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Export Performance and Trends of Automobile Industry in India

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Abstract

Export is indispensable for the growth of economy as it leads to the earning of foreign exchange which helps in the growth of the economy. More growth of the economy leads to more prosperous nation. Exports in India have evolved a lot since independence. Export performance of a firm replicates a firm-specific performance in leveraging its resources and capabilities in an international frame at a particular point of time. Firm's export performance is regarded as one of the key indicators of the success of its operations, and as such, it has been an extensively studied phenomenon. The present paper studies the export performance of Indian Automobile Industry in the segment of Personal Vehicles, Commercial Vehicles, Two wheelers and three wheelers. The export performance has measured in terms of numbers of vehicles exported from the India in the study period. The study period for the present research is from financial year 2005-06 to 2015-16. The study tries to forecast the trend values for the exports in various segments of automobile industry.

Key words: Exports, Indian Automobile Industry, Trend Analysis, Forecasting.

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INTRODUCTION

Exporting has been the most popular and fastest-growing form of international market entry, favored especially by small and medium-sized firms. Exporting, compared with other international strategy, doesn't need many resources and is associated with lesser. Exporting is a crucial business activity for nations' economic health, as it significantly contributes to employment, trade balance, economic growth, and higher standard of living (**Syed Hossein Jalali 2002**). Export performance is regarded as one of the key indicators of the success of a firm's operations. As per the study by **Papadopoulos and Martin Martin (2010)** export performance represents the outcome of a firm's activities in export markets. Export performance can also be defined as the results from the firm's international activities. From this viewpoint, export performance is the extent to which the firm achieves its objectives when exporting a product to a foreign market (**Navarro et al., 2010**).

The automobile industry is considered as one of the core industries in India. A well developed transportation system plays an important role in the development of an economy, and India is no exception to it. In the global scenario also; the Automobile industry is considered as one of the largest industries among various industries. Due to its strong forward and backward linkages with several key segments of the economy, the Automobile Sector occupies a prominent place in the fabric of Indian Economy. The Indian automobile industry is considered as core sector in India also. The industry has contribution of around 7.1 per cent in the country's Gross Domestic Product (GDP). The Two Wheelers segment with 81 per cent market share is the leader of the Indian Automobile market owing to a growing middle class and a young population. Moreover, the growing interest of the companies in exploring the rural markets further aided the growth of the sector. The overall Passenger Vehicle (PV) segment has 13 per cent market share.

India is also a prominent auto exporter and has strong export growth expectations for the near future. The Make in India programme as initiated by Hon. Prime Minister Mr. Narendra Modi,

has also consider the Indian Automobile Industry as the well-positioned for growth, servicing both domestic demand and, increasingly, export opportunities.

LITERATURE REVIEW

Surbhi Goyal (2016) studied the shift in the trends of export in terms of commodities exported and countries of export over a period of time. The study was done for the period of 2001-2014. The study covered various sectors like Petroleum, products, Jems and Jewellery etc. The study by **Smitha Francis (2015)** studied the export performance for eight selected major manufactured Sectors, out of eight; six were India's largest manufactured import sectors. The eight manufacturing sectors includes Gems and Jewellery, Organic chemicals, Pharmaceutical products, Non-electrical machinery and parts, Electrical machinery and parts, Vehicles and parts, Iron and steel and Ores, slag and ash The study period was from 1999-00 to 2013-14. The results of the study concluded that India's current export competitiveness in these sectors, have the lack of continued momentum. The deterioration in the export performance in these major export sectors points towards the dire need to formulate strategic policies to achieve further domestic industrial upgradation. **M. Krishnaveni* and R. Vidya (2015)**, studied the production, sales and exports in Indian automobile industry and discussed the various key challenges for the same.

Elena Beleska-Spasova (2014) reviewed the previous research for export performance of the firm and provided the better understanding of the export performance. The study undertook a comprehensive literature review and studies the current state of the export performance. The study conducted to provide better understanding of the firm specific factors and behaviors that make the exporting a successful venture. **Satyanarayana Rentala and Dr. Byram Anand (2014)** studied the determinants of export performance for pharmaceutical company in India during the period of 2005-2013. This study has taken various independent variables as Firm Size, Import of Capital Goods, R&D Expenditure, Firm's Age, Import Of Raw Materials, Advertising Expenditure, Capital Intensity, Profitability, Foreign Equity, Capital-Output Ratio, Equity (FDI) and royalties paid whereas, the dependent variable were Export Sales and Export Intensity and

Export Growth. The multiple regression analysis was applied for the data analysis. The results of the study showed that there was significant impact of firms' internal resources on their export performance and its success. **Jatinder Singh (2014)** studied the growth and export potential for Indian Automobile as a whole and its sub-segments also. The study took secondary data and analyzed the growth and export potential through graphs and tabulation. The study found that the export intensity has improved.

Pradeepta K. Sarangi Shahin Bano Megha Pant (2014) studied the growth of Indian automobile industry and to reported the forecasted values for the 3 financial years from 2013-14 to 2015-16 using statistical technique. Two segments of automobile industry covered in the study were passenger and commercial vehicles. A conceptual research by **Tarun sharti and Jyoti Pradhan (2013)**, gave an overview of Indian foreign trade with emphasis on automobile industry. The study was confined to auto vehicles only. The study also discusses the growth drivers of Indian Automobile industry. A study by **Seyed Hossein Jalali (2012)** examined the relationship between export barriers and the export performance of Greek firms targeting the Iranian market. Six dimensions of variables taken in the study were: environmental dimension, financial dimension, operational dimension, legal dimension, logistic dimension and resource dimension. The study collected data through structured questionnaire and developed a structural equation model to understand that which dimension has greater effect on export performance. The results of the study showed that the most important barrier to Greek firms exporting to Iran is the operational dimension.

The study by Falk, **M., Hake, M. (2008)** empirically investigated the relation between exports and the outward FDI stock using a panel of industries and seven EU countries for the period 1973-2004. The study used Holtz- Eakin panel causality tests for finding the relationship between exports and FDI. The results of the study showed that exports have a strong positive effect on the outward FDI stock. The study by **Ma. Teresa S. Dueñas-Caparas (2006)** determined the factors affecting the export performance of firms in Philippines for manufacturing sector. The study had objective to identify the firm-level characteristics and their effect on firms' capabilities to export. Firm size, firm age, human capital, capacity utilization,

skill, training and foreign affiliation were identified as firm level characteristics and determined statistically whether it affects a firm's capability to export. The study used econometrics model and concluded that foreign affiliation has the most prominent influence on firms' export performance.

OBJECTIVE

The present study has the key objective to study the export performance of Indian automobile Industry for the stipulated time period.

RESEARCH METHODOLOGY

The Study

The present study is empirical in nature and has attempted to analyze the segment-wise export performance of vehicles of Indian automobile industry. The study applied the time series-Least square method and attempted to forecast trend values of exports in various segments of Indian Automobile Industry.

The Sample

The time period considered to collect the relevant data for the study is from year 2005-06 to 2015-16.

Tool for Data Collection

The study used the secondary data which was collected through the websites of Society of Indian Automobile Manufacturers (SIAM), Indiastat.com, various research journals, government websites and newspapers.

Tool for Data Analysis

In the method of Least Square, time (Years) has been considered as independent variable and exports (segment wise) has been considered as dependent variable. The trend values were calculated through MS Excel. The study analyzed the trends in exports of each segment of Indian automobile industry for the period of 2005-06 to 2015-16. The various segments of the

automobile industry considered for the study are Commercial vehicles, personal vehicles, two wheelers and three wheelers.

ANALYSIS AND INTREPRETATION

The present study is based on the trend analysis of various segments of Indian atuomobile industry viz personal Vehicles, commercial vehicles, two wheelers and three whelers. The table1. shown below is compared the actual values and trend values for a period of 11 years, from 2005-06 to 2015-16.

Table1:Export Performance : Category Wise

Year	Passenger Vehicles		Commercial Vehicles		Two wheelers		Three Wheelers		Total	
	Actual	Trend	Actual	Trend	Actual	Trend	Actual	Trend	Actual	Trend
2005-06	175000	176176	41000	40667	513000	442341	77000	82330	806000	741514
2006-07	198000	226491	50000	45995	620000	652000	144000	115845	1012000	1040331
2007-08	218000	276807	59000	51323	820000	861659	141000	149359	1238000	1339148
2008-09	336000	327122	43000	56651	1004000	1071318	148000	182874	1531000	1637965
2009-10	446000	377438	45000	61979	1140000	1280977	173000	216388	1804000	1936782
2010-11	444000	427753	74000	67306	1532000	1490637	270000	249903	2320000	2235599
2011-12	507000	478069	93000	72634	1947000	1700296	363000	283417	2910000	2534416
2012-13	559414	528384	80027	77962	1956378	1909955	303088	316932	2898907	2833233
2013-14	593507	578700	77056	83290	2083938	2119614	353392	350447	3107893	3132051
2014-15	574478	629015	76599	88618	2299493	2329273	372011	383961	3322581	3430868
2015-16	653889	679331	101689	93946	2481193	2538932	404441	417476	3641212	3729685
2016-17		729647		99273		2748591		450990		4028502
2017-18		779962		104601		2958250		484505		4327319
2018-19		830278		109929		3167909		518019		4626136

The study forecast the exports (in numbers) in the various segment for the next three financial years i.e for 2016-17, 2017-18 and 2018-19 in the segment of pessenger vehilces, commercial

vehicles, two wheelers and three wheeler. The trend values were calculated through Time Series Analysis where the time (in years) was taken as independent variable and exports as dependent variable.

Personal Vehicle Segment

The personal vehicle segment of automobile industry comprises of personal cars and multiutility vehicles. This segment showed that the exports in the study period are increasing with little variations. The actual data shows that the exports were minimum in the year 2007-08 and maximum in the year 2015-16. According to the trend line the exports in this segment will be increased in future. The forecast data for the next three consecutive years will be 729647, 779962 and 830278 in numbers with little variation.

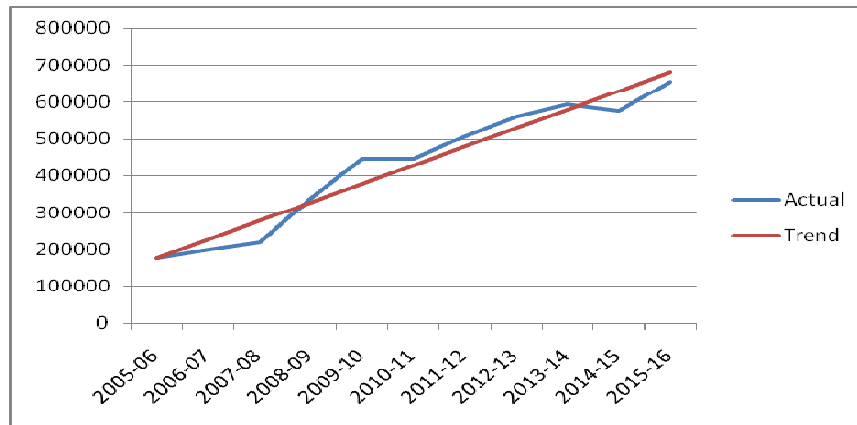


Fig 1: Trend line for Passenger Vehicle segment

Commercial Vehicle Segment

The commercial vehicle segments comprises of medium and heavy commercial vehicles and light commercial vehicles. The actual data for exports vary year by year. The variation in this sector is high. The exports in commercial vehicle segment was minimum in the year 2008-09 and maximum in year 2015-16. The trend line depicted that the future exports (in numbers) will be 99273, 104601 and 109929 for next three consecutive years. The exports in this segment will show variations in future also.

