forwarding path to serve as a proxy for resolving the request. If a forwarding node caches an unexpired copy of the requested data, it can send a reply to the requester and stop forwarding the data request. The second approach is zone-based cache resolution. This scheme is the extension of the hop by-hop resolution scheme. If a forwarding node does not have the data locally but it knows a closer data source (e.g. by proactive data discovery in its cooperation zone), it can also redirect the request to the closer data source, which also reduces the travel distance of data messages and hence minimizes the energy cost and response delay. COOP uses a cocktail approach based on the basic approaches described above. COOP uses profile based resolution after the local cache misses[8]. If no matching cache is found or the request fails, COOP uses reactive approach to discover the data in its cooperation zone. If this again fails, COOP forwards the data request to

the data server, and hop-by-hop resolution is used to resolve the request along the forwarding path.

1.4. Cache Management

For cooperative caching, the emphasis of cache management is how to manage an individual cache not only from the local node's point of view, but also from the view of the overall cooperative caching system. To maximize the capacity of cooperative caches, COOP tries to reduce duplicated caching within the cooperation zone, such that the cache space can be used to accommodate more distinct data items. In this paper the authors categorize cached data copies based on whether they are already available in the cooperation zone or not. A data copy is primary if there is no other primary copy within the zone. Otherwise, the data copy is secondary. To decide caching priorities of primary and secondary data the inter- and intra-category rules are used.

- The Inter Category Rule: The idea of inter-category rule is to put primary items at a priority level, i.e. secondary items are purged to accommodate primary items, but not vice versa. If the primary copy holder is beyond the zone radius, the new copy is primary copy; otherwise, the new copy is a secondary copy.
- The Intra Category Rule: The intra-category rule is used to evaluate the data items within the same category. For this purpose, here the authors simply adopt the LRU (least recently used) algorithm.

1.5. Limitation of COOP

To improve data availability and access performance, COOP addresses two basic problems of cooperative caching. For cache resolution, COOP uses the cocktail approach which consists of two basic schemes: hop-by-hop resolution and zone-based resolution. By using this approach, COOP discovers data sources which have less communication cost. For cache management, COOP uses the inter- and intra-category rules to minimize caching duplications between the nodes within a same cooperation zone and this improves the overall capacity of cooperated caches[9]. The disadvantage of the scheme is that flooding incurs high discovery overhead and it does not consider factors such as size and consistency during replacement.

1.6.Cache Data and Cache Path

In Cache Data, if a node finds many requests for a particular data item d then data item is cached by the node. For example, in figure 1 both node B and node C request d through node A, node A knows that d is popular and cache it locally. Future request by node D can be served by node A. Suppose the data center receives several requests for d forwarded by node F. Nodes along the path F-C-A may all think that d is a popular item and should be cached. However, it wastes a large amount of cache space if three of them all cache d[10]. To avoid this, authors proposed a conservative rule. That states: A node does not cache the data if all requests for the data are from the same node. As in the previous example, all requests received by node Fare from node C, which in turn are from node A. With the new rule, node C and node A do not cache d. If the requests received by node A are from different nodes such as node C and node D, node A will cache the data.

1.7.Hybrid Cache

In Hybrid Cache, when a mobile node forwards a data item, it caches the data or the path based on some criteria. These criteria include the data item size and the time-to-live (TTL) of the item. For a data item d, the following heuristics are used to decide whether to cache data or path: 1. If size of d is small, Cache Data should be adopted because the data item only needs a very small part of the cache; otherwise, Cache Path should be adopted to save cache space.

1.8.Limitations of Cache Data and Cache Path

As we seen in Cache Data, forwarding nodes check the passing-by data requests. If a data item is found to be frequently requested, forwarding nodes cache the data, so that the next request for the same data can be answered by forwarding nodes instead of travelling further to the data server. A problem for this approach is that the data could take a lot of caching space in forwarding nodes. In Hybrid Cache, when a mobile node forwards a data item, it caches the data or the path based on some criteria. These criteria include the data item size and the time-to-live (TTL) of the item. Because due to the mobility of nodes the collected statistics about the popular data may become useless. One another drawback of these schemes is that if the node does not lie on the forwarding path of a request to the data center the caching information of a node cannot be shared.

1.9. IXP and DPIP Protocols

Two cooperative caching schemes IXP and DPIP. Index Push (IXP) is push based in the sense that a mobile node broadcasts an index packet in its zone to advertise a caching event. The Data Pull/Index Push (DPIP) is a pull based one. DPIP is offers an implicit index push property by exploiting in-zone request broadcasts.

1.10. The IXP Protocol

The idea of IXP is based on having each node share its cache contents with the nodes in its zone. To facilitate exposition, authors call the nodes in the zone of a node M the buddies of M. A node should make its cache contents known to its buddies, and likewise, its buddies should reveal their contents to the node. IXP requires that, whenever a node caches a data item, it broadcasts an index packet to its buddies to advertise the caching event. Each node maintains an index vector, denoted as IV. An IV has N elements, where N is the number of data items in the data set. Each element of IV corresponds to a different data item and consists of three entries that are used to record caching information of the corresponding item.

1.11. The DPIP Protocol

IXP is essentially push based in the sense that a caching node "advertises" the caching information to the surrounding buddies. Each node has a view of the caching status in its zone only. However, due to node mobility and some limitations of mobile devices such as transient disconnections, the caching status represented by IV may become obsolete or not up-to-date. For example, suppose that, according to M's IV, none of M's buddie's caches x. If a new node that has cached x moves into M's zone, the cache status cannot be captured by M's IV with IXP. In the following, we propose a more sophisticated protocol, called DPIP, to deal with this problem. DPIP is basically a pull-based protocol. However, it also exploits an implicit index push property. We now describe the details of DPIP. Similar to IXP, each node maintains an IV vector. When a node M wants to access a data item x that is not cached by itself, it first examines the entry IV[x].

2. DISCUSSION

MANETs are limited by intermittent network connections, restricted power supplies, and limited computing resources. These restrictions raise several new challenges for data access applications with the respects of data availability and access efficiency. In ad hoc networks, mobile nodes communicate with each other using multihop wireless links. Due to a lack of infrastructure support, each node acts as a router, forwarding data packets for other nodes. Most previous research in ad hoc networks focused on the development of dynamic routing protocols that can efficiently find routes between two communicating nodes.

Although routing is an important issue, but the ultimate goal of ad hoc networks is to provide mobile nodes with access to information. In ad hoc networks, due to frequent network partition, data availability is lower than that in traditional wired networks. This problem can be solved by caching data items on mobile hosts. However, the movement of nodes, limited storage space and frequent disconnections limit the availability. By the caching of frequently accessed data in ad hoc networks we can improve the data access, performance and availability. A data management in adhoc network that is based on cooperative caching data access framework lets mobile node to cache the data or the path to the data to reduce query latency and improve data accessibility. Due to mobility and resource constraints of ad hoc networks, caching techniques designed for wired network may not be applicable to ad hoc networks.

3. CONCLUSION

In this paper we have discussed cache sharing issues related to mobile adhoc network environment and give analysis of some popular cooperative caching schemes. These caching schemes are useful in MANET environment. Here we present how these schemes are advantageous in order to find a data item in a MANET by using less resources (e.g. network bandwidth, energy etc.) and improves the performance (data availability and latency time). We also discussed the limitations of these techniques. As the cooperative caching is a useful technique to improve the data availability in the MANET so these analyses will be helpful for the future research.

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A STUDY ON SEARCH ENGINE MARKETING

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ABSTRACT

The foundation for developing assessment procedures, interpreting test performance and adaptive functioning, and formulating treatment and management strategies is provided by conceptual models for psychological variables such as EF. Large-scale confirmatory factor analytical research are needed to uncover common executive components and investigate their inter-relationships in order to validate or alter current EF models. Executive functioning includes both cognitive and behavioral components; yet, cognition and behavior may often be at odds. The functions of distinct prefrontal systems may play a role in the dissociation between cognitive performance and behavior/personality traits. Behavioral manifestations of EDF, for example, seem to be more strongly connected with orbital and ventral medial parts of the prefrontal cortex, whereas cognitive elements of EF appear to be firmly related with dorsolateral sections of the prefrontal cortex. To establish the differences and overlaps between the neurobiological correlates of psychological - behavioral components of EF, further research is needed. Measures that are both ecologically sound and developmentally appropriate are required. EF measurements for children have lacked sufficient validation and trustworthy normative data in the past. Children's exams must be more selective, ensuring that they are relevant, have received sufficient standardization, and have been validated in suitable childhood settings. Given that most cognitive activities involve some level of executive functioning, identifying performance characteristics linked to EF rather than labeling particular measurements as executive or non-executive may be more useful.

KEYWORDS: *Advertising, Internet, Search Optimization, World Wide Web.*

1. INTRODUCTION

'Search is quickly gaining traction as the most powerful internet marketing strategy.' Forrester Research is a market research firm. According to Forrester Research, 80 percent of all Web site traffic originates from search sites (engines and directories). Individuals and businesses alike use

the Internet to do research and make purchasing choices, so having a presence on the online is crucial. Companies have three strategic goals in maximizing their presence on the Web, according to an IDC study, "Web positioning as a crucial e-marketing tool". Visibility on major search sites is essential in the early phases of Official website and market development. This entails being listed in the correct section of a directory listing and search engine results, which are directly related to the company's core target market; generating relevant traffic for direct advertising of specific products and services; as well as the third, more tactical, goal is a company's relative ranking with its competitors. One-to-one marketing interactions are becoming more common as a result of internet technology[1]. On the Internet, the first step in establishing a customer connection is to ensure that consumers and other desirable demographics (such as media) are directed to your site. Web sites must be fine-tuned for search engine indexing and fight for popularity using the following strategies:

- Search engine optimization on-site
- Paid inclusion
- Paid listings and sponsored links

Success is often evaluated in terms of search engine clickthrough rates, customer leads, revenue produced, and, more generally, competition benchmarking and brand recognition and perception.

1.1 Syndication of search results:

When a user does a search on a major online search site these days, they will be greeted with a results page that includes:

- Editorial listings – from a computer-generated database
- Directory listings – from a web directory that has been carefully prepared
- Paid-listings — search ad networks offer company-sponsored links.

While search engines and directories work in distinct ways, they both have capabilities that complement one other. As a result, there has been a lot of consolidation in the search business, as well as a hybridization of search engine and directory technologies on websites. Yahoo, for example, augments their directory results with Google search engine results. Similarly, Google provides Open Directory Project directory entries[2].

Users will have more options and better outcomes as a consequence of this technological integration. Companies are increasingly willing to pay for performance as well as inclusion in search engines and directories. As a consequence, sponsored listings with ad text advertising businesses that offer services or sell goods related to the user's search phrase are common in search results, as seen below. Furthermore, many search engines and directories cross-syndicate listings from other businesses, then refine the results using their own criteria. Some of the world's most popular search sites, such as MSN and AOL, don't really own their search technology; instead, they license it from other sources. Similarities seen while searching across several sites are explained by cross-syndication. MSN, for example, buys directory data from LookSmart but fine-tunes the results using its own editors. With Google search results licensed from Google, the BBC performs something similar. Google is the most used search engine in the world, as according OneStat.com , with a worldwide average user share of 55.2 percent. Yahoo, the world's most popular directory, is the second most popular worldwide search site, with a use share of 21.7 percent: During April and May 2003, a sample of two million visits was split into

20,000 visitors from 100 countries each day for the OneStat study[3]. Figure 1 illustrates the Main Concepts of Search Engine Marketing.

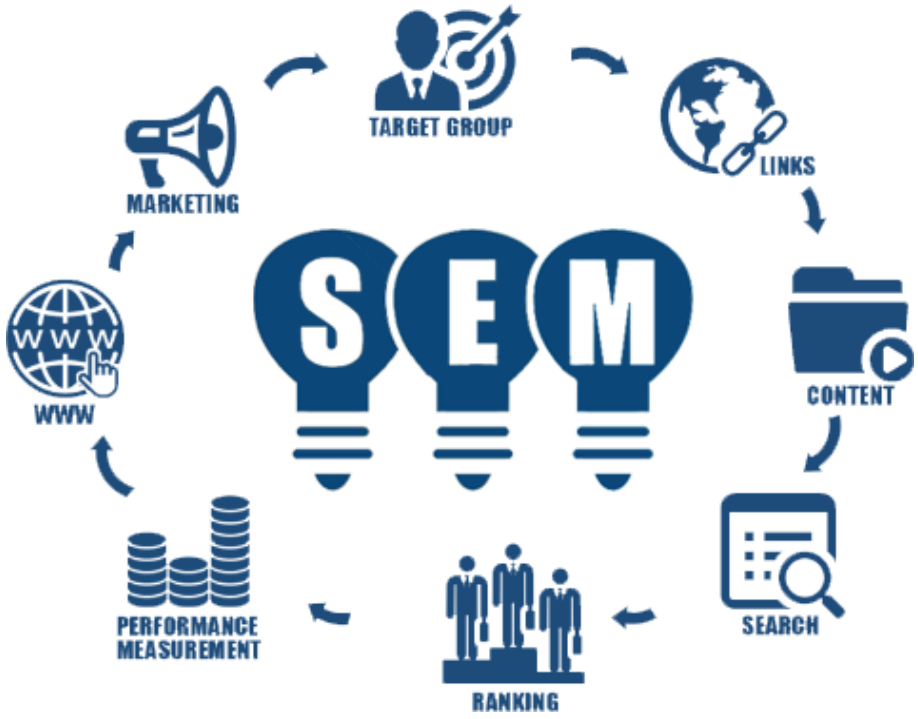

Figure 1: Illustrating the Main Concepts of Search Engine Marketing

1.2 Search optimization:

Google ranks sites based on more than 100 factors, which it continuously refines to keep ahead of unethical optimizers.' 1 July 2003, Financial Times Most websites will use on-site SEO to enhance their search engine and directory rankings before contemplating advertising alternatives. This is a kind of art in and of itself, and as a result, a cottage business has grown up to advise customers on how to effectively optimize their websites for search engines and directories. However, some search optimization experts may use dubious methods that result in short-term traffic gains but severe medium-to-long-term issues, including blacklisting and manual removal of a site from search engine indexes[4].

1.4 Write for the web:

Create succinct content that includes keywords relevant to the intended audience (as identified via the above research). The most essential keywords should be at the top of the page, bolded, or linked to from other pages. The position and frequency of keywords are indexed by search engines, thus such words have a greater weighting than plain text words lower down a Web page[5].

1.5 Links:

Obtain a large number of links from relevant third-party websites. Although it appears in all search engines to some extent, link analysis is at the heart of Google's PageRank and Teoma's search technology. Not all links are created equal: a connection from a respectable site, such as a university Web site, is given more weight than a link from a personal homepage[6].

1.6 URL submissions:

Don't simply hope search engine spiders will discover your site; bring it to their notice – but always verify each search site's rules before making any submissions. In the case of directories, you may only submit a single URL and description for the whole site. Search engines will just need the URL of your site and an email address, but they will index the content of your top-level pages. SearchMechanics and SearchEngineCommando are two of the many submission software solutions available[7].

1.7 Pay-for-performance:

'Sponsored search is the Internet's fastest expanding segment.' Paid search isn't a new concept; it's been around since 1995. However, early efforts were crude, resulting in disgruntled site users being bombarded with useless advertising pitches. Some businesses engaged in dubious tactics that ultimately proved unlawful (such as citing a competitor name in the now largely irrelevant keywords Meta tag field). Paid-for-performance is a growing industry nowadays; according to a study published by US Bancorp Pipper Jaffray in April 2003, the global search market would increase from $2.1 billion in 2003 to $7 billion by 2007.

1.8 Paid inclusion:

Paid inclusion is when a business pays a search engine for the privilege to submit its site (or just a few pages) directly to the search engine's database, allowing the site (or pages) to be seen by searchers more rapidly. Paid inclusion has been around since 2000, although it has only recently gained popularity. The following are some of the benefits for advertisers: it eliminates the time lag that can occur with free[8].

1.9 URL submissions:

where there can be a significant gap of several weeks between the time the URL was first submitted to the search engine for indexing and it actually appearing in the database; search engine crawlers will return and re-index content on your site extra frequently than web sites in the search service; Companies that pay to be included in Inktomi's directory (now owned by Yahoo) can choose to have their site crawled/re indexed every 48 hours; this is especially useful for sites with a wide range of video that cannot be section delivery into a few keywords; paid inclusion does not guarantee higher referrals for expenditure – it only guarantees prompt inclusion in the search results.

The algorithms of search engines make no distinction between free and paid inclusions. Even yet, in search results, sites that have paid for inclusion are not visibly differentiated from those that haven't. Human editors are employed by search providers such as LookSmart and Inktomi to evaluate and catalogue web pages provided by businesses paying to be included — this manual refinement may favor sites that have paid for inclusion and result in better ranks than free editorial listings[9]. As a consequence, some have questioned the validity of such search engine results, which is why Google does not provide sponsored inclusion[10].

2. DISCUSSION

2.1 Paid listing:

Paid listings are brief text ads with links to the advertiser's website that appear in search results displays. Advertisers fight for sponsorship of certain keywords by bidding against one another. Because keyword sponsorship is based on a cost-per-click model, marketers only pay for people who visit their website after clicking on their listing. There is no charge for an advertiser's listing

to appear on the search results screen if they have bid enough to sponsor a certain term. Google, on the other hand, sets minimum click-through rates that must be met in order for advertisements to remain in the results. (On the other hand, if an ad/listing gets a greater click-through rate than other listings for the same sponsored term/keyword, Google will promote it.)

2.2 How keyword sponsorship works is as follows:

An advertiser may bid for certain keywords and promote a link to their website from inside the search engine results via keyword sponsorship.Google is the only search engine where businesses may directly promote sponsored terms. It is essential to use a third-party middleman such as Overture, Espotting, or Findwhat to advertise on other search sites. The benefit of utilizing these third-party sponsored-search providers is that they each have a large distribution network of other internet sites, including search engines, online directories, and major portal and ISP sites, but Google does offer its Adword paid listings on other third-party sites as well. In 1998, Overture (previously known as GoTo.com) started providing paid search engine result pages placement. Its success led Google to launch Google Adwords, a pay-for-placement service, in 2000. They provide advanced web-based buying, reporting, and campaign optimization solutions to marketers (e.g. real-time keyword tracking and auction budget management).

Instead of huge Excel spreadsheet data dumps, pay-for providers are concentrating on improved analytical tools, giving marketing managers with succinct, visual reports on how their campaigns are doing. In January, Overture purchased Keylime Software, a provider of analytical tools, and in the summer, it delivered a significant update to its analytical tools. In addition, Google is expected to release a new version of its AdWords program with enhanced analytical capabilities.

2.3 Sponsorship suggestions for keywords:

More broad keywords will attract more advertisers, resulting in higher bids — the more precise the phrase you're sponsoring, the fewer advertisers you'll be competing against. Because there are more advertisers bidding to appear at/near the top of the results list, generic keywords will be more costly to sponsor than specialized phrases (for example, ‘tax' will be considerably more expensive to sponsor than ‘transfer price'). The click-through rate will vary depending on the search type; for example, a brand name search would usually have a significantly greater click-through rate than a generic product search. Real-time bidding is possible. Advertisers may submit higher bids for their sponsored keywords throughout the week, but then lower their prices later in the weekend.

2.4 Organizing a marketing campaign:

Any large-scale advertising campaign must enlist the help of all of the big pay-for-performance companies. This can create its own set of management issues: each provider will have different editorial rules, such as the number of characters allowed in the title and description fields; some providers count plurals as different keywords, while others don't; some providers allow accented characters, while others don't; providers can also exert control over your keyword relevancy through their editorial review; (see table below). Furthermore, each provider employs various algorithms to automatically analyze ad content, looking for repetitive words (which are all prohibited), excessive capitalization, and trademarked terms and phrases.

3. CONCLUSION

'Google has enormous brand potential and is synonymous with search.' In my first BIR essay, I highlighted how portal sites were attempting to dominate as many parts of the information delivery chain as possible by concentrating on "sticky" characteristics like news and other material. In the late 1990s, search was mostly ignored. Five years later, the success of Google has not only generated a vocabulary of new terms like "google bombing" and "google whacking," but it has also made search the core part of Yahoo's and Microsoft's MSN agendas. Yahoo has invested $2 billion in the past year to compete more directly with Google. Microsoft has been working on developing its own online search engine with huge coffers of US $49 billion. The effectiveness of search engine marketing and the resulting increase in income for search providers is driving these tactics. The search business has long been known for its continuous technical innovation, but there are indications that the industry is maturing, with Google, Yahoo, and perhaps Microsoft overtaking far smaller competitors like Ask Jeeves. Some businesses have completely vanished from the market, while others, such as Lycos and AltaVista, have faded into shadows of their former selves. Should this growing commercialization worry information consumers who utilize search engines to find relevant information sources in the digital quagmire that is the Internet? No, it's not true. Search companies are well aware that search, not other "sticky" features, is the most important service they offer to their millions of customers. They're currently concentrating on continuously improving and broadening the scope and emphasis of their search indexes. Because a growing number of individuals and businesses utilize the Internet to investigate and influence their buying choices, search ads work. This commercial role has funded for upgrades to fundamental search technology, which has benefited everyone.