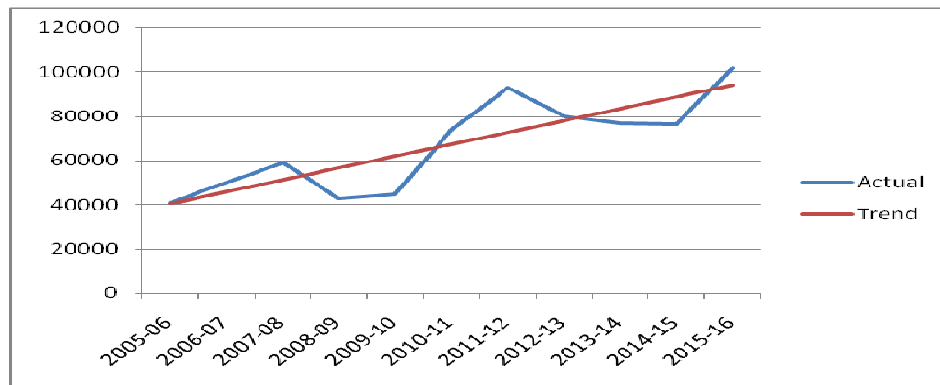


Fig 2 : Trend line for commercial Vehicle segment

Two Wheelers Segment

The two wheelers segment comprises of Scooters, Motor Cycles, Mopeds and electric two wheelers. This segment is showing upward trend. The forecast values for this segment for the next three consecutive years will be 2748591, 2958250 and 3167909 respectively in numbers. This segment may not show much variations in near future as according to trend line given in figure below.

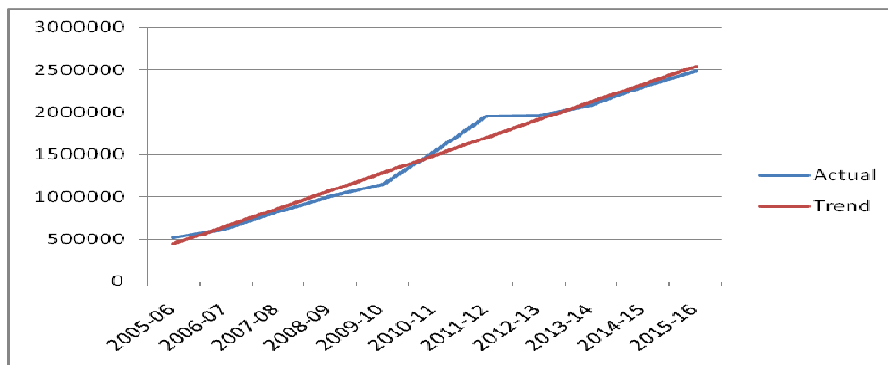


Fig 3 : Trend line for two wheelers segment

Three Wheelers Segment

The exports in this segment of Indian Automobile industry is having ups and downs. The exports were minimum in year 2005-06 and maximum in year 2015-16. The trend line showed that in near future the exports may increase with little variation.

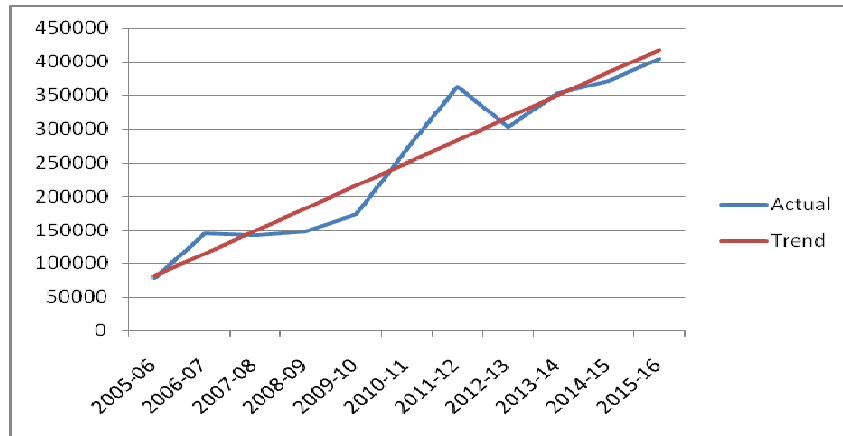


Fig 4 : Trend line for three wheelers segment

Overall Export Performance of Indian Automobile Industry

The various segments of Indian Automobile Industry viz. personal vehicles, commercial vehicles, two wheelers and three wheelers are combinedly represents the Indian Automobile Industry. The overall exports for Indian Automobile Industry from year 2005-06 shows upward trend whereas exports were increasing year by year in all the segments. It was high during the year 2011-12 but decreases slightly in year 2013-14. From year 2015-16 the exports are again increases. The overall performance of Indian Automobile industry in terms of volume is increasing year after year.

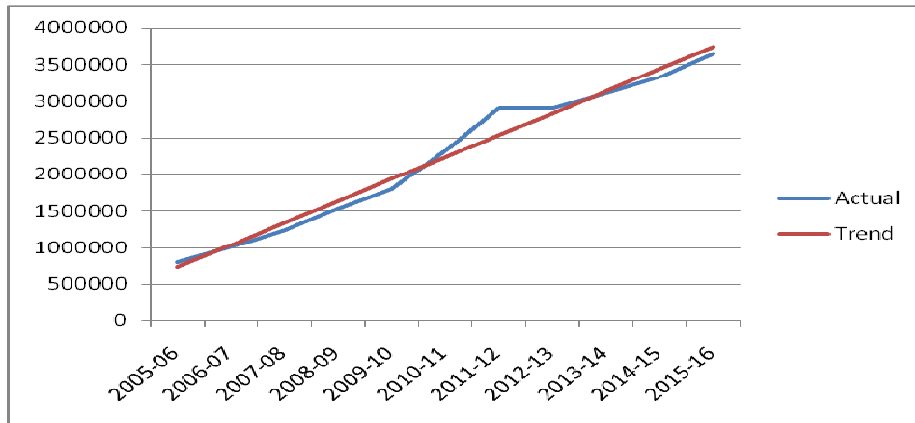


Fig 5 : Trend for total exports (including all segments)

IMPLICATION

The present study analyzed the export performance of Indian Automobile Industry in various segments viz. personal vehicles, commercial vehicles, two wheelers and three wheelers , for the study period and forecast the trend values for the next three financial years. The study showed only the forecast values and had not covered the reasons for increment or decline in the exports of various segments. The study is useful for Automobile Industry as whole as the exports have major contribution towards the economy of India. The future studies may cover the factors responsible for this behaviour.

CONCLUSION

The present study analyzed the export performance of Indian Automobile Industry in various segments for the study period and forecast the trend values for the next three financial years. The forecast trend values showed that the exports in the all the segments viz, personal vehicles, commercial vehicles, two wheelers and three wheelers will increasing in future. According to trend line the passenger vehicles growth will be 7.41%, 6.45% and 6.06 % in the next three financial years. The exports in the commercial vehicle segment will have the growth of 7.41%,

6.45% and 6.06% respectively, the two wheelers segment will have the growth of 8.3%, 7.6% and 7.1% for the next three financial years respectively. The four wheeler segment will have growth of 8.03%, 7.43% and 6.92 % respectively. The data shows that the overall exports will be increase with the growth of 8.01%, 7.42% and 6.91% for the next three financial years. The trend values forecast for the exports in all the segments.

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Dynamics of Relationship of Institutional Investors' Investments and Sensex: An Empirical Study

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Abstract

India has emerged to be one of the leading destinations for Institutional Investments both domestic as well as foreign. The role and importance of Institutional Investments during last few years has increased manifold due to globalization of the different markets, which also led to development of Indian Stock Market. The objective of the present study is to analyze the dynamism of relationship between Institutional Investors Investments and Indian Stock Market for developing competencies and skills for global competitiveness. To test the objective Foreign Institutional Investors (FIIs) and Domestic Institutional Investors (DIIs) investments in Indian Stock Market have been taken from the year 2006-07 to 2015-16. To represent Indian Stock Market SENSEX of Bombay Stock Exchange was used. Correlation Analysis, Regression Analysis, Johansen Co-integration Test and Granger Causality Test have been applied to analyze the relationship.

Key Words: Institutional Investors Investments; Foreign Institutional Investments; Domestic Institutional Investors; SENSEX; Indian Stock Market.

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INTRODUCTION

India has emerged as one of the leading investment destinations for foreign as well as domestic Institutional Investors' Investments. The Institutional Investors have emerged as noteworthy players in the Indian Stock Market and their growing contribution works as an important feature. The role and importance of Institutional Investments during last few years has increased multiple due to integration of the markets, which has led to development of competencies in Indian Stock Market and skills for global competitiveness. The development of any stock market largely depends on Institutional Investments due to limited role of individual and retail investors' investment capabilities. This role takes on a far greater significance in developing markets like India where a vast majority of investors are not yet comfortable with investing directly in the stock market that too huge amount like Institutional Investors invest into.

Since Indian Stock Market is an attractive investment avenue for Institutional Investors, resulting into steadily growing stock market, it has further allured Foreign Investors group and Domestic Investor's community in the past. The major part of investment in Indian Stock Market is attributed by Institutional Investors among whom Foreign Institutional Investors (FIIs) and Domestic Institutional Investors (DIIs) are of prime importance. One eminent matter of concerned is whether these Institutional Investors regulate the Indian Stock Market and hold any relationship between them. So, it is imperative to judge the dynamism of relationship of Foreign Institutional Investors (FIIs) and Domestic Institutional Investors (DIIs) with Indian Stock Market.

Indian Stock Market

Indian Stock Market is represented by two major stock exchanges i.e. Bombay Stock Exchange (BSE) and National Stock Exchange (NSE), and their representative index are SENSEX and S & P CNX Nifty respectively. One new stock exchange Metropolitan Stock Exchange of India Limited (MSEI) introduced during the year 2015-16. Total market capitalization of BSE, NSE and MSEI was Rs.94,75,328, Rs. 93,10,471 and Rs. 91,82,759 respectively as on 31 March

2016. Total number of listed companies on BSE, NSE and MSEI was 5911, 1808 and 80 respectively (SEBI Annual Report, 2015-16).

Institutional Investors

An Institutional Investor is an investor that is registered in the country in which it is trading. The Foreign Institutional Investors (FIIs) are basically referred to investors who are organized in the form of an institution or entity and indulge in investing funds in the financial market of a foreign country, i.e., different from where the entity was originally registered or incorporated. In India, FIIs can invest their funds in the country only under the norms prescribed by Security and Exchange Board of India. Domestic Institutional Investors (DIIs) refers to the Indian institutional investors who are investing in the financial markets of India especially into Stock Market

RATIONALE

Indian Stock Market is witnessing growing participation of Institutional Investments, both FIIs as well as the DIIs. Foreign Investment provides a channel through which countries gain an access to essential foreign capital. FIIs investments is perceived very important for any emerging economy like India, because FIIs investments may impact on the domestic financial market in short run and a real impact in long run specifically on capital market. DIIs are supporting Indian Stock Market stepping into buying every time, when FIIs are selling badly as there exist no future tomorrow. The existence, interaction and reflection of DIIs are essential to safeguard, promote and mature the stock market while FIIs operate. So, it becomes imperative to examine the dynamism of relationship of Institutional Investors' Investments and Indian Stock Market.