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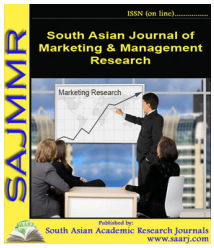

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IMPACT OF MOVIES ON TEENAGERS

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ABSTRACT

Films now account for a large amount of people's media consumption. In Russia, cinema is viewed as a tool for personal and social transformation, contributing to the construction of the Russian audience's viewpoint, as well as their views toward current social concerns. Simultaneously, psychology science continues to debate the effectiveness of cinema impact. Our goal was to gather new evidence on the beneficial impact of films based on particular experimental research, according to the empirical orientation of our approach to the study of mass media influence. The goal was to see if there were any changes in attitudes toward current social concerns among young people, who were the most engaged watchers. Respondents rated their various features before and after seeing the film using a psychosemantic technique that includes 25 items meant to identify attitudes towards senior persons. Significant changes were discovered using a variety of criteria from the motivational, emotional, and cognitive domains. At the same time, significant discrepancies between undergraduate and postgraduate students' judgments of the elderly were discovered. Postgraduate students' opinions about senior persons improved after watching the film, however undergraduate students' negative perceptions worsened. Individual differences among respondents, such as age, educational status as an indicator of individual psychological qualities, and other factors, can explain the opposing tendencies discovered engagement with senior citizens and, as a result, attitudes about senior citizens before beginning to view the film.

KEYWORDS: *Attitudes, Elderly People, Influence of Mass Media, Impact of Films, Psychology of Cinema.*

INTRODUCTION

The number of people who watch movies is steadily increasing. The majority of individuals, particularly teens, are addicted to going to the movies. There are numerous benefits and drawbacks of viewing movies. A new film costs tens of billions of dollars to make and direct. Movies are a popular form of entertainment. When we watch a movie, we enter another world,

forgetting about our troubles and putting our minds at ease. Everyone, rich or poor, literate or illiterate, young or old, requires some form of relaxation. Watching a movie gives an avenue for recreation, which is a vital element of everyone's life. Many patients have benefited from laughter therapy because to good humorous films. Adventure films have instilled in us a desire to explore new horizons. There are plenty others! There are many behaviors and traditions in our society that are founded on ignorance and have stifled our society's advancement. Some of the films have moral significance, while others do not.

The majority of the film is devoted to love stories. Teenagers' minds are changed by love stories, and they will mimic the actor's or actor's actions in the film. Seeing a movie in a theater has an impact on how you connect with your family. The majority of individuals firmly agree with this point. This is because if teenagers become addicted to going to the movies, they will forget to return home. They will spend the majority of their time at the movies, which will have an impact on the wonderful bond that exists between parents and children. It will also have an impact on youngsters, influencing them to engage in unhealthy practices.

The film has a significant influence on people's minds. It is quite educational. It has the potential to produce excellent results in the sector of educational expansion. Certain disciplines, such as physics and geography, can be taught more successfully with the use of talking pictures. With the use of cinematic images, lessons on road awareness, hygiene regulations, and civic sense may be taught to students and the general public in a highly effective manner. Many successful trials on the use of films as a form of teaching have been conducted in a variety of countries. Feature films have been made for educational purposes, and they benefit college students and students.

Cinema can influence people's opinions on specific issues without affecting more stable constructs: for example, the film "JFK," about the assassination of John F. Kennedy, influenced audience judgments about the causes of the crime but did not change their political beliefs in general, at the same time, the films "Argo" and "Zero Dark Thirty" changed viewers' opinions about the United States government. Films evoke visions of other countries and arouse interest in them. Films have a variety of good benefits on children and teenagers. Dramatic films taught teenagers about social interaction with people of the opposite sex and adults, had a positive impact on their self-concept, and, as evidenced by experiments, increased ethnic tolerance; humanistically oriented films improved children's communication skills, as well as their desire to help and understand others. For example, European films affected young viewers' perceptions of other European countries, according to findings from an interview and focus group research of the role of films and series in the daily lives of young Germans.

Another study found that the more viewers were engrossed in the storylines, the more positive views they had of the locations depicted in the films, regardless of whether they were violent, terrifying, or happy. Cli-fi movies, for example, are a prime example of positive influence since they clearly depict what we might expect in the near future and provide opportunities to think about what can be done to avoid the direst forecasts. Viewers acknowledged their responsibility for the Earth's ecology and the need to modify consumer attitudes toward nature after seeing the film "The Day After Tomorrow". In general, film screenings on climate issues result in an increase in internet demand and media coverage of these issues. It should be emphasized that while studying the influence of films, conclusions on their effectiveness are based on a variety of analytical approaches, each with its own set of benefits and drawbacks.

On large data sets, content analysis reveals the images, attitudes, and stereotypes broadcast by films. however, questions about the effectiveness, strength, and sustainability of the audience impact remain. A survey of viewers can be used to evaluate the impact of films, and conclusions can be reached regarding the links between a person's attitudes and their viewer experience, as in the research of gender attitudes and their relationships with teen movie-viewing habits .Exposure effects are detected in experimental studies using pre- and post-film questionnaires, however, the time interval between testing and a film screening, such as a few weeks before viewing the film or a few days after, can lead to distortion of the results due to the influence on the viewers' attitudes of other factors besides the film; moreover, it is usually a few weeks before viewing the film or a few days after . The effects of films are frequently studied in experimental settings where participants watch only brief edited sequences from current films, limiting the results' generalization[1].

When it comes to picking which films to let their children to see, parents are at a loss. They intuitively understand that some viewing experiences are enjoyable while others may be damaging. Anecdotal and scientific evidence has long demonstrated the negative impacts of television, movie, and video game violence on children. Aggression, desensitization, fear, and negative messages are the four main impacts[2].

Media and film have a greater influence on our society nowadays. Every day, we encounter instances that appear to have been influenced by the films that the kids watch. We can always see the young generation today dancing on the street with their phones, iPods, tapping in their hands, and headphones on their ears, sometimes not even knowing what is going on around them. Movies can have both beneficial and harmful effects on young people[3]. Figure 1 is illustrating the positive and negative impacts of movies on kids

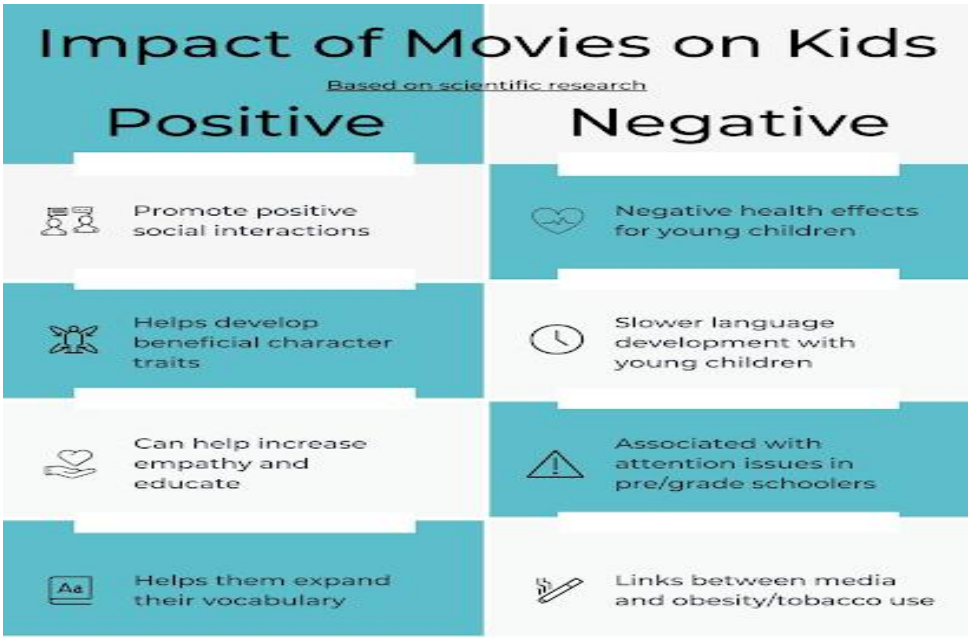

Figure 1: Illustrating the Positive and Negative Impacts of Movies on Kids

DISCUSSION

The movies provide a fun weekend pastime for teenagers. Young people between the ages of 12 and 24 account for over 35% of all cinema ticket sales. Cinema can help a teen's imagination

grow by transporting them to a new area they have never visited before. Movies can open people's eyes to what's available to them and to the challenges that exist in our world. Positive Attitude and Motivation Six/Eight Packs, Out-of-the-Box Thinking, and Weight Loss ,Therapy & Health Mental sadness, frustration, mood swings, fatique, and stress can all be treated with health films[4].

Youths mimic their movements, clothing, speech patterns, and mannerisms. Many criminals have admitted to committing crimes simply by watching moviesThe truth is that youth who spend a lot of time in front of the television or in movie theaters waste their time in a realm of fantasy and hollow dreams. Ambitions are a long way from reality, and they fail to conform to life's circumstances. They are quickly disillusioned when they discover that they are unable to achieve their goals[5].

People can be made aware of societal injustices such as child labor, caste, robbery, murder, and many other social evils through cinema. Because the young are not motivated by set ideals, they are adaptable to change and can effect desirable changes in society.Lonely, depressed, angry, or embarrassed people are the cause of a successful or unsuccessful effort to purposefully kill oneself. We discovered that 60% of high school pupils have considered suicide as a group[6].Every 17th minute, someone commits suicide. Suicides are commonly committed via self-inflicted gunshot, suffocation, poisoning, or drug overdose.Today, we can observe that the youth have adopted Shahrukh, Salman, and Sanjay Dutt's smoking habits in their flicks. The youth were ecstatic to be able to puff like these celebrities. Movies can occasionally portray the incorrect solution to an issue. After an advertising ban, the number of tobacco brands in Indian movies virtually tripled. Despite vows from the film industry to self-regulate cigarette advertising on screen[7]–[10].Figure 2 is illustrating the Effects of Bad and Good Manners of Teenagers.

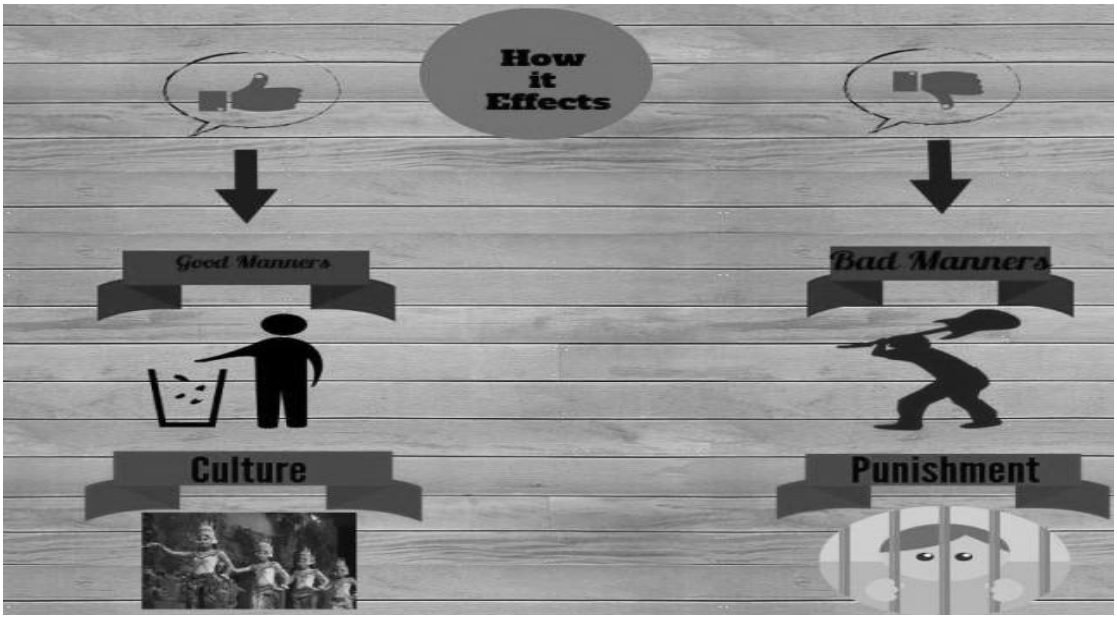

Figure 2: Illustrating the Effects of Bad and Good Manners of Teenagers

CONCLUSION

Changes in viewers' opinions after viewing the film were identified as a result of research. After seeing a film on the elderly, young people's perceptions of their regulatory, cognitive, and emotional qualities changed. At the same time, significant disparities in student and postgraduate student assessments of the elderly were discovered. Students' negative sentiments toward elderly persons worsened after watching the movie, whereas postgraduate students' ratings improved. Individual differences between respondents, such as age, educational status as an indicator of individual psychological characteristics, experience of interaction with elderly people, and, as a result, attitudes toward elderly people at the time before watching the film, can explain the revealed opposite trends. The majority of the immediate improvements in viewers' opinions seen after watching the film did not persist over time.

In summary, the study confirms the possibility for a good impact, such as enhancing postgraduates' attitudes, but it also demonstrates the necessity to account for individual differences in viewers in order to achieve desired outcomes. Disparities in attitudes prior to watching a film, in particular, are likely sources of differences in the effectiveness of the film's impact.

The pupils' initially negative attitude about elderly people may have contributed to the film's detrimental impact on them. The findings serve as the foundation for further research and raise important questions such as determining the role of individual differences in the effectiveness of the impact, forecasting the positive impact of films on various groups of people, and determining the mechanisms of change sustainability.

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AN OVERVIEW ON MEDICAL WASTE MANAGEMENT

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ABSTRACT

Medical waste management is examined in this article, covering typical sources, regulating laws, and treatment and disposal techniques. Medical waste law exists in many industrialized countries, however there is limited guidance on whether items may be classified as contagious. Because of the lack of clarity, sorting medical waste has become inefficient, resulting in an increase in the amount of trash treated for pathogens, which is often done by burning. This study shows that incorrectly classifying trash as infectious leads in greater disposal costs and more negative environmental consequences. The study indicates that improved healthcare worker education and standardized medical waste stream sorting are important routes for effective waste management in healthcare institutions, and that further research is needed given the tendency of growing medical waste generation with rising world GDP.

KEYWORDS: *Healthcare, Infectious waste, Medical waste, Separate collection, Waste management.*

INTRODUCTION

Medical waste management is one of humanity's many complicated and demanding problems as the world's population grows and demand for medical services rises. The World Health Organization (WHO) defines medical waste as "waste produced in the diagnosis, treatment, or immunization of humans or animals." Medical waste that is not properly managed and disposed of poses a high danger of illness or injury to healthcare workers, as well as a lower risk of infection or harm to the general public due to the spread of microorganisms from healthcare facilities into the environment.

The disposal of medical waste is a massive problem. The United States, as the world's leading producer of medical waste, produces approximately 3.5 million tonnes each year, with an

average disposal cost of $790 per ton. Medical waste generation is rapidly increasing in the developing world as access to medical services improves, allowing an increasing number of people to obtain contemporary medical treatment. The shift away from multi-use medical equipment toward safer, single-use medical gadgets is increasing medical waste generation in developing countries. The quantity of medical waste that has to be safely disposed of in developing countries is rapidly increasing as a result of these combined developments. A rapidly aging population is the primary cause of growing medical system consumption in the industrialized world, and this rising medical system usage is resulting in a rise in medical waste generation[1]–[5].

Medical Waste:

Medical waste is defined as "any solid waste produced in the diagnosis, treatment, or vaccination of human beings or animals, in related research, or in the manufacture or testing of biologicals" under the United States Medical Waste Tracking Act of 1988. The World Health Organization (WHO) estimates that 20 percent of these medical wastes include hazardous compounds, which may be infectious, poisonous, or radioactive. However, there is no internationally agreed-upon definition of medical waste, which presents a comparative difficulty since differing definitions make it impossible to draw meaningful comparisons across nations, or even between areas within countries. Furthermore, as described later in this study, the lack of a common definition of medical waste has resulted in a lack of standardization of medical waste streams and disposal receptacles[6], [7].

Medical Waste Generation:

The quantity of medical waste produced at various healthcare institutions is obviously of interest, and many studies have been conducted on the topic. Many variables influence the volume and composition of medical waste created, with one research focused on Italian hospitals showing that the kind of sanitary service provided had a significant effect on the amount of infectious waste produced. According to the research, short-term patients in rehabilitation services produce up to 52 percent of all infectious medical waste, followed by analytical labs (23 percent), operations (14 percent), dialyses (7 percent), and first aid (7 percent) (4 percent). In a comparable research conducted in Taiwan, the dialysis unit was found to produce the most infectious medical waste (23%) followed by the intensive care unit (17%), emergency care unit (17%), and outpatient clinic (17%). It is important to adopt a standard foundation for quantification when assessing medical waste production so that data from various areas can be compared. The sections that follow provide a study of medical waste generation for various nations based on a variety of variables.

The Application of a Waste Production Metric:

It's difficult to choose an acceptable measure for comparing healthcare facilities and levels of medical waste generation. The most common measure for calculating the quantity of medical waste produced at a hospital is to take the total kilos of trash generated each day and divide it by the number of occupied beds. This results in kg/bed-day, a metric that attempts to adjust waste generation in hospitals for both the number of illnesses treated and the severity of patient maladies, as a single patient with a serious illness may occupy a hospital bed for many days, whereas a patient with a less serious injury may only occupy a bed for a few hours[8]–[10].

Practices in Use:

This section provides a quick summary of current infectious medical waste disposal methods, with an emphasis on those used in industrialized countries. This overview is broken down into three parts: trash collection at the healthcare institution, transportation to the treatment site, and final treatment and disposal.

i. Collection and Separation of Medical Waste:

Waste is usually divided into color-coded bins or bags in hospitals and other healthcare facilities, with each receptacle denoting a particular waste stream or waste category. The color assigned to each waste stream, as well as the kinds of trash that go into each stream, differs by area, with some utilizing the source of waste as a foundation for sorting, while others use the probability of pathogenicity of an item to decide its disposal waste stream. Because of the absence of uniformity, it is difficult for healthcare personnel to sort trash effectively, and they tend to err on the side of caution, discarding items in the infectious waste stream and generating excessive infectious waste production.

Indeed, most academic studies have shown that the majority of hospital trash is non-infectious, allowing it to be disposed of in municipal landfills and recycling programs. This incorrect sorting has serious consequences, since infectious trash has a large cost premium to dispose of. In the United States, for example, infectious waste disposal costs $0.79 per kilogram, a 560 percent premium over the average non-infected waste disposal cost of $0.12 per kilogram. In the United Kingdom, average infectious waste disposal costs are about £0.45 per kilogram.

ii. Transportation of Medical Waste:

Medical waste transportation refers to the transport and processing of trash from healthcare facilities to treatment locations, which may be on-site at a hospital or off-site at a central facility. The treated waste residue, usually ash from an incinerator or trash sterilized via autoclaving or microwaving, is transported to a landfill for ultimate disposal in a second transportation step. It is standard practice for healthcare institutions to have their infectious waste stream transported by a third-party company that has been hired to transport the trash from the facility to an authorized waste disposal facility. These companies collect trash from a few key locations across a healthcare institution and transfer it to a disposal site that can properly handle medical waste. However, there are problems with the trash disposal contracting procedure.

The employment of third-party trash disposal companies presents a problem in terms of incentives, since waste disposal companies, or the people who work for them, may make significant amounts of money by illegally disposing of garbage. In industrialized nations, medical waste disposal costs are very expensive, with hospitals in the United Kingdom often paying more than £450 per tonne for contractors to dispose of their medical waste, and hospitals in the United States routinely spending $790 per tonne. These high costs encourage third-party medical waste haulage companies to dispose of medical waste without treatment in unregulated and less costly methods rather than transporting it to a professional sterilizing facility. Waste truck operators in Ireland may make over $2000 by unlawfully dumping a truck full of medical waste instead of transporting it to a licensed disposal facility, providing a significant incentive for illegal dumping. Illegal medical waste dumping is becoming more common in developed countries, and it may be especially problematic if the country's infectious medical waste monitoring system is inadequate. Illegal dumping is a major problem since these untreated infectious waste deposits pose a public health concern owing to the possibility for disease

release, as well as a drain on public money because medical waste cleaning expenses are very expensive.

iii. Medical Waste Disposal Methods:

The safe disposal of contagious medical wastes is a major issue, according to the WHO, which states that "at present, there are virtually no ecologically acceptable, low-cost alternatives for the safe disposal of infectious wastes." According to research, 49-60 percent of medical waste is burned, 20-37 percent is autoclaved, and 4-5 percent is handled using alternative technologies in the United States. However, worries about air pollution have raised doubts regarding incineration's appropriateness as a treatment technique. Furthermore, medical trash includes considerably more plastic than normal municipal solid waste, resulting in the production of polychlorinated dibenzo-pdioxins (dioxins) and polychlorinated dibenzofurans (furans), both extremely hazardous chemicals, when medical waste is burned. As a result, alternative treatment techniques such as autoclaving and microwaving to destroy any germs present have become more popular.