LITERATURE REVIEW

Mukherjee, et al., (2002) in their study analyzed daily flows of FIIs Investments (net investment, purchasing and sales) on Indian Stock Market for the period of 1999-2002. Study used BSE SENSEX for the market return illustration. On applying Granger Causality Test and Multiple Regression Test, it was found that FIIs purchase decision was not caused by Indian Stock Market return significantly. But according to Granger Causality Test it was found that BSE returns was

an important determinant of FIIs Investments. Another research by Chittedi,(2008)analyzed performance of the SENSEX and FIIs in the Indian Stock Market. It revealed that the liquidity as well as the volatility was highly influenced by FIIs inflows in BSE SENSEX, so FIIs was the significant factor for determining the liquidity and volatility in the stock market prices. The study concluded that the FIIs who had been so bullish in India for the last so many years might start looking at other cheaper emerging markets for better returns. So, it is very tough to predict that whether the SENSEX will sustain the momentum in future or not.

Market capitalization and stock market turnover of India have significant positive influence only in short-run but stock market risk had negative influence on FIIs inflows to India. Among macroeconomic determinants, economic growth of India had positive impact on FIIs Investment in both long run and short run, but all other macroeconomic factors have significant influence only in long run like inflation (Kaur and Dhillon, 2010). In a study by Loomba(2012),Pearson Correlation was applied to understand the dynamics of the trading behavior of FIIs and its effect on the Indian Equity Market. The study was based on daily data. BSE SENSEX and FII activity over a period of 10 years spanning from 1st January 2001 to 31st December 2011 was observed. The study found a significant positive correlation between FII activity and its effects on Indian Capital Market and concluded that the movements in the Indian Capital Market were fairly explained by the FII net inflows.

A cause and effect relationship was investigated between FIIs and Indian Capital Market in a study by Shrikanth and Kishore(2012). It was observed that FIIs carried the institutional flavor in terms of market expertise and fund management by way of pooling small savings from retail investors. The main objective of FIIs was maximizing returns and minimizing risk while keeping liquidity of the investments intact. It was concluded that net FIIs inflows had a positive impact on the Indian Stock Market and Foreign Exchange Reserves. A study by Mehta and Sharma (2015) examined daily observation of FIIs and Indian Stock Market to study the association and causation in these two actors. The objective of the study was to identify is some co-integration exists between the global investment and stock market performance or not. The study concluded that applied econometrics tools were convincingly captivating and may have a conspicuous

effect on the strategies of domestic and international investors before investing in Indian Stock Market. Because of more digitized stock market with advance software's for trading of stock market products and entrée of investors across the world stock market may root information spillover from one bourse to another.

OBJECTIVES

- To study the relationship between FIIs Net Investments, DIIS Net Investments and SENSEX.
- To study the impact of FIIs Net Investments and DIIs Net Investments on SENSEX individually.
- To check the Co-integration among the FIIs Net Investments, DIIs Net Investments and SENSEX.
- To study cause and affect relationship among FIIs Net Investments, DIIs Net Investments and SENSEX.
- To explore role of FIIs Net Investments and DIIs Net Investments for developing competencies and skills for global competitiveness in Indian Stock Market.

Hypothesis

To test the above objectives following null hypothesis were framed:

- H₀₁: There exists no significant relationship between DIIs Net Investments and SENSEX.
- H₀₂: There exists no significant relationship between FIIs Net Investments and SENSEX.
- H₀₃: There exists no significant relationship between DIIs Net Investments and FIIs Net Investments.
- H₀₄: DIIs Net Investments have no significant impact on SENSEX.
- H₀₅: FIIs Net Investments have no significant impact on SENSEX.
- H₀₆: There exists no Co-integration among DIIs Net Investments, FIIs Net Investments and SENSEX.
- H₀₇: DIIs Net Investments does not granger cause SENSEX.
- H₀₈: SENSEX does not granger cause DIIs Net Investments.
- H₀₉: FIIs Net Investments does not granger cause SENSEX.

- H_{010} : SENSEX does not granger cause FIIs Net Investments.
- H_{011} : DIIs Net Investments does not granger cause FIIs Net Investments.
- H_{012} : FIIs Net Investments does not granger cause DIIs Net Investments.

RESEARCH METHODOLOGY

The Study

The study empirically tested dynamism of relationship between FIIs Net Investments and DIIs Net Investments in equity cash segment and SENSEX.

The Sample

DIIs Net Investments, FIIs Net Investments and SENSEX are the variables used for the study. Monthly net investments of FIIs Investment and DIIs Investment in equity cash segment and monthly closing values of SENSEX index from April 2007 to March 2016 were taken for the study.

The Tool for Data Collection

The present study is based on secondary data. FIIs Net Investments and DIIs Net Investments in equity cash segment and SENSEX Index values have been used. The data were collected from websites <http://www.bseindia.com>, <http://www.nseindia.com>, <http://www.sebi.com>, etc.

The Tool for Data Analysis

Correlation Analysis was carried out to find and study the relationship between FIIs Net Investments, DIIs Net Investments and SENSEX. Regression Analysis was used to study the impact of FIIs Net Investments and DIIs Net Investments on SENSEX individually. Johansen Co-integration Test was carried on to analyze long term relationship between the variables involved and Granger Causality Test was applied to determine the directional relationship between the variables.

ANALYSIS AND INTERPRETATION

Correlation Analysis

Karl Pearson's Coefficient of Correlation was applied to study the relationship between FIIs Net Investments, DIIs Net Investments and SENSEX at 5% level of significance. As per Table 1 given below and on analysis, it was conferred that, DIIs Net Investments had very low degree of negative correlation with SENSEX. Thus, the first null hypothesis H_{01} was accepted, i.e. There exists no significant relationship between DIIs Net Investments and SENSEX.

FIIs Net Investments pointed out the very low degree of positive correlation with SENSEX. Therefore, the null hypothesis H_{02} was also accepted, which states that there exists no significant relationship between FIIs Net Investments and SENSEX

DIIs Net Investment and FIIs Net Investment showed very low negative correlation with each other. Thus, the null hypothesis H_{03} was accepted which says that there exists no significant relationship between DIIs Net Investments and FIIs Net Investments. It means that there was no significant relationship between DIIs Net Investments and SENSEX.

Regression Analysis

As shown below in Table 2, the Regression Model 1 with SENSEX as dependent variable and DIIs Net Investment as independent variable had yielded 0.044 as an R Square Value, indicating that, 4.4% of the variation in SENSEX was caused by changes in DIIs Net Investments. The corresponding F Statistics (goodness of fit) was 1.27 and the corresponding p-Value was 0.234 ($p > 0.05$), indicated that, the impact of DIIs Net Investment on SENSEX was not significant at 95% level of significant. The corresponding T Statistic (level of significance) at 95% level of significance was 1.568, conferring that the regression coefficient was not significant. The corresponding p-value was 0.1195 ($p > 0.05$), pointed out that, there was no significant impact of DIIs Net Investment on SENSEX. Thus, the null hypothesis H_{04} was accepted which means, DIIs Net Investments have no significant impact on SENSEX.

As shown in Table 2, the Regression Model 2 with SENSEX as dependent variable and FIIs Net Investment as independent variable had yielded 0.0067 as an R Square Value, indicating that, 0.67% of the variation in SENSEX was caused due to changes in FIIs Net Investments. The corresponding F statistics (goodness of fit or god fit) was 0.756 and the corresponding p-value

was 0.3862 ($p > 0.05$), pointing out that, the impact of FIIs Net Investment on SENSEX was not significant at 95% level of significant. The corresponding T Statistic (level of significance) at 95% level of significance was 1.17, conferring that the regression coefficient was not significant. The corresponding p-value was 0.2422 ($p > 0.05$), pointing out that, there was no significant impact of DIIs Net Investment on SENSEX. Thus, the null hypothesis H_{05} was accepted, i.e. FIIs Net Investments have no significant impact on SENSEX.

Johansen Co-integration Test

Table 3.a. and 3.b. as shown below present results of Johansen Co-integration Test. Unrestricted Co-integration Rank Test (Trace) stated that, the studied variables had p values < 0.05 in all the three cases of Co-integration equations. Unrestricted Co-integration Rank Test (Maximum Eigen Value) also states that the all studied variables had p values < 0.05 in all the three cases of Co-integration equations. Hence, the null hypothesis H_{06} was accepted, which confirms that there exists no Co-integration among DIIs Net Investments, FIIs Net Investments and SENSEX. It means that the variables were not co-integrated with each other. So, it clarified that DIIs Net Investments, FIIs Net Investments and SENSEX had no long term relationship and equilibrium with each other and they moved independently in long run.

Granger Causality Test

Granger Causality Test as shown in Table 4 below indicated the directional bilateral relationship among the variables studied. The study inferred that the p values > 0.05 in case no. 1, 2, 3 and 5 at lags ranging from 1 to 18. So the null hypothesis H_{07} , H_{08} , H_{09} , H_{11} were accepted individually. This proves that DIIs Net Investments does not granger cause SENSEX, SENSEX does not granger cause DIIs Net Investments, FIIs Net Investments does not granger cause SENSEX and; DIIs Net Investments does not granger cause FIIs Net Investments. Further the study inferred that the p values < 0.05 in case no. 4 and 6 at lags was ranging from 1 to 18. Therefore the null hypothesis H_{10} and H_{12} was rejected individually. This shows that SENSEX does not granger cause FIIs Net Investments and FIIs Net Investments does not granger cause DIIs Net Investments;. It means that DIIs Net Investments does not granger cause SENSEX bi-

directionally; FIIs Net Investments does not granger cause SENSEX uni-directionally; DIIs Net Investments does not granger cause FIIs Net Investments uni-directionally.

RESULTS AND DISCUSSION

Correlation Analysis depicted no significant correlation; Regression Analysis stated no significant impact of independent variables on dependent variables; Johansen Co-integration Test conferred no long term relationship; and Granger Causality Test revealed that majority of the directional relationships between variables showed their independency. It can be concluded that SENSEX affected FIIs Net Investments and FIIs Net Investments affected DIIs Net Investments. The study stated that there existed no significant relationship between DIIs Net Investments and SENSEX. It was also found that there existed no significant relationship between FIIs Net Investments and SENSEX. On the other hand DIIs Net Investment and FIIs Net Investment had showed very low negative correlation with each other. It showed the independency of the variables. There was no significant impact of DIIs Net Investments and FIIs Net Investments on SENSEX individually. Non existence of significant impact further described the independency of variables. The three variables DIIs Net Investment, FIIs Net Investment and SENSEX were not found to be Co-integrated. The existence of non co-integration indicated that the variables had no long term relationship with each other and will move independently in long run.

DIIs Net Investment does not Granger Cause SENSEX bi-directionally. It showed that DIIs Net Investment and SENSEX were independent and SENSEX and DIIs Net Investment were also independent. FIIs Net Investments does not Granger Cause SENSEX. It means FIIs Net Investment and SENSEX were independent. DIIs Net Investments does not Granger Cause FIIs Net Investments unidirectional. It means that DIIs Net Investments and FIIs Net Investments were independent. SENSEX Granger Cause FIIs Net Investments, it means SENSEX and FIIs Net Investment were not independent. FIIs Net Investments Granger Cause DIIs Net Investment, it means FIIs Net Investments and DIIs Net Investment were not independent. Out of the six directional causal relationships, four directional causal relationships were found independent, but

two directional causal relationships were not independent. So, it can be said that on the basis of causal relationship majority of the variables were independent.

Though, majority of the tests showed the independency of the variables but, Granger Causation stated that SENSX affected FIIs Net Investments uni-directionally. FIIs Net Investment affected DIIs Net investments uni-directionally. So, it probably showed a chain based reaction with some lags that SENSEX affects FIIs Net Investments but FIIs Net Investments also affects DIIs Net investments. Change in SENSEX brings change in FIIs Net Investments and change in FIIs Net Investments brings change in DIIs Net Investments, but the nature of change has not been predicted leaving scope for further study.

Further the result of Co-integration showed that there is no long term relationship between FIIs Net Investments, DIIs Net Investments and SENSEX. It showed that FIIs Net Investments affect Indian Stock Market for short term only. For long term one can not rely on FIIs Net Investments. In this situation DIIs Net Investments plays a supportive role.

When ever SENSEX is higher and achieves a new level, FIIs are selling as there exist no tomorrow; DIIs are working as supporting forces in the Indian Capital Market stepping into buying. Understanding the FIIs Net Investments is very important for any emerging economy as FIIs Net Investments exerts a larger impact on the domestic financial market in the short run. A drastic fall even can break the confidence of FIIs and can also create high redemption pressure on domestic mutual funds. Thus, it is not beneficial for DIIs to let price rise too fast or fall too much. So DIIs existence, interaction and reflection are essential to safeguard, promote and mature the stock market when FIIs are allowed in to operate (Market Star Team, 2010).

CONCLUSION

It is concluded that there was no correlation between DIIs Net Investments, FIIs Net Investments and SENSEX. There was no impact of Institutional Invertors' Investments on SENSEX. Also there was no long term relationship between the DIIs Net Investments, FIIs Net Investments and

SENSEX. SENSEX affects FIIs Net Investments uni-directional. FIIs Net Investments affects DIIs Net Investments uni-directional.

SUGGESTIONS AND RECOMMENDATIONS

The Government of India is trying its best to attract the FIIs to invest in the Indian Stock Market but on the other hand one should be careful of the future risk of the foreign capital outflows. So, it may be suggested to the investors, both existing and potential, and policy makers regarding Foreign Institutional Investors' behaviour that long term developmental policies for economy should not be based upon inflow of FIIs. To support Indian Stock Market especially when FIIs are going out, mutual funds should invest more in equity in the stock market. Moreover, the Government and policy makers should focus on strengthening the banking system for long term results rather than promoting FIIs because FIIs are fair weather friends. Banks can provide the surest vehicle for promoting long-term growth and industrialization in the economy. Government should set a minimum limit as well as maximum limit for FIIs Net Investments in India, in order to avoid volatility in Indian Stock Market. Further, it should be cautioned that too much foreign portfolio investment damages the power of the domestic companies, especially when foreign investor begins to hold large stakes as non-promoting shareholders. In this regard, the market regulator has an important role in integrating financial markets.

It is recommended that individual investors' interests should also be safeguarded and promoted, as normally they are not switching from investments as FIIs do. Similarly the laws should be such that it protects domestic investors. Derivative instruments which facilitate long term foreign investment with specified lock in periods be introduced.

IMPLICATIONS

It is implicated that DIIs Net Investments, FIIs Net Investments and SENSEX are working independently in the market without holding any predictive correlation which indicates market efficiency status. The Regression Models needed further to be improved by including other

variables to express the relationship more accurately. Leaving further scope for finding other variables required in regression equation. Non existence of co-integrations among the variables also explains the independency of the operating variables which shows maturity of the market. Unidirectional impacting of SENSEX to FIIs Net Investments and in turn FIIs Net Investment impacting to DIIs Net Investments seems to be natural logical sequencing behavior of the studies variables. Thus, the objective to analyze the dynamism of relationship between Institutional Investors Investments and Indian Stock Market is clear in terms of correlation, regression, co-integration and granger causality which will help in developing competencies and skills for global competitiveness of Indian Stock Market.

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ANNEXURES

Table 1: Correlation Analysis

Variables	SENSEX	DIIS_NI	FIIS_NI
SENSEX	1	-0.211227408	0.081551722
DIIS_NI	-0.211227408	1	-0.129956089
FIIS_NI	0.081551722	-0.129956089	1

Table 2: Regression Analysis

Regression Model	Dependent Variable	R Square	F	P	T	P	Beta
1	SENSEX	0.044617	1.277175	0.23448	1.568884	0.1195	0.987193
2	SENSEX	0.006651	0.756559	0.386251	1.175756	0.2422	0.750876

Table 3: Johansen Co-integration Test

Table 3.a.: Unrestricted Co-integration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigen Value	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.20557	61.69083	29.79707	0
At most 1 *	0.177956	36.37645	15.49471	0
At most 2 *	0.126051	14.82066	3.841466	0.0001

Trace test indicates 3 Co-integrating equation(s) at the 0.05 level

* denotes acceptance of the null hypothesis at the 0.05 level.

**MacKinnon-Haug-Michelis (1999) p-values.

Table 3.b.: Unrestricted Co-integration Rank Test (Maximum Eigen Value)

Hypothesized No. of CE(s)	Eigen Value	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.20557	25.31438	21.13162	0.0121
At most 1 *	0.177956	21.55579	14.2646	0.003
At most 2 *	0.126051	14.82066	3.841466	0.0001

Max-Eigen Value test indicates 3 co-integrating equations at the 0.05 level

* denotes acceptance of the null hypothesis at the 0.05 level.

**MacKinnon-Haug-Michelis (1999) p-values.

Table 4: Granger Causality Test

Case No.	Null Hypothesis	Obs.	F Statistic	Prob.	Lag	Accepted/ Rejected
1	DIIS_NI does not Granger Cause SENSEX	103	0.61107	0.8267	12	Accepted
2	SENSEX does not Granger Cause DIIS_NI		0.77246	0.6765	12	Accepted
3	FIIS_NI does not Granger Cause SENSEX	109	0.30555	0.9327	6	Accepted
4	SENSEX does not Granger Cause FIIS_NI		4.12644	0.001	6	Rejected
5	DIIS_NI does not Granger Cause FIIS_NI	106	0.12967	0.9988	9	Accepted
6	FIIS_NI does not Granger Cause DIIS_NI		4.35494	0.0001	9	Rejected

(<http://www.quantshare.com>).

Structural Co-Existence of Organizations Elder and Younger Employees to Sustain Internal Control and External Transformation In Digital Age: A Review

Satish Talikota *

Abstract

Efficiencies focus on control aspects and effectiveness focus on transformation aspects. A co-existence of younger and elder employees in an organization on efficiencies and effective lines would create a social, demographic balance within the organization with high productivity indicators which organization can benefit if consciously implemented and sustained. Of the articles identified per keyword, about 5 relevant articles for 10 LOC (Line of Control) and 10 LOT (Line of Transformation) topics were chosen respectively which align with the theme of control/ efficiency and transformation/ effectiveness. The extensive review focus was on the application of particular concept in organization for problem solving or issue resolution either with control/efficiency or transformation/effectiveness perspective. The review findings show that efficiency aspects are more control oriented and effectiveness aspects are transformation oriented. The study concludes that control and efficiency aspect lies with elders or seniors and transformation aspect with youngsters or juniors

Keywords – High productivity, Line of control, Enterprise Resource Planning (ERP), Social Media, Artificial Intelligence,

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INTRODUCTION

Organizations in 21st century have employees of all ages ranging from 18+ till 65+. With a huge knowledge base to run an organization, it has been a challenge to attribute an age factor to organization knowledge base so that the elder and younger employees coexist and they can add great value to the organization in the areas which they can best focus naturally. In an earlier article by the author, the focus was on organizations Line of Control (LOC) and Line of Transformation (LOT) with respect to efficiency / control and effectiveness / transformation. The same concept is extended further to attribute to employees' age factor so that Organizations can consider as a guiding factor for better resource utilization in the Digital era. This conceptually defines two broad paradigms as Line of Control (LOC) for elder employees and Line of Transformation (LOT) for younger employees. The following diagram depicts a conceptual understanding of the positioning of LOC and LOT.

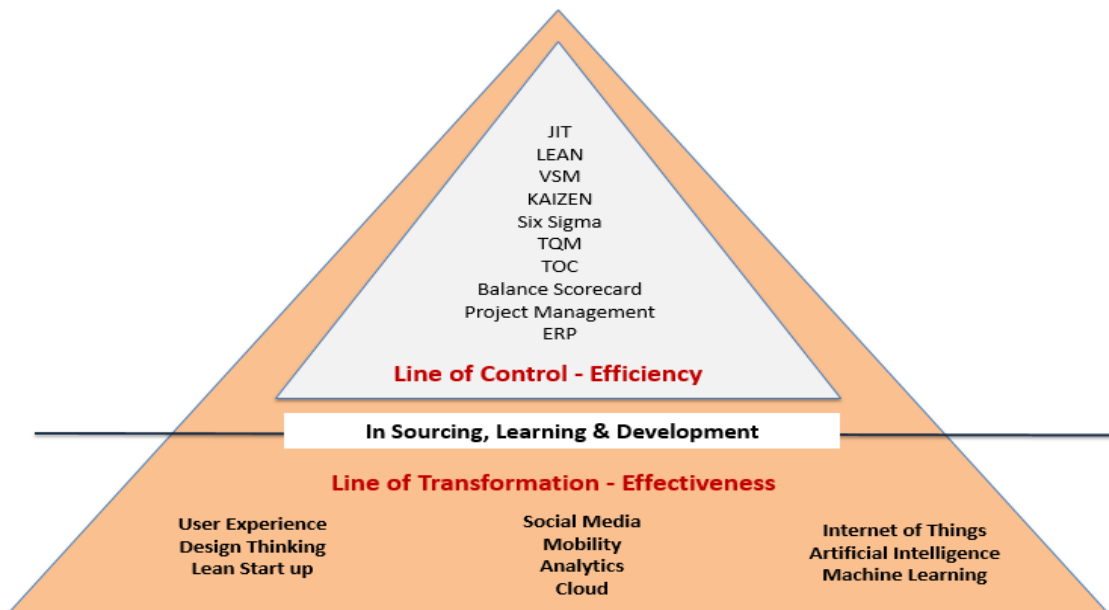


Figure 1 – LOC, LOT and HR Intervention

Existing literature on LOC and LOT

The concepts of Line of Control (LOC) are derived from management control systems. A system which gathers and uses information to evaluate the performance of different organizational resources like human, physical, and financial and also the organization as a whole in light of the organizational strategies pursued. On the other hand, line of transformation (LOT) is derived from Digital Transformation definition, associated with the application of digital technology in all aspects of human society at large (www.wikipedia.org).

In the context of LOC and LOT, there was no literature in the search vicinity which differentiates the control and transformation point of view. Due diligence is done to check if any such literature review is attempted before. Since there was no successful identification of such a review, the author took up the work to bring forth this new concept for the organization with respect to LOC and LOT. However, discretely lots of research is been done in the individual topics of LOC and to a lesser extent in LOT. Sometimes combining 2 or 3 topics are researched together due to their interdependency nature. Author has taken to the review in this backdrop and present findings, discussion, limitations and further research.

METHODOLOGY

A four phase methodology is adopted for the study.

Phase I – Classification of concepts

In this phase, LOC and LOT concepts are chosen on popular adoption in organizations and mention in magazines and literature. Further, instead of spreading thin on multiple databases, a single source database was chosen for all LOC and LOT topics. And the papers were

predominantly the academic journals. www.sciencedirect.com was the online database chosen to identify the research papers for LOC and LOT of various journals. Science direct source was chosen sampling an article for each topic and found that recent year's papers were published and specific to science domain of research and application.