Current Incineration Disposal Issues:

In industrialized countries, the most common way of disposing of infectious medical waste is incineration, which involves burning the wastes at very high temperatures until only ash remains. After that, the ash is sent to a landfill and buried. Incineration offers the advantages of guaranteeing sterilization by reducing infectious waste to an unrecognizable ash, as well as decreasing trash quantities, which lowers transportation and disposal expenses. The release of unwanted chemicals into the atmosphere is, however, a significant disadvantage of the medical waste incineration process. In most industrialized countries, incinerator emissions are strictly controlled due to the nature of infectious healthcare waste, which generates hazardous gases in significant amounts when burned. Dioxins, furans, and mercury are the three most dangerous toxins produced by medical waste incineration.

i. Emission Standards for Incinerators:

In November 1990, when the United States Congress enacted changes to the Clean Air Act, setting emission limitations for dioxins, furans, and mercury, among other pollutants, healthcare waste incineration regulations in the United States became tougher (Hg). Because the new limitations in the act were based on the greatest possible pollution reduction via control technology, these amendments to the Clean Air Act were designed to promote the use of pollution control equipment on source exhausts. After the EPA published its 1994 inventory of dioxin emission sources, which identified healthcare waste incinerators as the largest source of dioxin and furan emissions in America, American laws focused on emissions from municipal and healthcare waste incineration. Based on the EPA's findings and their own studies, most industrialized countries have tried to decrease dioxin and furan emissions from trash incineration, following the American lead.

ii. Emissions from Incinerators:

- *Emissions of dioxins and furans:*

The production of dioxins, furans, and similar chemicals during the combustion process is one of the main problems connected with the burning of infectious waste from healthcare institutions,

according to research. Dioxins are organic compounds that have four to eight chlorine atoms replaced for hydrogen atoms on the benzene rings and are linked by two oxygen atoms. Dioxins are very persistent poisons that have a half-life of 7-11 years in humans and are mainly caused by human activities. They're known to be extremely carcinogenic and to damage human reproduction. Furans are structurally similar to dioxins, but they only contain one oxygen atom between the two benzene rings, yet they're just as deadly. The word dioxin will be used throughout this article to refer to dioxin, furan, and related chemicals.

- *Mercury emitted:*

In North America, trash incineration, both medical and municipal, is projected to account for 13% of anthropogenic mercury emissions, second only to coal combustion (at 55%) as an emissions source. Infectious medical waste incinerators are thought to be responsible for 9% of yearly mercury emissions in Canada. Furthermore, trash incineration accounts for at least 3% of worldwide anthropogenic mercury emissions. Because airborne mercury may easily enter the body via the lungs and deposit in fatty tissue, atmospheric mercury emissions represent a major health and environmental danger. This is worrisome since high mercury levels in the body have been linked to neurological, excretory, and reproductive system harm.

DISCUSSION

Medical trash is disposed of after it has been sterilized to make it safe to handle. Even non-recyclable waste, such as gauze or needles, must be rendered hygienic and non-hazardous before being disposed of. An autoclave is often used for this procedure. Medical waste is divided into four categories: infectious, dangerous, radioactive, and general. Highly infectious waste is defined as cultures and stocks of highly infectious agents trash from autopsies, animal corpses, and other waste materials that have been inoculated, infected, or in touch with such agents. Biomedical waste is often burned. An autoclave sterilizes trash or reduces its microbial burden to a point where it may be safely disposed of using steam and pressure. Many healthcare institutions utilize an autoclave to sanitize medical items on a regular basis.

CONCLUSION

Medical waste disposal is a subject that needs more research in order to satisfy the increasing worldwide demand. Medical waste output is growing as a result of rising healthcare use, which is placing strain on existing disposal systems due to a number of reasons. Current waste disposal methods include sorting trash at the point of disposal inside healthcare institutions, transferring infectious medical waste to a safe disposal location, where it is treated by incineration or autoclaving, and the leftover product is land filled. Both incineration and autoclave treatment have disadvantages, with incineration not producing harmful atmospheric emissions that have negative health and environmental consequences, and autoclave treatment not being able to handle all types of waste or producing a treated product that is universally accepted at landfills. The greatest approach to reduce the impact of medical waste is to generate less of it, and one of the most effective ways to do so is to guarantee that only contagious medical waste is sent for treatment; all other hospital trash should be handled like municipal home waste. Better training of healthcare personnel, as well as the adoption of standardized medical waste streams and disposal bin colors, may help achieve this.

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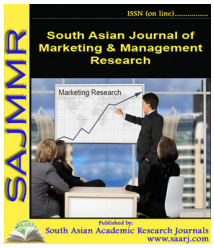

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PSYCHOLOGICAL EFFECTS OF ONLINE BULLYING AMONG TEENAGERS

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ABSTRACT

Bullying and cyber bullying are prevalent across the globe, and they have severe ramifications for both people and communities. Despite the fact that the quantity of research papers on the subject has grown dramatically throughout the course of history, many concerns about the phenomenon remain unresolved today. In spite of the fact that technology offers many advantages to young people, it also has a dark side,' in that it may be exploited to do damage not just by certain adults, but also by young people themselves. Email, texting, chat rooms, mobile phones, mobile phone cameras, and online sites may all be used by young people to harass their classmates, and in fact, they often are. It has now become a worldwide issue, with many instances recorded in the United States, Canada, Japan, Scandinavia, and the United Kingdom, as well as in Australia and New Zealand, among other countries. Although it is becoming more prevalent, this issue has not yet gotten the attention it deserves and is practically missing from the study literature. This article examines definitional problems, the prevalence and potential effects of cyber bullying, as well as various preventive and intervention methods, all of which are discussed in detail.

KEYWORDS: *Bullying, Cyber bullying, Symptom, Teenagers, Victims.*

1. INTRODUCTION

Bullying has not traditionally been seen as an issue that required treatment, but rather as a basic and natural aspect of childhood that must be tolerated. The perception of schoolyard bullying has shifted in the past two decades, and it is now seen as a serious issue that requires attention and intervention. In our society, bullying has been around for a long time, starting in the playground and often continuing to the boardroom. It may be described as the harsh treatment of a person via the use of force or compulsion to get their consent. It is characterized by violent behaviour that is repeated over time, is deliberately destructive, and happens without prompting or provocation. In addition to physical acts such as striking, punching, and spitting, bullying may take place via

verbal attack, taunting, mocking, ridiculing, sarcasm, and scapegoating. Bullying can also take place through social media platforms. It necessitates the presence of a minimum of two individuals, one of which is the offender and the other the victim.

A huge number of individuals, on the other hand, may be engaged in an indirect way, such as an audience. These bystanders may be other kids who are present during the bullying incident but do not participate. They are often fearful of being the next victim if they intervene in the situation. They often express a sense of helplessness and a lack of self-respect and self-confidence[1].Nevertheless, in recent years, a new kind of bullying has developed, one that takes advantage of the wide variety of technological resources that are now accessible. Cyberbullying, as defined by Canadian Bill Belsey, is defined as bullying that takes place via the use of technology. It is a phenomenon that children and teenagers are increasingly using to do damage to others. Bullies are increasingly turning to modern mediums such as email, text messages, chat rooms, mobile phones, mobile phone cameras, and online sites to harass their victims.

Examples of methods include texting disparaging messages on mobile phones, with students displaying the message to others before sending it to the target; sending threatening emails; and forwarding a private email to all address book friends, thus publicly shaming the person who sent it. Others form a group around a single kid and send him or her a barrage of threatening emails. Another method of cyber bullying is to create a disparaging web site devoted to a particular student and then send out the web URL to other students, encouraging them to comment. Additional websites may be created to allow people to vote on who they think is the biggest nerd or the sluttiest female at their school[2].

In one well publicized instance, a self-produced video of a 15-year-old Quebec kid imitating a Star Wars battle was uploaded to the Internet by his peers and quickly went viral. The video was downloaded by millions of people, and the media dubbed him "the Star Wars Kid" as a result. Another instance occurred in which an overweight kid was photographed in the school changing room using a mobile phone camera and the image was then uploaded on the Internet. Chat rooms are another venue where cyberbullying may take place, with members disparaging a targeted student or excluding them on a regular basis.The Internet has been characterized as changing society since it allows for person-to-person contact, similar to that provided by the telegraph and telephone, as well as serving as a mass media medium, similar to that provided by radio and television prior to its introduction. A variety of studies have shown that human behaviour on the Internet and associated technology, such as mobile phones, may have both good and harmful effects[3].

Several positive features, such as the ability of socially nervous persons to speak more effectively and deeper self-disclosure between people, have been asserted. However, there have also been reports of negative effects of this technological usage, such as the promotion of antisocial behaviour and an increase in loneliness. Faster communication and easier access to information are seen as positive attributes, but the Internet also has a "dark" side, with the availability of child pornography as well as the use of technology to harass children.

1.1 Incidence:

Face-to-face bullying by classmates in school has been shown to be a common occurrence for many youngsters, according to a number of student surveys. One in every six youngsters' reports being bullied at least once a week, but the number may be as high as 50 percent if the bullying is considered to have lasted for just one week. Similarly, in another research, 40 percent of

teenagers said that they had been bullied at some point throughout their school years. On the other hand, the proportion of children who have experienced longer-term bullying of six months or more falls to between 15 and 17 percent, depending on the school.

In recent years, young people have become more reliant on technology, with Australians regarded as early adopters and young people referred to as "the digital generation." Children and teenagers in the United Kingdom have utilized the Internet at rates ranging from 7 percent to 16 percent, with young people indicating that they combine online and off-line contact in order to keep their social networks alive[4]. In a study conducted by the National Children's Home in the United Kingdom in 2002, one in every four children reported being bullied via mobile phone or the Internet, and in an Australian study of 120 Year 8 students, more than a quarter stated that they knew someone who had been bullied using technology. Interestingly, when students in England were asked if they had received threatening email or text messages while at school, the numbers were somewhat lower (6 percent). Researchers in the United States found that 15 percent of their sample described themselves as Internet bullies, while 7 percent said that they had been targeted on the internet by bullies themselves.

This contrasts with the Brisbane kids, who described themselves as cyber bullies and almost 14 percent as targets, with 11 percent of them identifying themselves as bullies. In both the United Kingdom and Australia, research found that texting was the most common form of bullying, followed by chat rooms and finally email. It seems that cyberbullying is becoming an increasingly prevalent issue. A report from the United States Attorney General to Vice President Al Gore in 1999 suggested that instances of online harassment were becoming an increasing issue for law enforcement authorities. Australian principals have also said that it is becoming an increasingly serious issue in schools, and there is a great deal of anecdotal evidence to support this, but no study has been conducted to yet. In light of the fact that the number of teenagers who have access to the Internet and mobile phones is projected to increase from 745 000 to 1 million by 2005, it is reasonable to assume that the number of instances of cyber bullying will similarly increase. Indeed, more than half of the students who participated in the Brisbane research said that they believed cyber bullying was on the rise[5].

When it comes to face-to-face bullying, the majority of research have shown that both boys and girls experience comparable levels of victimization. However, other studies have shown that males are more likely than girls to be bullied. In the instance of cyber bullying, it seems that females are more likely than boys to be engaged since they are more likely to interact on a daily basis through email and text message. However, there is no evidence to support this claim at this time. In addition to the fact that younger children in primary school report more face-to-face bullying by peers than teenagers in secondary school, it seems that cyber bullies are older, since younger children do not utilize technology to communicate with their classmates to the same extent as older students.