Table 1 – LOC & LOT Concepts with Number of Articles for Review

#	LOC Concepts	Papers	#	LOT Concepts	Papers
1	Just In Time (JIT)	5	1	Social Media	5
2	LEAN	5	2	Mobility	5
3	Value Stream Mapping (VSM)	5	3	Analytics	5
4	KAIZEN	5	4	Cloud Computing	5
5	Six Sigma	5	5	Internet of Things (IOT)	5
6	Total Quality Management (TQM)	5	6	Machine Learning (ML)	5
7	Theory of Constraints (TOC)	5	7	Artificial Intelligence (AI)	5
8	Balance Scorecard	5	8	User Experience (UX)	5
9	Project Management	5	9	Design Thinking (DT)	5
10	Enterprise Resource Planning (ERP)	5	10	Lean Startup Methodology (LSM)	5
	TOTAL	50			50

Phase II – Selection of articles

The reason for choosing 5 articles was actually from identified 10-15 articles for each topic or concept. 5 relevant articles were considered as a reasonable number to review per concept. Also, as the numbers of concepts are 20 in total, a review of 100 articles was felt appropriate for the literature review. For each topic attempt was made to download research topic where the LOC or LOT concept was discussed from a research perspective applying the concept in multiple industries. Where there is a clear source of theory backing of the concept itself and its application as a solution to a problem or an opportunity in efficiency or effective domain, such a paper was considered in this review.

Phase III – Confirmation of Internal and External focus

The guiding force of the literature review was to identify the focus of the concept. For LOC, the focus was to observe if the concept predominantly internally focused either on efficiencies or effectiveness. Although customer focus may be termed as externally focused, in the context of disruptive technology, a mere customer focus is more looked as internal orientation rather than be adaptive rapidly from a digital sense. However, for LOT, the question is with the disruptive technologies at the root, is the focus external or internal was to be determined. The literature review in the next section reveal that the LOC concepts are predominantly internal control oriented and LOT are predominantly external transformation oriented and further the control aspects are better addressed by the elder employees and transformation aspects by the younger employees. The next sections will unfold the same giving sufficient indications which necessitate further research.

Phase IV – Social media survey

A social media survey was conducted on a sample size of 100 respondents to elicit opinion of how elder and younger employees of an organization can be aligned with LOC and LOT aspects. One single question was asked and the response was to answer as agree / disagree.

FINDINGS FROM LITERATURE REVIEW

LINE OF CONTROL

Just In Time Concept (JIT)

Implementation of integrated logistics is a strategy to achieve efficiencies in operative and administrative areas. The focus is on forecasted demand, aggregate planning methodologies, lean manufacturing, JIT, so as to make enterprise more competitive in delivery lead time, improve customer service level and reduce inventory (*Rodolfo et. al. 2015*). In JIT implementation, independent variables can be as organizational commitment, communication channels in organization, empowerment granted to employees, education provided in different organization levels and the capacity to solve problems. On the other hand, dependent variables can be

inventory management, cost, quality as performance indicators (*Jorge Luis Garcí'a Alcaraz et al. 2014*). New JIT consisting of Total Development System (TDS), the Total Production System (TPS), Total Marketing System (TMS), Total Quality Management (TQM) as core elements required for establishing new management technology principles for sales, R&D, design, engineering and production (*Kakuro Amasaka, 2007, 2014*). Integrated supply chain strategy comprises of Total JIT (T-JIT) which incorporates JIT-Production, JIT-Selling, JIT-Purchasing and also JIT-Information (*Kenneth et. al 2013*).

LEAN CONCEPT

Application of lean concepts in product development domain to remove waste at the factory floor has immense value for customers be it in all direct or indirect activities within the product value stream(*Torgeir Welo et al., 2016*). Type of management control practices relate and impact the implementation of corporate lean program at factory level (*Torbjorn et al., 2015*). Lean thinking can be adopted as a holistic business strategy rather than activity isolated in operations (*Rosemary et al., 2014*). Lean management (LM) is a managerial approach for improving processes based on a complex system of interrelated socio-technical practices (*Thomas et al., 2014*). Research on integration of Lean and Green practices have introduced easy to track metric - Carbon-Value Efficiency, adding value to control measures (*Ruisheng Ng et al., 2015*).

Value Stream Mapping (VSM)

Strategies for sustainable manufacturing include lean manufacturing practices and VSM techniques to identify environmental / societal negative impacts or waste (*William and Fazleena, 2014*). Framework of VSM helps to identify current state and future state by development teams brainstorming sessions, Gemba walk could reduce Product Development (PD) lead time to 50% (*Satish et al., 2014*). A VSM method is developed that allows a first quick, easy and comprehensive analysis of energy and material flows within the production process (*Neha and Vinay, 2016*).

KAIZEN

Factors contributing to the successful implementation of Kaizen and its challenges among small and medium enterprises are useful in order to control organization efficiencies from global competitive perspective (*Mohd. and Fatimah, 2016*). Lean management often includes a Kaizen event to facilitate the acceptance of the project by the employees (*Chantal et al., 2015*). For remote care patients, application of Kaizen on future of telemedicine is emphasized to provide high-quality, patient-centered care (*James R. van Dellen, 2016*). A framework which brings both Kaizen and automation together, using an automated simulation model as a process re design to control and can improve labor productivity to 50% (*Jr Jung Lyu, 1996*). Controlling information, knowledge flow between buyers and suppliers on the lines of Kaizen's continuous improvement philosophy, contributes to product co-design and can fulfill potential buyer's requirements for quality, cost and delivery control (*Tomohiro et al., 2015*).

Six Sigma Method

Adherence to Six Sigma method becomes more beneficial for projects that create a lot of knowledge and control project execution (*V. Arumugam et al. 2016*). For environmental sensitive service standards, limitations of green lean approach can be identified and then integration with the six sigma approach can be considered in order to overcome the limitations, and then assess the performance of the green lean approach (*Muhittin and Yigit, 2016*). Six Sigma approach is one of the management control system providing inter disciplinary approach including statistical and operational research (*Muzaffer et al., 2016*). Also, six sigma approach can be applied in complex supply chain inner process with a focus to decrease defects and failures and propose process improvements (*Hikmet and Muhsine, 2015*). Organizational knowledge creation processes positively effects knowledge, in turn positively effects six sigma project success, and six sigma project success leads to improved organizational performance (*Ang Boon Sin et al., 2015*). Six Sigma is an optimization technique. The difference it makes is to be flexible aiming to optimize both the performance and managerial skill (*Ali and Hacer, 2015*).

Total Quality Management (TQM)

There exist inter disciplinary relationship between mediators such as Statistical Process Control (SPC), Lean Production (LP), Total Productive Maintenance (TPM) with respect to organization business performance. Structural Equation Modelling (SEM) are used to examine the relationships of the practices (*Ahmed et al., 2012*). In Small and Medium Enterprises (SME), where the structure of the organization is such that the employees perform multi-tasking, here the TQM is considered for implementation to enhance the quality of manufacturing processes (*Ionela et al., 2015*). TQM is a philosophy that emphasizes process improvement, whereas an ERP system is an IT mechanism that implements enterprise-wide process management (*Ling, et al., 2008*). Strategic planning and human resource management have a positive and significant relationship with the dimensions of Knowledge Management (KM), whereas process management has significant effects on knowledge acquisition and knowledge distribution (*Keng-Boon Ooi, 2014*). Technology/ R&D management is an appropriate resource to be used in harmony with TQM to enhance organizational performance, particularly innovation (*Daniel and Amrik, 2004*).

Theory of Constraints (TOC)

Critical Chain Project Management (CCPM) is a TOC tool, used for planning and project management. The tool can be used both in one-project and multi-project structures where resources are being used in several projects simultaneously (*Azar et al., 2016*). Goldratt's Theory of Constraints (TOC) is to reduce inefficiencies. The Bullwhip Effect is a proven cause of significant inefficiencies in SCM (*Jose et al., 2014*). TOC can be applied in complex scheduling jobs as well. Simulation scenarios are helpful to control Master Production Scheduling (MPS), the role of setup time in scheduling, impact of free products on through put etc (*Davood, 2015*). Increase in throughput mean that the rate at which the company is making money is increasing (*Azar, 2014*). The emphasizes of the Theory of Constraints (TOC) as a management philosophy is on the weakest links/ rings in the process chain to improve the performance of

systems. Companies, whether they are in the production or service sector should be more focused on understanding their own structure in terms of processes to survive in a global competition (Zeynep et al., 2014).

Balance Scorecard

The Sustainability Balanced Scorecard (SBSC) concept is used to assess the perceived importance of relationships between Corporate Social Responsibility (CSR) and business performances to support the goals established (Jin-Su et al., 2015). Considering the extrinsic and intrinsic factors such as companies age, the diversity of products and services, the nature of the ownership structure, the internationalization, and the organizational size, the adoption of BSC can be assessed (Patricia et al., 2016). Through the BSC, an organization monitors and controls both its current performance (finance, customer satisfaction, and business process results) and its efforts to improve processes, motivate and educate employees, and enhance information systems - its ability to learn and improve (Jarosalva et al., 2014). Sustainable design-centered manufacturing (SDM) is to create competitive advantages for future new product development. However, selecting and balancing the indicators for economic, environmental, and social sustainability (3 pillars) is expressed as difficult (Steve H. et al., 2015). It is worth measuring ERP system performance based on its impact to critical performance of an organization as this requires a systematic method that bridges ERP performance measurement and key organizational performance (Yung-Chi et al., 2015).

Project Management

Broader approach to PM maturity assessment can be deduced from Project Management literature. Applying the same might address the criticism regarding the existing models of lower impact on performance on maturity assessment (Mihaly, 2016). Integrated view of PM research in terms of its thematic evolution and trends is necessary for an understanding of future directions and better management and control (Milind and Saji). 19 challenges were identified which are considered to be necessary to address for success of a Global Software Development project

spread across globally (*Mahmood et al., 2016*). To establish multi-cultural PM process, 7 steps can be followed for better control (*Ipek Sahra Ozguler, 2016*). Similar to having enterprise risk management systems and disaster risk management systems and tools, project risk management systems should be available in the organization (*Amir et al., 2015*).

Enterprise Resource Planning (ERP)

One of the key control focuses of ERP implementation is user satisfaction. Top management need to take user support, training, system quality views (*Carlos et al., 2016*). Implementation of ERP with effective communication among departments to meet delivery dates have achieved to reduce work in progress on the shop floor and inventory, integration of firm's activities, intra organizational communication and wider collaboration with other stakeholders (*Ignatio and Charles, 2016*). Focus on end users of ERP is so critical for ERP implementation. Their active participation throughout the implementation phases ensure successful implementation and ensure achievement of objectives (*Samwel and Patrik, 2013*). ERP and BI (Business Intelligence) implementation have been looked as a separate project engagement. Infact ERP provides online transaction process reporting on real time data and BI provides online analytical process reporting on historical data. They service the purpose for operations and strategic decision making respectively. Seamless integration of these two systems would provide a better management control (*Muhammad and Zawiyah, 2013*). Post implementation of ERP, the major issue identified is knowledge transfer and retention from external vendor to internal employee. There can be a process for knowledge transfer from external organizations into organizations based on the model of SECI (socialization, externalization, combination, internalization) (*Saide and Mahendrawath, 2015*).

LINE OF TRANSFORMATION

Social Media

Social media could be a mediator between social psychological predictors of a protest behavior and actual participation in a general political awareness, efficacy, and grievances on movement

support and participation (*Francis et al., 2016*). There are links between social media marketing efforts and their consequences (brand preference, price premium, and loyalty). Brands are measured with social media marketing efforts as a holistic concept that incorporates five aspects (entertainment, interaction, trendiness, customization, and word of mouth) (*Bruno et al., 2016*). Social media can be a moderation tool in emergency management or critical situations to be addressed. Attitudes can be explored as expressed by the emergency service staff towards social media for private and organizational use (*Christian et al., 2016*). Best practices in crisis communication can be specifically through the use of social media (*Xialing et al., 2016*). Social media can be further classified into six categories, namely: (i) social network; (ii) social commerce; (iii) social recruitment; (iv) social management; (v) social loyalty and advocacy; (vi) contact management (*Antonio et al., 2016*).

Mobile Technology

Service Oriented Architecture (SOA) can be used to design the system structure and applied mobile communication technology (IMCT) to develop a mobile roaming sessions of the home care management system (*Mu-Hsing et al., 2016*). Mobile health (mHealth) is an emerging field devoted to the use of mobile and wireless devices to affect health outcomes, health care services, and health research leading to transformation of healthcare services (*Melanie and Heather, 2015*). Japanese workers' total MT usage (i.e., during office and non-office hours) had a positive impact on their work autonomy, which, in turn, led to greater work engagement. Emotional exhaustion was not related to MT usage and in turn contributed to work transformation (*Yuka et al., 2016*). Uses and gratifications (U&G) is an approach with a perspective of media technology to explore consumers' motivations for disseminating sWOM (social word of mouth) in mobile SNSs (social networking sites) based on sequential qualitative and quantitative methods (*Yu-Hsiang Lin, et al., 2016*). Hotels adopt mobile reservation systems; based on a technology-organization environment (TOE) framework, nine factors are hypothesized to explain hotels' adoption of mobile hotel reservation systems (MHRS) (*Yi-Shun Wang et al., 2016*).

Analytics

The findings show BDAC(Big Data Analytics Capability) as a hierarchical model, which consists of three primary dimensions (i.e., management, technology, and talent capability) and 11 sub dimensions (i.e., planning, investment, coordination, control, connectivity, compatibility, modularity, technology management knowledge, technical knowledge, business knowledge and relational knowledge) (*Shahriar et al., 2016*).Analytics can provide insight into healthcare consumers' behaviors and attitudes as critical information in an environment where healthcare delivery is moving rapidly towards patient-centered care (*Eric et al., 2016*). The Big Data phenomenon, the volume, variety, and velocity of data, has impacted business intelligence and the use of information (*Deanne and Victor, 2016*).Online consumer reviews have been studied for various research problems in hospitality and tourism. Social media analytics in hospitality and tourism can be conducted (*Zheng et al., 2016*).Augmented Reality is an immersive analytical tool in the physical world. They present Situated Analytics, a novel combination of real-time interaction and visualization techniques that allows exploration and analysis of information about objects in the user's physical environment (*N.even et al., 2016*).

Cloud Technology

A novel model-driven approach and architecture which secures multi-cloud platforms, enables users to have their own private space and guarantees that application deployments are not only constructed but can also maintain a certain user-required security level (*Kyriakos et al., 2016*).Adopting a design science research approach, solution was developed based around stakeholders' collaborative participation in prototyping and then evaluated the design using focus groups (*Shah et al., 2016*).It has been suggested that the physical location of the control system be moved from that of the machine to a cloud, i.e. Control system as a Service (CSaaS) (*Jan et al., 2016*).Research associated with Big Data in the Cloud will be important topic over the next few years. The topic includes work on demonstrating architectures, applications, services, experiments and simulations in the Cloud to support the cases related to adoption of Big Data

(Victor et al., 2016). A cloud-based mobile e-health calorie system can classify food objects in the plate and further compute the overall calorie of each food object with high accuracy. (Sri Vijay et al., 2016)

Internet of Things

The intelligent building, a major smart city research and development domain, has grown beyond the scope of automation, currently focusing on the occupant centered approaches and the ancillary services offered to the power grid (Georgious et al., 2016). Capability for data analytics is an essential element for IoT service. Also, open ecosystems would help companies provide new integrated service and offer greater value for consumers (Jaehyeon et al., 2016). A simulator supporting IoT applications in cloud environment is highly in demand, and so IOTSim is designed and implemented which supports and enables simulation of IoT big data processing using MapReduce model in cloud computing environment (Xuezhi et al., 2016). The effective delivery of emergency information to elderly people is a challenging task. Resalert offers IoT-enabled emergency information supply chain architecture pattern, IoT device architecture and system architecture (Asif, et al., 2016). Urban poor adopting IoT-based innovations must incorporate the unique characteristics of this segment viz. low levels of technology awareness, social acceptance and consumer need (Abhimanyu et al., 2016).

Machine Learning

Landslide susceptibility assessment of Uttarakhand area of India has been done by applying five ML methods namely Support Vector Machines (SVM), Logistic Regression (LR), Fisher's Linear Discriminant Analysis (FLDA), Bayesian Network (BN), and Naïve Bayes (NB) (Binh et al., 2016) (Jean-Emmanuel et al., 2016). Developing and applying the artificial neural network (ANN) with back propagation learning (BP) algorithm and with extreme learning machine (ELM) can help in order to predict GDP growth rate (Svetlana et al., 2016). ML approaches are increasingly successful in image-based diagnosis, disease prognosis, and risk assessment (Marleen, 2016). Exploring the application of Supervised Machine Learning (SML) can

overcome challenges associated with online data analysis. In SML classifiers are used to categorize and code binary data(Ward *et al.*, 2016).

Artificial Intelligence

Five Artificial Intelligence (AI) methods can be applied to predict the final duration of a project. A methodology that involves Monte Carlo simulation, Principal Component Analysis and Cross-Validation is proposed and can be applied by academics and practitioners (Mathieu and Mario, 2015). Artificial Intelligence has contribution of penetrating extensively the renewable energy aspects for improving the functioning of the systems economically (S.M Zahraee *et al.*, 2016). Artificial Intelligence (AI) can assist developers in dealing with service-oriented design with the positive impact on scalability and management of generic quality attributes. Conceptualized and synthesized analysis of AI research works have aimed at discovering, composing, or developing services (Guillermo *et al.*, 2016). A model can be developed for accurate forecasting of Municipal Solid Waste (MSW) generation that helps waste related organizations to better design and operate effective MSW management systems (Maryam *et al.*, 2016). The future of robots, mechatronics and artificial intelligence, impact man kind in different perspectives. Many items and headlines such as jobless ratio, performance management, CRM Analytics, customer relationship management, sales, strategic planning, mass production, Purchasing Power Parity, GDP, inflation, money, central banks, banking system, coaching, training, accounting, taxes etc. have impactful opportunities and gains with the improvements in Artificial Intelligence and Robotics (Cüneyt Dirican, 2015).

User Experience

“Interplay between User Experience Evaluation and Software Development”, states that the gap between human - computer interaction and software engineering with regard to usability has somewhat been narrowed (Carmelo *et al.*, 2013). There is an emphasis on social network to allow professionals of diverse artistic disciplines to exhibit their work and connect amongst each other. They investigate the network properties of the UX/UI designer subgraph (Susanne *et al.*,

2015). The term, UX, delineates a multifaceted and complicated process that embraces analysis, strategic business branding, planning, concept, and participatory design, and change in modern organizational cultures (*Panagiotis et al., 2012*). UX is a maturing research area pertaining to as well as extending beyond the traditional usability. Issues in the realm of usability may be amplified in UX because of its larger scope (*Effie lai-Chong et al., 2013*). In recent years, user UX and Human Factors (HF) have become key components of many business models, but there are still many technology companies which view UX and HF as less than central to their product's value proposition; and, in extreme cases, they view it as aesthetics and visual design only (*Jennifer and Scott, 2015*).

Design Thinking

DT can foster new approaches to complex and persistent health care problems through human-centered research, collective and diverse team work and rapid prototyping (*Jess et al., 2016*). A new participatory design method, known as DT is used to create an Ecosystem Management (EM) tool called the Great Lakes Aquatic Habitat Explorer. Design workshop survey data found that the methods produced an environment of collaborative learning among participants, including diverse participants, authentic dialog, and creativity (*Robert et al., 2016*). There is a necessity to provide awareness on design of applications and DT to highlight potentials of these innovative management methods and tools to build new organizational capabilities and sustain competitiveness in the challenging business conditions, to improve the welfare of society and create better environment for living (*Tatjane and Inga, 2016*). DT and sustainable business model innovation together focus to refine the creative process of developing sustainable value propositions and improve the overall business modelling process. (*Martin et al., 2016*). DT is a strategy based on user-centric design methods and principles. Integrating responsibility in innovation does not have to become a constraint if it is incorporated as a tool for stimulating the creative capacity of innovation teams (*Xavier and Daphne, 2016*).

Lean Start up

Due to its strategic importance, the overall business model, along with the products and services to be delivered, should be assessed iteratively, defining their importance in respect with the customer needs and expectations (*Andrea et al., 2016*). When it comes to succeeding in developing a business idea, lean startup methodology (LSM) can be adopted. LSM is a methodology that focuses on agile testing and learning cycle to validate hypotheses in the business idea (*Michael et al., 2016*). Hypothesizing of using Lean Startup in the healthcare segment is a way of improving the process of creation and development of new products and services in the industry (*Silva et al., 2015*). Thinking on how to strengthen its open innovation model for the R&D center of a Chinese multinational subsidized in Brazil, they made open innovation as a synonym for its strategy based on partnerships with other companies, universities, and research institutes in Brazil (*Romulo et al., 2015*). Strategy focusing on design-driven innovation can help startups in creating design concepts or business innovators to promote the growth of companies so sustainable in its market, where competition is fierce and full (*Isabela et al., 2015*).

DISCUSSION

The following is the synthesis of the review from the articles for each concept of LOC and LOT. Focus of JIT is on efficiencies in operations administration, competitiveness due to internal efficiencies with management commitment and education for employees. The focus of LEAN is on waste removal in the process for value creation, improving of operational performance. Removal of non-value added activities on one hand and focus on value added activities on the other along with visual presentation would sustain the VSM objectives. Control element can be seen in KAIZEN with employee inclusiveness in the event, good communication between top management and employees, focus on resistance to change, impact on culture by big picture communication by change management with a purpose orientation. Precision on control can be seen in alignment of project goals, extensive SIX SIGMA and knowledge creation and training. An in-house employee takes TQM as a base and reflects quality orientation in all other

optimization techniques or subjects. Focusing on the weakest link in the project progress with a focus on resources impact, TOC unleashes the in efficiencies at man-machine interfaces. Measuring operational aspects to sync up with corporate goals, BALANCE SCORECARD brings in operational goals aligned to in house resources and give a holistic measure across organizations communicating individuals impact on critical focus areas and take control on actions. To be executed well within constraints, project management discipline necessitates efficient in house resources to undertake the project goals considering risks & execute within budget allocated and a high degree of control need to be exercised to avoid any schedule or cost variances. Implementation of ERP as a tool to bring in business process re-engineering is a resource intensive engagement at corporate level.

Social media embraces extended stakeholders who influence effectiveness of decision making. Agnostic devices, mobile and instantaneous communication with customers, vendors, service providers in real time is a transformational service an organization can provide in the disruptive era. Mobile technology is transformational concept for any organization in the digital and disruptive era. Generation of huge amount of data by man or machine necessitates data analytics and resources to be skilled in analytics and inference with respect to decision making as different stages of end to end engagement with customers, vendors, service providers etc. Cloud technology enables infrastructural transformation on consolidation and simplification. It connects with other SMAC (Social Media, Mobility, Analytics, Cloud) technologies to play its part in sustainable organization transformation. Opportunity identification, preventive maintenance, proactiveness in service provision are some of sensor based IOT's transformation work areas which require a different culture in the organization and so the in house resource orientation towards transformation mind set. Applications of machine learning found in landslides, radiation oncology, and image based diagnosis, together with cloud, big data and other disciplines of transformation, algorithm of machine learning are bound to increase and applications are set to grow. On the basis of machine learning, artificial intelligence takes over to take chances on decision making by machines on the lines of human cognitive patterns. Service oriented designs can be worked out. Human factors considerations in use of a product is a new emergent concept which the product companies need to take into account as a feedback and for follow up

decision's to sync up with user experience. Human centered research and solutions with rapid prototyping for innovation aligns well with user experience. Multi stakeholder harmony is one of the aims of design thinking. With a concept of Minimum Viable Product (MVP), especially for startups to progress on a solution weather to pivot or persevere, the focus of lean startup itself is on developing business idea on agile methods contributing to organization transformation.