1.2 Consequences:

Victims of face-to-face bullying have been found to have higher levels of sadness, anxiety, and psychosomatic symptoms as a result of the experience. Additionally, bullied children report higher levels of social ineffectiveness and greater interpersonal problems, along with higher rates of absence from school and poorer levels of academic ability. However, it is still unclear if these symptoms are caused by bullying or are the result of bullying. As a result, the direction of causation may be either positive or negative. Despite the fact that the effects of cyber bullying have not yet been thoroughly investigated, it seems that they may be even more severe than the

consequences of face-to-face bullying in certain cases. Despite the fact that technology can only threaten physical harm, not actually perpetrate it, research has shown that verbal and psychological bullying may have more severe long-term consequences. Furthermore, compared to schoolyard bullying, cyber bullying has the ability to reach a far larger audience, increasing the likelihood that the event would be seen[6].

Examples include forwarding emails to all of the student's connections and creating web pages that are accessible to millions of people at the same time. In addition, there is the power of the printed word to consider. Unlike verbal bullying when the victim may not recall every word, bullying via emails and text messages, chat rooms, or websites allows the targeted student to read what the aggressor has said again and over again. In comparison to spoken words, written words seem more solid and "real." Furthermore, since bullying may occur anywhere and at any time, there is less opportunity to get away from it. Furthermore, since the online bully may sometimes remain anonymous, some kids may feel encouraged to cyber bully when they would not harass face-to-face in other situations.

1.3 Causation:

Because of the common law view that the plaintiff must demonstrate that his or her harm would not have happened but for the particular breach of duty by the defendant, state and territorial civil liability legislation has adopted the common law position. As a result, simply identifying a breach of duty by the school, such as a failure to monitor school computer equipment, would be inadequate if the failure to supervise did not contribute significantly to the plaintiff's damage.An additional complication is that many of the symptoms of the types of psychiatric injury that can be caused by cyber bullying, such as mood swings, depression, anxiety, and poor academic results, may be experienced by an adolescent as a result of a variety of causes, including simply those associated with growing up or as a result of unrelated upheaval in the family situation, such as a divorce or separation[7].

In certain cases, whether conscious or unconscious, a minor plaintiff or his or her family may be inclined to ascribe all psychiatric or psychosomatic illnesses to the cyber bullying that has occurred. The child is placed within a family that is otherwise beset by depression, to the point where he or she may even be genetically predisposed to depression or other psychological disorders136. It will also include cases where the child's family consciously or subconsciously encourages him or her to adopt a "sick role" in the hope of attracting monetary compensation. As a consequence, a court will be confronted with the difficult job of differentiating between psychological or psychosomatic damage caused by the breach of duty and those caused by other factors. Instead of being the only or dominant cause of psychological damage, it will be acceptable if the plaintiff can demonstrate that the school's failure to prevent cyber bullying as a consequence of its failure to exercise reasonable care was one of the substantial reasons of the ensuing psychological harm[8].

2. DISCUSSION

Internet and mobile phones, as new information technologies, offer a number of advantages for teenagers, including improved communication and more self-disclosure, as well as the development of social connections. On the other side, teenagers and young adults use the internet and mobile phones for bad reasons such as spreading rumors, sending humiliating messages, or threatening someone while hiding behind fictitious names and identities. In fact, it was shown that adolescents exhibited more violent behaviors in cyberspace than they did in real life, and

they sought vengeance in an anonymous setting, perhaps because the cyber world is regarded as a safer location for destructive acts. The term "cyber bullying" refers to such online actions that are described as the intentional, repeated, and destructive use of information and communication technology. Several nations, such as Australia, Canada, Sweden, Turkey, and the United States, have reported that cyber bullying is a common occurrence, according to the available research.

According to the cyber bullying literature, there are some differences in the frequency of cyber bullying experiences among secondary school students, with some being more prevalent than others. The percentages fluctuated from 4.1 percent and 62 percent throughout the years. Despite these differences, all of the research agreed that cyber bullying has become a widespread problem that needs to be addressed with caution. More importantly, the frequent use of information technologies was found to be positively associated with cyber bullying experiences, and schoolchildren have access to a variety of tools for conducting cyber bullying, including mobile phone messages, instant messaging, chat rooms, and e-mail, among others[9].Gender and age seem to be important determinants in cyber bullying as far as demographic characteristics are concerned. In terms of gender, there is a difference of opinion among the researchers. Although some have said that females are more likely than men to engage in cyber bullying since cyber bullying includes relational or verbal violence, others have argued that males are more violent when they are in cyber space.

Another set of researchers, on the other hand, asserted that gender was not a factor in cyber bullying since both men and girls participated in cyber bullying activities on an equal basis. In addition to gender, age was believed to be a significant element influencing the behaviors of people who engage in cyber bullying. Middle school, high school, and undergraduate university students were all studied, and it was shown that middle school students exhibited much more cyber bullying behaviors than the other groups. When children are subjected to cyber bullying, they experience a variety of harmful psychological consequences. It was discovered that, in addition to emotions of irritation and sorrow, children can suffer depression, bewilderment, guilt, humiliation, self-harm, anxiety, and separation from peers as a consequence of being exposed to cyber bullying. Depression seems to be the one of these effects that academics are paying the most attention to at the moment.

In fact, according to the findings of the study, victims of online harassment exhibited depressive-like symptoms three times more often than non-victims of cyber harassment. While there has been some progress in the field of empirical research, the body of evidence demonstrating the harmful psychological consequences of cyber bullying is still in its infancy. In summary, the available research shows that parents are becoming more concerned about their children's encounters with cyber bullying[10]. Despite the fact that many research has been conducted on the nature and effects of cyber bullying, the number of such studies is still insufficient. As a result, in light of the current literature, the purpose of this research is to find out how the experiences of Turkish secondary school students (both as victims and bullies) with cyber bullying connect to demographic factors (age and gender) and depressive symptoms.

3. CONCLUSION

Several court decisions in the United States have ruled that even the most inflammatory Internet message boards cannot be held responsible for their content if the site is not attempted to be edited. As a result, web site owners cannot be sued for what appears on their websites. What role should schools play when cyber bullying occurs in private homes on weekends and evenings? Does the school have a responsibility to intervene? When students' mobile phones have been

provided to them for safety concerns, may schools take them away from their possession? Schools have the authority to deny a student access to the Internet or a computer if they believe it would interfere with the kid's learning. Another barrier is the anonymity that kids may enjoy while bullying others via the use of technology. Students may use another person's phone number or email account, create an alias, or make contributions to a website anonymously. As a result, the offenders are often unable to be recognized. Finally, it seems that cyberbullying is becoming an increasingly prevalent issue among young people, with potentially much more severe effects than schoolyard bullying. When it comes to preventive methods, they may be comparable to those used in face-to-face bullying reduction; however, intervention techniques may need to be revised.

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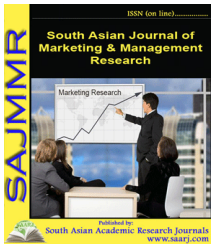

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THE INFLUENCE OF TALENT MANAGEMENT UPON RETENTION

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ABSTRACT

As the Baby Boomer generation retires, American companies will have to replace 70 million skilled employees. Worldwide economic stagnation, historically high U.S. unemployment, and global security concerns pose the issue. To stay competitive, senior management must establish solid, long-term personnel management plans. An investigation of the difficulties and achievements of people management programmes and why some businesses opt not to use them. This research also looked at how job stability, pay, and opportunity affect retention rates. Despite considerable implementation difficulties, participants in this study's talent management programme sampled companies (69%) acknowledged the strategic benefit of a successful people management programme. Participants said career development opportunities influenced retention rates the most. While almost all HR managers favor talent management, the major reason cited for not having a programme is lack of senior management support. The research also showed that job stability, pay, and development opportunities had little predictive value for employee retention.

KEYWORDS: *Compensation, development, Employee Retention, Human Resource, Talent Management.*

1. INTRODUCTION

Over the past decade, there has been a lack of skill at work. As organizational leaders struggle to recruit skilled employees, executives confront the problem of how to retain skilled workers and replace the 70 million baby boomers who withdraw from their workforce. Companies now confront the problem of how talent management may be addressed and strategies reformulated, particularly in the world economy today, where every organizing leader has to continuously invest in human capital in order to fight the talent deficit. The leaders of Human Resources ("HR") will need to work closely with top management to attract, recruit, develop and retain talent. However, HR executives need to understand that the talent deficit poses socio-economic and cultural difficulties as talent transcends boundaries. Socio-economic problems include

shifting demographics, an ageing workforce (e.g. baby boomers), lack of comprehensive laws on immigration, worldwide safety and the reduction of employment. Cultural difficulties include country-by-country cultural variations, labor power in various cultures and management style differences. The leaders of the Organization must ensure long-term stability via their people management methods, and not pursue short-term measures leading to economic catastrophe, such as mass layoffs[1].

1.1 Importance of Talent Management:

For much of the 20th century, physical resources like as land, equipment, and money and intangibles such as brands, images and customer loyalty were the major focus of managers in the workplace. All their efforts have been aimed at making the two classic elements of production work and capital efficient, but the times have changed. In today's economy, the knowledge based on intellectual assets and intangible skills represents 50% of the national product (GDP) in the industrialized countries. These developments have prompted companies to create a highly integrated people management strategy, which is necessary to guarantee efficiency, profitability and long-term sustainability. In order to develop talent management effectively, corporate executives need to grasp the driving forces behind talent management:

I. the working pool,

II. retention,

III. the risk of self-selection and

IV. the impact of employing on retention.

The five primary objectives of talent management are attracting, selecting, engaging, developing and keeping workers. The need for human capital will continue to drive talent management to enable businesses to achieve a competitive edge. Although salaries and perks entice workers at first, leading executives are focused on keeping and developing talent. The talent management method is used to regulate specific occurrences in the workplace experienced by each employee. The changes in workforce, such as an increasingly global and virtual workforce, various generations working together, longer life expectancy and a self-employed workforce will continue to influence organizational strategy and talent management policies. Demographic changes have also resulted in a continued diversification of workers - from age, gender and ethnicity to lifestyles, migratory patterns and cultural standards[2].

The anticipated lack of skills in the next several years will drive talent management. "Although not all companies, sectors and professions are lacking in capabilities, organizations are already vying for talent. Customer service, healthcare, computer assistance, technology repair, for example, are sectors where the expected severe skill shortage occurs." In addition, as the 2005 Future of the U.S. Labor Pool Survey Report of the Society for Human Resource Management points out, the expected loss of talent in the next decade will differ by organization, sector and industry. The research showed that big organizations are more worried with talent loss as a result of the retirement of the baby boom generation than small and medium-sized businesses, public and government organizations are more concerned about possible talent loss than private firms.