So, what comes out of this study is that, organizations in Digital era need to appreciate concepts of control and concepts of transformation together at same time. It is an organizations strategic intervention along with Human Resources Department (HRD) which needs to assess organizations readiness of its employee's capability with control and transformation aspects. And therefore, it seems that the elder employees with experience or training are better suitable for control aspects rather than on transformation aspects. Similarly, the younger employees are better suitable for transformation aspects than on control aspects. Organizations learning & development department can formulate job descriptions in such a manner that best of employee allocation based on age, experience can be attributed to control and transformation aspects respectively.

The following was the social media survey question and result.

In an organization, JIT, LEAN, VSM, KAIZEN, SIX SIGMA, TQM, TOC, BALANCE SCORECARD, PROJECT MANAGEMENT, ERP are better handled by elder/ senior resources. And SOCIAL MEDIA, MOBILTY, ANALYTICS, CLOUD, IOT, ARTIFICIAL INTELLIGENCE, MACHINE LEARNING, USER EXPERIENCE, DESIGN THINKING, LEAN STARTUP are better handled by younger/ junior resources. Respond "Agree" or "Disagree".	Agree	70%
	Disagree	30%

Research Gap and Future Direction

This literature survey is confined to one database i.e. sciencedirect.com but several journals from it. Other database such as JStor, Emerald etc. might be reviewed for each topic to get a better sense of insights on control and transformation aspects.

CONCLUSIONS AND LIMITATIONS

An organization consists of all employees of all employable ages. With rapid technology changes coupled with complexity like never before, it is in the best social, behavioral and biological interest of human endeavor that control aspects of an organization is best addressed by elder organization resources and transformation aspects addressed by the younger resources to have a semblance and harmony in organization and co-exist to make the best of not just data and information but also of knowledge and wisdom. Although a quick social media survey of 100 sample revealed alignment with the theme, a more in depth study is necessary to carry out to explore further dimensions in this in this regard.

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E-Waste Management and its Consequences: A Literature Review

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Abstract

Central issue of the present study is electronic-waste (e-waste) that is rising as a brand new environmental challenge for twenty first century. The rapid climb of the electronic and IT trade, gift client culture, increasing rates of consumption of electronic product have lead to fateful environmental consequences. E-waste, while recycling, is also risky due to toxicity of a number of the substances which contains several cancer-causing agents. The implications and toxicity is thanks to discharge of lead, mercury, cadmium, metallic element and alternative virulent substances. Developed countries export this waste within the type of donation to developing countries. China and some Asian nations, where environmental standards are low, are the most important recipients of e-waste which, in most cases, is processed illicitly. The environmental burden of e-waste is born by people that sleep in developing countries. Despite varied laws and directives in developed countries, the e-waste management is uncontrollable. The current study focuses on the effect of usage, marketing and use of the electronic waste on the natural setting.

Key Words: *E-waste, environmental challenges, e-Electronic Scraps, e-waste management*

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INTRODUCTION

"Electronic waste" could also be outlined as discarded computers, workplace equipment, diversion device natural philosophy, mobile phones, TV sets, and refrigerators. This includes used natural philosophy that are destined for use, resale, salvage, recycling, or disposal. Others are re-usables (working and fixable electronics) and secondary scrap (copper, steel, plastic, etc.) to be "commodities", and reserve the term "waste" for residue or material that is drop by the client instead of recycled, as well as residue from use and utilization operations. as a result of many surplus natural philosophy are oftentimes commingled (good, recyclable, and non-recyclable), many public policy advocates apply the term "e-waste" broadly speaking to any or all surplus natural philosophy. Electron beam tubes (CRTs) are thought-about one in all the toughest varieties to recycle.

Sources of E-Waste:

Table 1: Effects of E-Waste constituent on health

Source of e-wastes	Constituent	Health effects
Solder in printed circuit boards, glass panels and gaskets in computer monitors	Lead (PB)	<ul style="list-style-type: none"> • Damage to central and peripheral nervous systems, blood systems and kidney damage. • Affects brain development of children.
Chip resistors and semiconductors	Cadmium (CD)	<ul style="list-style-type: none"> • Toxic irreversible effects on human health. • Accumulates in kidney and liver. • Causes neural damage. • Teratogenic.
Relays and switches, printed circuit boards	Mercury (Hg)	<ul style="list-style-type: none"> • Chronic damage to the brain. • Respiratory and skin disorders due to bioaccumulation in fishes.
Corrosion protection of untreated and galvanized steel plates, decorator or hardner for steel housings	Hexavalent chromium (Cr) VI	<ul style="list-style-type: none"> • Asthmatic bronchitis. • DNA damage.
Cabling and computer housing	Plastics including PVC	Burning produces dioxin. It causes <ul style="list-style-type: none"> • Reproductive and developmental problems;

		<ul style="list-style-type: none"> • Immune system damage; • Interfere with regulatory hormones
Plastic housing of electronic equipments and circuit boards.	Brominated flame retardants (BFR)	<ul style="list-style-type: none"> • Disrupts endocrine system functions
Front panel of CRTs	Barium (Ba)	<p>Short term exposure causes:</p> <ul style="list-style-type: none"> • Muscle weakness; • Damage to heart, liver and spleen.
Motherboard	Beryllium (Be)	<ul style="list-style-type: none"> • Carcinogenic (lung cancer) • Inhalation of fumes and dust. Causes chronic beryllium disease or beryllicosis. • Skin diseases such as warts.

MANAGEMENT OF E -WASTE

Because of uncertainty of the ways to manage, electronic junks lie unattended in homes, offices, warehouses etc. and its commonly mixed with family wastes, that are finally disposed off at landfills. This necessitates implementable management measures. In industries management of e-waste ought to begin at the purpose of generation. This will be done by waste step-down techniques and by property product style (Ramachandra T.V. & Saira Varghese K., 2004). Waste step-down in industries involves adopting:

- Inventory Management,
- Production-Process Modification,
- Volume Reduction,
- Recovery and Utilise.

Inventory management

Proper management over the materials employed in producing method is a crucial thanks to cut back waste generation (Freeman, 1989). By reducing each, the number of venturous materials employed in the method and also the amount of excess raw materials available, the amount of waste generated will be reduced. This could be tired 2 ways i.e. establishing material-purchase review and management procedures and inventory pursuit system.

Developing review procedures for all material purchased is the initiative in establishing a listing management program. Procedures ought to need that each material should be approved before purchase. Within the approval method, all production materials area unit evaluated to look at, whether they contain venturous constituents or various hazardous materials area unit obtainable.

Another inventory management procedure for waste reduction is to confirm that only required amount of a fabric is ordered. This can need the institution of a strict inventory pursuit system. Purchase procedures should be enforced to make sure that materials area unit ordered solely associate with need basis.

Production-process modification

Changes should be created within the production method, which can scale back waste generation. This reduction is accomplished by a lot of economical use of input materials within the production method. Potential waste reduction techniques are weakened into 3 categories:

- Improved operational and maintenance procedures,
- Material amendment and
- Process-equipment modification.

Improvements within the operation and maintenance of method instrumentality may result in vital waste reduction. This will be accomplished by reviewing current operational procedures and examination of the assembly method for methods to boost its potency. Instituting normal operation procedures will optimise the employment of raw materials within the production method and scale back the potential for materials to be lost through leaks and spills. A strict maintenance program, that stresses corrective maintenance, will scale back waste generation caused by failure. Nursing employee-training program may be a key component of any waste reduction program. Training ought to embrace correct operational and handling procedures, correct instrumentality use, counselled maintenance and examination schedules, correct method management specifications and correct management of waste materials.

Hazardous materials utilized in either a product formulation or a production method should be replaced with a less dangerous or non-hazardous material. Implementation of this waste-reduction technique might require just some minor changes or it should need intensive new

method instrumentality. As an example, a printed circuit manufacturer will replace solvent-based product with water-based flux and at the same time replace solvent vapor degreaser with detergent elements washer.

Volume Reduction

Volume reduction includes those techniques that take away the venturesome portion of a waste from a non-hazardous portion. These techniques area unit typically to scale back the quantity, and therefore the value of eliminating a waste product. The techniques that may be wont to cut back waste-stream volume may be divided into two general categories: supply segregation and waste concentration. Segregation of wastes is in several cases an easy and economical technique for waste reduction. Wastes containing differing types of metals may be treated one by one so the metal worth within the sludge may be recovered. Concentration of a waste stream might increase the probability that the fabric may be recycled or reused.

Recovery and use

This technique might eliminate waste disposal prices, scale back staple prices and supply financial gain from a in demand waste. Waste is recovered on-the-scene, or at an off-site recovery facility, or through put down trade exchange. Variety of physical and chemical techniques like reverse diffusion, electrolysis, condensation, electrolytic recovery, filtration, activity etc are accessible to reclaim a stuff. As an example, a printed-circuit board manufacturer will use electrolytic recovery to reclaim metals from copper and tin-lead plating bathtub. However, usage of risky merchandise has very little environmental profit if it merely moves the hazards into secondary merchandise, that eventually ought to be disposed of. Unless the goal is to revamp the merchandise to use non-hazardous materials, such usage may be a false resolution.

SUSTAINABLE PRODUCT STYLE

Minimization of venturous wastes ought to be at product style stage itself keeping in mind the subsequent factors.

Rethink the merchandise design: Efforts ought to be created to style a product with fewer amounts of venturous materials. For instance, the efforts to scale back material use area unit

mirrored in some new PC styles that area unit blandish, lighter and a lot of integration. Alternative firms propose centralized networks almost like the phone system.

Use of renewable materials and energy: Bio-based plastics created with plant-based chemicals or plant-produced polymers instead of petro-chemicals. Bio-based toners, glues and inks area unit is used a lot of times. Star computers additionally exist however, they are presently terribly expensive.

Use of non-renewable materials that area unit safer: As a result of several of the materials used area unit non-renewable, designers might make sure that the product is made for re-use, repair and/or upgradeability. Some PC makers like holler and entryway lease out their product thereby guarantee to get them back for additional upgrade and lease out once more.

LITERATURE REVIEW

In a study by Jalal Uddin (2012), Through innovative changes in product style below EXTENDED PRODUCER RESPONSIBILITY (ERP), use of environmentally friendly substitutes for dangerous substances, these impacts can be mitigated. A legal framework must be there for imposing EPR, RoHS for attaining this goal. Adoption of environmentally sound technologies for usage and employ of e-waste at the side of EPR and RoHS offers workable answer for environmentally sound management of e-waste. Manufacturers & suppliers need to set goals for reducing electronic waste. Encourage them to buy back old electronic products from consumers, disposing bulk e-waste only through authorized recyclers and send non tradable e-waste to authorized private developers for final disposal.