Key corporate strategies also encourage talent management (Morton). With the increasing demand for international technical knowledge, Ford Motor Company connects the development of skills with its strategic organizational objectives. Another business strategy that promotes talent management is corporate branding, a crucial organizational strategy. Companies are

increasingly connecting their brands with workers and business behaviour. In JPMorgan Chase, for example, their corporate identity 'One Firm, One Team, be a Leader' covers the idea of leadership for all workers[3].To maintain excellent business outcomes in a global market, companies will rethink and innovate their people management methods. Effective talent management requires strong participative leadership, organizational support, employee involvement and talent management scorecards. Companies who manage their master talents will be well positioned for long-term labor performance growth in the years to come.

1.2 The Pool of Labor:

Even if the growth and creation of new jobs has averaged 2,5% in the past ten years, the scarcity of labor will continue to be pushed by the inexorable pull of demography and a growing economy. "The pace of employment growth will continue to decline gradually and will actually be negative by 2015."But just half of the tale is revealed. In the key age categories 25-44, the workforce is already decreasing with a significant impact on professional, high-tech and service companies, which typically use these age groups as their labor force. The 35-45-year-old group also offers executive talent prime workforce in big business and suggests a significant gap in management recruitment and development over the years ahead. Many companies already struggle to identify the new pool of new managers who will lead their business one day[4].The fast increase in the groups of 45-54 and 55-64 years is another issue. Employee benefit expenses continue to increase, as older employees are increasingly taking use of benefits programmes, including healthcare, 401(k), and conventional pension plans. Career opportunities in this pool may be restricted and it is extremely difficult to keep employees engaged. The development of these two groups makes the present labor market for conventional businesses even more complicated.

The emergence of the Internet-based company in the early 1990s led to the so-called "new economy," a catch-all term including Internet-based trade and new technologies, giving many workers with new and alternative career options. This generation of workers, known as generation Y, has led market values for new enterprises such as AOL and YAHOO to surpass the combined market valuations for the entire U.S. automobile, steel and rail industry. Traditional companies compete for executive and professional talent with organizations that can not only offer a vibrant entrepreneurial work atmosphere, but also create wealth quickly via stock options and other non-traditional payment schemes[5].

At the same time, there are substantial variations in attitudes across the generations of workers. Unlike boomers, many Gen X and Y children grew up in homes where both parents worked as latchkeys. Many of those youngsters were also disillusioned by the wave of corporate downsizing in the late 1980s and early 90s because they saw parents being sent away from companies to which they had devoted a substantial proportion of their lives. Therefore, loyalty to a company is not considered a rewarded asset. Instead, Gen X workers are frequently suspicious of institutions and values and individualism. Gen Xers interact readily through the Internet and know new possibilities and advancements quickly. The management of turnover and retention thus becomes a diversity problem, where leaders of organizations must develop an employment proposal that attracts 22-year-olds as well as 60-year olds and all of them[6].

1.3 Retention:

One of the main worries nowadays of many companies is the retention of employees. Retention is seen by many organizations as a strategic opportunity to retain a competitive workforce.

Attracting and keeping a skilled staff keeps many HR vice presidents thinking about opportunities. Conservation is enhanced if workers get pay and benefits, have a supportive work culture, develop and promote and balance their work and life."War for talent" has nearly become a stereotype. In many publications, seminars and research projects the consultancy sector has reacted. Several important studies on the retention of workers have been conducted in the last several years, each intended to determine "the top five reasons why employees depart." Although the research differs in detail, they all convey the same message. Employees leave because they are not satisfied with their present job offer—a certain combination of tangibles (salary and perks) and immaterial ones, and they have the chance to join another company that supposedly has a better job offer[7].

If the acquisition and retention of personnel are an issue, the senior team member contacts HR for solutions. This is a difficult task for HR personnel. The HR profession has always been structured around silos of knowledge. Compensation experts concentrate on market equity, incentive compensation, incentives for retention and inventory choices to address issues with retention. A benefit specialist will also concentrate on the significance of beautifully articulated and smoothly executed flexible benefit programmes. The experts in organizational design handle work/life balance, supervisor training and career development."Best practice companies approach the retention of employees as a strategic issue. These companies have well-defined goals, which emphasize their talents, and are most matched to the job proposal (Farley). The company's resources, spanning from senior staff, human resources, employee communications, PR, and line management, are collaboratively addressed.

1.4 Self-Selection Risk:

Our debate on labor shortages highlights the complicated dynamics of labor markets and turnover. Due to the diversity in turnover factors, one-size-fits-all methods and unilateral retention tactics may have significant unexpected business implications, producing pools of self-selected workers. The greatest illustration of this problem is an extreme example. The US subsidiary of a foreign company devoted to the automation of high-tech manufacturing systems has major difficulties in recruiting and maintaining qualified mechanical and electrical experts. Pay has been found to be fair, but not a difference. Several important organizational problems, including dissatisfaction with a lack of direction, performance and cultural difficulties relating to the overseas parent firm, were identified in subsequent investigations[8].

The organization’s sole highlight was an extremely generous conventional health compensation scheme. In reality, the study of employee opinion revealed that, despite considerable dissatisfaction with other elements of the company, the health plan was a key reason why staff stayed. Ironically, the health plan has become a competitive disadvantage since it has led the company to choose itself for workers who have tolerated a high degree of organization’s dysfunction in exchange for a rich sanitary plan - a culture of work that is extremely appealing to top race technicians. In a different context these same advantages might have been placed as a key selling feature or more appealing for the intended demographic in other programmes. Although this case is severe, it is by no means uncommon. Well-developed flex-type cafeteria arrangements may generate unexpected self-selection problems if there is no justification for other parts of the job offer.

2. DISCUSSION

Effective retention strategies start with excellent recruitment methods – skilled and motivated employees will remain longer. Poor employment procedures double the turnover: new and disorderly employees depart fast; experienced staff, on the other hand, are extremely irritated at the rotating newcomers' door, which puts an ongoing strain upon their time and performance. Employee orientation is a key success element in recruitment and a significant percentage of orientation relates to communication and benefits registration. Never again will a company have such a clear chance to convey the quality and worth of the benefits offered, or show care for the welfare of employees. Yet this is an easy opportunity for a surprising number of businesses. A significant competitive disadvantage is the rich benefit package if workers do not comprehend or appreciate what they get. A competitor company might lay down a significantly larger share of total labor dollars in basic compensation and could possibly attract workers from other companies.

Taking into account labor changes like as demographic shifts, global supply chains, elderly workers, and growing global mobility, prospective organizers must rethink their skills management strategy to the greatest use. This will enable leaders to thrive in a highly competitive economy. In addition, the retention of talent is significantly influenced by corporate culture, employee commitment and leadership development. Taking these variables into account, an integrated talent management strategy provides a means to achieve excellent commercial outcomes[9].Talent management with significant commercial value is difficult and constantly changing. Critical success elements for successful people management, influenced by external variables like as economics, international growth, mergers and acquisitions, include alignment with strategy objectives, active CEO involvement and HR management. In the course of time, common subjects arise surrounding talent management, such as the role of leaders in the development of talent. Overall, CEO engagement, culture, management, procedures and responsibility are the key recurrent themes.

Progressive transformation in workforce and cost-effective methods for accessing personnel are important to the future generation. Predictive workforce monitoring will lead to effective decision-making of strategic personnel. For effective people management will be key factors such as flexible talent acquisition, tailored and personalized incentives, dispersed and influential leadership, and united and caring workplace culture. Companies are using various kinds of work connections more and more and non-standard employment models are developing further. The connections between a free agency and the finest talent will become increasingly frequent on an as-needed basis. Phased retirement will prevail to benefit from the expertise, abilities and corporate memory of senior employees. Having employees involved especially the future generations - may call on HR to rethink the workweek, advantage packages and recompense programmes. Talent matching databases and scenario planning will become important planning tools[10].

3. CONCLUSION

Given that shifting demographics have unfailingly changed the corporate world, companies are widely recognized to be confronted with the difficult job of replacing skilled and talented employees. Furthermore, the agreement is that the workforce is lacking talent and that businesses will need to actively fight for talent to get appropriate individuals into their organizations with the necessary abilities. Many US businesses already suffer from a lack of leadership talent. Three-quarters of Corporate Officials interviewed stated that their firms had "occasionally

inadequate skill" or that they were "without talent." Due to these problems, management concentrates on recruiting, employing, developing, and keeping people to a significant proportion of its resources to stay competitive. Human resources ("HR") departments are the focus of these staff procurement and retention efforts via the coordination of talent management initiatives, but buy-in is needed across the whole of the company to ensure the effectiveness of these programmes. Talent management is broadly defined by the implementation of integrated strategies or systems designed to increase workplace productivity by developing improved processes to attract, develop, retain and make use of people with the necessary skills and ability to satisfy current and future business requirements. The data and analysis in this study reveal many important and informative findings on the effect of talent management.

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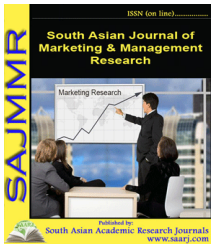

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OPINIONS ON TALENT MANAGEMENT FROM AN EUROPEAN VIEWPOINT

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ABSTRACT

Despite the fact that talent management has risen to a prominent position in managerial discourse, academic research in the field has lagged behind. This article examines talent management, with a specific emphasis on the European environment, and serves as a prelude to the special issue that will be published shortly after. The article and special issue are intended to contribute to the area of talent management by providing a European perspective on work that has been done by colleagues in the United States and Canada. In the aim of providing at the very least a point of departure for the area of talent management in the European environment, we have drawn empirical insights from the European context and coupled them with theoretical methods presented in the different articles. The primary goal of this article is to offer new insights on the link between leadership & talent management. The paper is organized as follows: They tested a concept in which both difficult work circumstances and empowerment moderate the effect of leadership style on organizational commitment, as shown in their research. As a result of the findings, the authors' conceptual framework appears to be a perfect fit in particular, it has been confirmed that butler leadership has a positive related to trying to challenge work conditions, and that the same workplace conditions are linked to three out of four employee engagement dimensions.

KEYWORDS: *Corporate, Human Resource, Leader, Strategy, Talent Management.*

4. INTRODUCTION

Increasingly popular in discussions about the strategic contribution of workers to corporate performance since the late 1990s, the idea of talent management has acquired growing traction in recent years. In fact, according to practitioner studies, talent management consumes a considerable amount of senior management time and is something that managers struggle to handle successfully. In the European environment, according to a recent study by the Boston Consulting Group, talent management is one of the five most significant issues confronting the

human resources profession. Worryingly, it was one of the tasks in which the function demonstrated the least proficiency. Talent management has therefore become a widely recognized part of the managerial vocabulary and has acquired credibility as an essential contributor to company success among practitioners in the field of human resource management.

Even more significantly, according to one study, "superior people management is substantially associated with improved company success." After analyzing data from the same survey, the authors of this report claim that over a five-year period, organizations with talent management programmes that are aligned with business strategy generate a return on investment on average that is 20 percent higher than that of rival companies whose strategies are not aligned with business strategy When essential components of their people management programmes are linked, the return on investment (ROI) over a five-year period is on average 38 percent greater than that of rivals who do not align[1].The academic community, on the other hand, has been much more suspicious of the idea of talent management and has been much slower to get on the talent management bandwagon than the general public. This scepticism is reminiscent of the intellectual cynicism that other conceptions, such as employee engagement and burnout, which developed in a bottom-up manner from experience, were met with within the academic community when they were first introduced.

The academic community has criticized talent management for missing a conceptual and intellectual basis as well as clarity, definition, and rigor. However, a number of recent contributions have made significant contributions to this emerging field and provided some theoretical framing for the study of talent management. These contributions appear to provide some reason for optimism about the potential of the field to contribute to the study of organizational management.In contrast to this, with a few noteworthy exceptions, most of the theoretical and empirical foundation upon which talent management has been built has been shaped by North American thought and investigation. As a matter of fact, the McKinsey consultants' foundational work, which captured the battle for talent, was focused on the difficulties that US organizations were facing as a result of the ageing workforce and tighter labor markets in the United States environment.

This work has contributed significantly to the advancement of the debate and provided important insights into the conceptualization and understanding of talent management. However, as the field enters its adolescence, it is critical that insights from contexts other than the United States influence the debate[2].This is not meant to be a criticism of the enormous contributions that have come from the United States, but rather a demand for a counterweight from other viewpoints and historical traditions. It was with this goal in mind that this special edition of the journal was created. In order to avoid being too restrictive about how contributions should be formatted, we wanted to let our submitting writers to set the boundaries for what a European viewpoint on talent management could look like. As a starting point for the area of talent management in Europe, we aim to offer empirical insights from the European environment coupled with theoretical methods that have been used in different publications.

Instead of discussing the merits and conceptual and intellectual limits of talent management, we will set the stage for the special issue by examining the European environment and how it may impact discussions and practice in the field. As part of this special edition, we will also offer a synopsis of the contributions that have been submitted.The impacts of different talent management methods on organizational performance are the subject of a research study. Based on data from 138 Swiss companies, the authors introduce four different talent management

strategies and find that initiatives aimed at retaining and developing talented employees have a positive impact on important outcomes such as job satisfaction, motivation and commitment. They also find that initiatives aimed at developing and retaining talented employees have a positive impact on trust in leaders. The authors have also shown that when the company's management is focused on corporate strategy, the related TM practices will have a more substantial effect on, among other things, corporate profitability than any of the other areas of TM will ever have[3].The primary goal of their study is to investigate the connection between people management and organizational learning in the context of the knowledge production process, namely. In this paper, the authors test their newly established conceptual model of knowledge creation and management using a sample of 167 large Spanish companies, and they discover that firms must be efficient in developing and implementing a talent-friendly organizational environment, regulations, and processes in order to encourage and support continuous organizational learning and the acquisition of new skills.

4.1 European Context of Talent Management:

Europe is a large and varied territory with a land area of about 9839 square kilometers, a population of approximately 800 million people, 45 nation states, and more than 70 different languages. Europe's 27 member states of the European Union (EU) are striving toward deeper economic integration by lowering trade barriers and adopting other policies and actions that will facilitate the free movement of people, commodities, services, and money across the continent. This resulted in a fast rise in cross-border commerce as well as greater levels of intra-European foreign direct investment, which has further accelerated the trend toward regional integration in Europe. For example, one immediate consequence of being a member of the EU is that the stringent legal and administrative procedures that apply to transfers between EU nations do not apply to transfers between EU countries. In comparison to other international free-trade zones, this constitutes a major divergence, and it has resulted in substantial talent transfers between European nations[4].

Seventeen of these 45 countries have a common currency, the Euro, which helps to further integrate the world economy. From the viewpoint of talent, one of the most important characteristics of the EU is the freedom of movement of citizens of member states within the EU. This enables the mobility of important talent among the 27 member states of the EU, with some modest limitations in place for some of the more recent members of the union. In addition to the above-mentioned eight nations, there are eight more countries in different phases of negotiation for EU membership. The former communist nations of Central and Eastern Europe constitute a significant portion of the region's overall population. While the exact boundaries of this region are still up in the air, it includes countries such as the Czech Republic, Slovakia, Hungary, Poland, Albania, Bulgaria, Romania, the countries that made up the former Yugoslavia, Russia, and countries that arose as a result of the disintegration of the Soviet model of government. Indeed, this area of the region has been described as having "a talent management (TM) environment characterized by cultural, geopolitical, and institutional characteristics of extraordinary complexity[5].

5. DISCUSSION

The potential value provided by an issue on European views on talent management should, it seems, be considered when assessing the usefulness of such a project in the first place. The first and most important point we want to make is that Europe is a major participant in the global economy and as such ought to be taken into account on its own. Rugman, in fact, considers the

EU to be one of the three areas that are responsible for the world economy's growth. Rugman believes that the majority of multinational companies (MNEs) focus their sales and operations in their home region. Given the fact that Europe is home to more than 60 of the world's 100 biggest non-financial multinational corporations, the area is unquestionably a major participant in the global economy. According to the International Monetary Fund (IMF), the 27-member EU generates almost 22 percent of the world's total gross domestic product on its own. When the other European nations are taken into consideration, the economic importance becomes even more obvious. Consider the case of Russia, which is a major member of the BRIC economies (Brazil, Russia, India, China), and whose proportion of global commerce is continuing to expand at a rapid rate in recent years.

Second, since their local markets are relatively limited, European multinational corporations (MNCs) have a tendency to be early internationalizes. This implies that they are more likely to have a larger proportion of their revenues derived from sources outside than their native nation, as well as a longer history of transferring management talent across borders[6]. Furthermore, the path of international growth in Europe was quite different, and many European multinational corporations established abroad subsidiaries that enjoyed a high degree of autonomy, making the transition from the direction of local autonomy to global integration challenging. This posed significant difficulties for highly decentralized European multinational corporations (MNCs) when it came to establishing effective talent pipelines at the regional or global level.

According to the findings of this study, there are significant differences in organizational and structural structures between North American and European multinational corporations, with the former placing a greater emphasis on formalization of structure and process, while the latter places a greater emphasis on socialization, resulting in the need for different approaches to talent management. In this respect, one of the most difficult challenges is to comprehend talent management methods and practices in the context of shifting strategies of multinational corporate organizations. According to research, there is a significant difference in approaches to talent management across various kinds of multinational corporations[7].While recognizing the wide range of cultures found across the area, the environment in which people management takes place in Europe is markedly different from the one in which most of the theory around talent management has developed in America, which is a last point. We will not go into detail about each of these problems since it is beyond the scope of this article, but we will highlight some of the most important ones.

In particular, the relative importance placed on legislative frameworks for the management of employees, as evidenced by the greater regulation of recruitment and dismissal, the relative power of trade unions and the collective approaches to employee management in a number of key countries, institutional arrangements for communicating with employees, such as work councils, and the likability of employees are all important points of differentiation[8].The substantial role played by the government in the development of employee skills and competences in nations such as Germany is another important aspect to consider when considering talent management strategies. On the whole, these arrangements mean that governments have a greater controlling influence on behaviour and a greater supportive role (through financing) than they do in the United States, resulting in employers having a comparatively lower degree of autonomy in managing their employees in the European Union. Furthermore, there are major variations in the way businesses are funded in the European environment (although this is not universal, with the UK model much closer to the US model).

A more patient, stakeholder-oriented strategy characterizes more coordinated market economies in the European setting, as opposed to the short-termism shareholder mentality that prevails in the United States. Because corporate funders, such as banks, often take a more patient approach to firm-financing, businesses may take a more long-term strategy to employee relations as a result. We argue that the context of people management in the European context is significantly different from the context of people management in the United States context, where much of the existing theorizing has emerged, with exogenous factors playing a particularly significant role in influencing management behaviour with regard to the management of employees.On to the possibility of different scientific and epistemological traditions in the European setting, which we will discuss next. Instead than claiming superiority for European theoretical ideas over existing methods, we argue that they may be distinct from the current ones. The significance of context and the challenge to universalistic models of management practice, as previously said, are important considerations in the European context, which is reflected in the following: Human resource management and management arguments in the European setting have a lot in common with debates about talent management that took place earlier in the same environment[9].

According to researchers who looked into the development and spread of the European model of management, this model is tied to the idea of European integration; it is influenced by values such as pluralism and tolerance, but it is not necessarily developed from them; and it is more associated with a balanced stakeholder philosophy, which acknowledges the role of social partners. Furthermore, as academics have pointed out, the contextual paradigm that predominates in Europe places a strong focus on understanding and explaining variations between and within management systems in a variety of settings. Studies based on these traditions may pave the way for the development of a more comprehensive comparative knowledge of talent management [10].

6. CONCLUSION

The importance of demographic changes in the United States in the context of the development of the battle for talent in the 1990s, it is interesting to examine the main demographic changes that are expected to have an impact on talent management in Europe in the future decades. A study of human resource trends in Europe through 2015 found that managing demographics is one of the most difficult problems confronting the function, according to the respondents. A double-edged sword was presented by this challenge, which concerned the loss of capacity and knowledge due to worker retirement, as well as the ageing of the workforce and the implications of this for work schedules, the nature of motivation changing over time, ill health, and other factors. According to a new research commissioned by the World Economic Forum, these tendencies are becoming more pronounced. This research highlights the consequences of the retirement of baby boomers in terms of skill shortages in major economies across the world, particularly in the United States and the United Kingdom. According to the findings of the research, talent supply in Western Europe will continue to decrease, resulting in "virtually empty talent pipelines far beyond 2020." In both the United Kingdom and Germany, immigration and growth rates will be inadequate to compensate for the labor losses induced by the ageing of their respective populations. In contrast, while talent shortages are expected to be a major issue in Spain and Germany through 2030, the challenges faced by working populations in Poland and Russia are significant.

A second important demographic trend is the growing importance of Millennials, who are generally defined as those who have entered the workforce since the turn of the twenty-first

century. Because of the above-mentioned demographic trends, these employees are likely to be in high demand in the future. Furthermore, they appear to have very different expectations of the workplace and what it has to offer them in terms of compensation. In particular, they express a preference for mobility during the early stages of their professional lives. They place a strong emphasis on corporate social responsibility (CSR) as well as training and development, which they regard as extremely valuable. As a group, millennials are particularly receptive to the features of boundary less careers, with high expectations that they would move across organizations many times throughout their careers. The challenge for personnel management will be to get a deeper understanding of the impact that employer branding plays in recruiting and keeping this group. A crucial micro-level of investigation in this respect is the knowledge of their motivation and involvement. The study of talent management may therefore benefit from the rich and varied environment that Europe provides, and the various scientific traditions that are apparent there provide the possibility to frame talent management problems in new ways. In this special issue, we hope that the articles that will be published will serve as a starting point for this growing discussion.

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