According to Vijay N. Bhoi *et al.* (2014), most of the waste is inherently dangerous. It will degrade to provide leachate, which can contaminate water, and make lowland gas, that is explosive. Additionally, owing to the risks related to lowland sites, there are currently terribly strict needs on the development, operation and medical care of such sites. Most designing authorities desire a figured out quarry to be used for landscaping instead of a lowland web site that nobody desires in their “back yard”. Product style should be used to assist to reduce not solely the character and quantity of waste, however conjointly to maximise end-of-life utilization. Makers, retailers, users, and disposers ought to share responsibility for reducing

the environmental impacts of merchandise. A product-centred approach ought to be adopted to preserve and shield setting.

Kuehr and Williams (2003) stated that an increasing market for reused PCs in developing countries is allowing people to own PCs and access technology at more affordable prices. Moreover, charitable organizations, such as Computer Mentor, Computer Aid, World Computer Exchange, Computers for Schools and others are expanding their boundaries and providing used and refurbished computers to organizations (e.g., schools) around the world. Furthermore, reuse also reduces the environmental impacts of technological artifacts by increasing their life spans and thereby reducing the demand for new equipment.

Ramzy Kahhat, *et al.*, (2008) stated in his article that some states are adopting e-waste regulations, but so far the U.S. does not have a federal regulation that addresses the complete e-waste situation, including residential and non-residential sectors. Federal level policies and regulations present the best way to address the e-waste situation (U.S. GAO, 2005) as they will overcome the lack of regulations in most states and will standardize regulations and policies in the country. This will create a more efficient national e-waste management system. In this scenario, the e-Market for returned deposit system will be the mechanism for residential customers to dispose of their devices in a way that motivates collection, recycle and reuse of e-waste.

In a 2011 report, "Ghana E-Waste Country Assessment", found that of 215,000 tons of electronics imported to Ghana, 30% were brand new and 70% were used. Of the used product, the study concluded that 15% was not reused and was scrapped or discarded.

Sivakumaran Sivaramanan (2013) confirmed that the public awareness and cooperation of manufactures are essential for the advancement of e-waste management system. And also it is the responsibility of government to allocate sufficient grants and protecting the internationally agreed environmental legislations within their borders. Licensing of certification like estewardship may ensure the security to prevent illegal smugglers and handlers of e-waste. As e-wastes are the known major source of heavy metals, hazardous chemicals and carcinogens, certainly diseases related to skin, respiratory, intestinal, immune, and endocrine and nervous systems including cancers can be prevented by proper management and disposal of e-waste.

According to Peeranart Kiddee *et al.* (2013) e-waste can be managed by developing eco-design devices, properly collecting e-waste, recover and recycle material by safe methods, dispose of e-waste by suitable techniques, forbid the transfer of used electronic devices to developing countries, and raise awareness of the impact of e-waste. No single tool is adequate but together they can complement each other to solve this issue. A national scheme such as EPR is a good policy in solving the growing e-waste problems.

Yamini Gupt & Samraj Sahay (2015) suggested that financial responsibility of the producers and separate collecting and recycling agencies contribute significantly to the success of the extended producer responsibility-based environmental policies. Regulatory provisions, take-back responsibility and financial flow come out to be the three most important aspects of the extended producer responsibility. Presence of informal sector had a negative impact on the regulatory provisions.

In Sukeshini Jadhav (2013) observed that proper e waste management will help efficient sourcing and collection right upto extraction and disposal of material, ensuring that e-waste will turn into lucrative products and business opportunity. The manufacturers have to take responsibility for adopting the guideline for manufacturing sound environment product and sustainability management should be started from the product manufacturing stage i.e raw material selection, product and process design can be the important factors for the designed for environment practices, which can facilitate the recycling and reuse. Manufacturer should also try and initiate a take back program to handle the waste so that proper management and disposal of e-waste can be done. This way as 60% e-waste is coming from industry, can contribute to a very large part of Electronic waste management collection and establishing clean e-waste channels.

UNEP (2010) report predicts that by 2020, E-waste from old computers in India will increase to 500%; from discarded mobile phones will be about 18 times high; from televisions will be 1.5 to 2 times higher; from discarded refrigerators will double or triple; than its respective 2007 levels. Considering the growth rate, studies show that the volume of E-waste will reach nearly 2 million MT by 2025.

Samarkoon M.B. (2014) in his study states that improper handling of e-waste can cause harm to the environment and human health because of its toxic components. Although the current

emphasis is on end-of-life management of e-waste activities, such as reuse, servicing, remanufacturing, recycling and disposal, upstream reduction of e-waste generation through green design and cleaner production must be introduced to enhance a sustainable e-waste management system for Sri Lanka.

Xinwen Chi *et al.* (2010) in their study gathered information on informal e-waste management, in China and identifies some of the main difficulties of the current Chinese approach. Informal e-waste recycling is not only associated with serious environmental and health impacts, but also the supply deficiency of formal recyclers and the safety problems of remanufactured electronic products. Experiences already show that simply prohibiting or competing with the informal collectors and informal recyclers is not an effective solution. New formal e-waste recycling systems should take existing informal sectors into account, and more policies need to be made to improve recycling rates, working conditions and the efficiency of involved informal players. A key issue for China's e-waste management is how to set up incentives for informal recyclers so as to reduce improper recycling activities and to divert more e-waste flow into the formal recycling sector.

Shubham Gupta *et al.* (2014) studied that in developing countries like India, China, Indonesia, Brazil, commercial organizations tend to focus more on economic aspects rather than environmental regulations of e-waste recycling. So, for the profitable recovery of reusable materials and sustainable environment, the efficient recycling of this waste has been rendered indispensable, and is considered as a challenge for today's society.

Sikdar & Vaniya (2014) in their research stated that government should introduce some topics related to disposal of e-waste materials and its recycling and adverse effects of e-waste on health of human body in Environmental Education as a compulsory subject from lower to higher grades. The researcher realized recently that the education system alone is a powerful medium to ensure environmental protection. It should reach most parts of the population at a young age, and more e-waste friendly behavior should be practiced on daily basis.

Binegde *et al.* (2015) studied that the repair shops of electronic goods of the study area contributed an important role in extending the life span of electronic goods and thus reduce the number of thrown away e-goods. The study indicated that the high repair cost of the electronic goods and availability of comparatively cheaper new electronic goods with more

features attracts the consumers towards the throw away culture, leading to accumulation of obsolete electronic items. Strengthening of formal recycling of e-waste is very essential for attaining sustainable development.

According to Norazli Othman (2015) the quantity of electronic wastes can be controlled if there is a sustainable integrated technique in managing the electronic waste. Sustainable integrated technique should consider electronic wastes management from the production until its disposal point. Implementation of new Legislation and Act should also be considered by the authority as to develop human capital in managing electronic waste. The combination of human capital with a sustainable technique for managing electronic waste will lead to efficiency in managing electronic wastes in the future.

Hassan Taghipour *et al.* (2012) suggested that a policy should be framed extending producer responsibility (EPR) programme in combination with a training programme at different levels of society. An approach consisting of a mandated product take back is proposed for implementing EPR in Iran. Meanwhile, the Health Ministry and the Environmental Protection Agency should strictly supervise E-waste collection, storage, and recycling and/or disposal, and the Trade and Industry Ministries must have more control over the import and production of electronic goods.

CONCLUSION

The paper aims to define and analyze the main areas of research on electrical and electronic waste, while offering a broader analysis of the relevant literature in order to summarize the information available and to create common knowledge. Based on this few key points were observed. Firstly, many countries don't have any standardized method to estimate e-waste generation. Further, there is a need to implement and frame polices for proper e-waste management in developing countries so as to solve environmental issues related to informal recycling practice. There is a need for developing a legal framework for the management of this waste fraction is one of the challenges for the policy makers in developing countries. Awareness programs should be generated and training should be provided in handling e-waste.

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To Study the Impact of Organizational Climate on Employee Engagement in the Banking Sector with Special Reference to State Bank of India, Indore

Ms. Ruchi Arya*, Dr. Monica Sainy**

The purpose of the present paper is to identify the drivers of the employee engagement in the banking sector with special reference to SBI, Indore. The present study used a sample of 100 actual employees who are working in the SBI [Indore]. The responses were collected through self structured questionnaire based on five point likert scale. Pie-chart and Percentage Analysis have been used for analysis of data. The result shows that there is a significant relation between organizational climate and Employee Engagement. The study also focuses on organizational climate factors such as Structure, Responsibility, Standards, Support, Commitment, Reward, Warmth and Risk and Conflict that effect the employee's counterproductive behaviours that act as a driver for engaging the bank employees. It is expected that the findings will provide vital inputs to managers in framing their HR strategies. The research will further attempt to examine factors that help in engaging the employees and can be utilized effectively by HR of different companies in different sector.

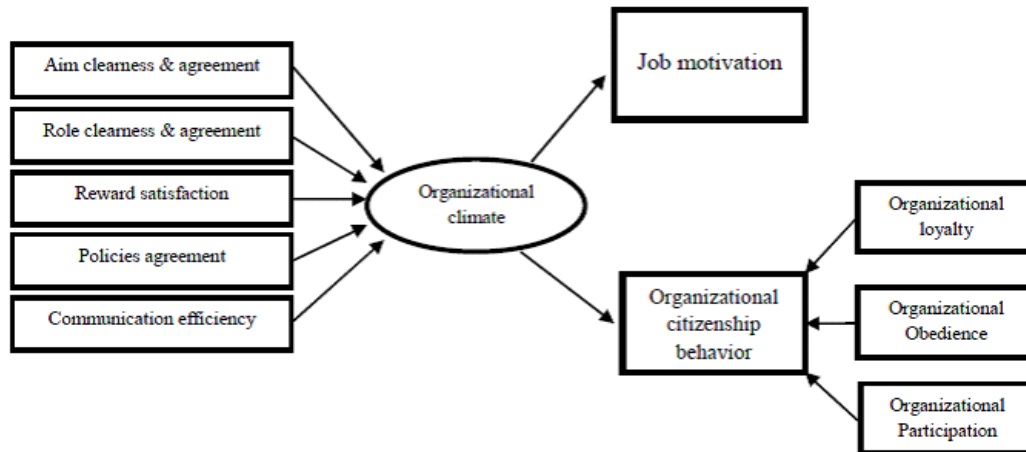
Keywords: *Organizational Effectiveness, Employee Engagement, Organizational Climate, Banking Sector.*

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INTRODUCTION

Effectiveness of a organizations performance depends on the prevailing organization climate. The connection between climate and varied organization outcomes appears well documented (e.g. Patterson et al., 2005). A number of studies conjointly specialize in explaining the role of leadership in managing climate and relate this to organization outcomes like productivity (Ekvall and Ryhammar, 1998), and innovation (Jung et al., 2003; Mumford, Scott, Gaddis and Strange, 2002). As today's businesses continue to struggle to survive or acquire sustainable competitive advantage, it is important for organizations to better understand the factors that influence employees and important employee-oriented work outcomes. The growing significance placed on understanding employees and their behaviour within the organization has produced a great deal of interest in investigating employee perceptions of climate within the organization.

Work environment or climate perception of employees has significant consequences for both individuals and organizational. Climate or atmosphere in workplace has impact on employee's motivation, behaviour, attitudes and potential, which, in turn is predicted to influence organizational productivity. Employees are engaged when organizations have healthy work culture and communication practices, where they can get platforms to express their concerns and opportunities to grow and develop their potential. The level of engagement in employees can be enhanced by identifying its drivers (influential factors) and work on them. For the purpose of study, the drivers of the employee engagement are identified. The relationship between organizational effectiveness and employee engagement is examined from the response 30 employees, chosen on the basis of convenient sampling.



LITERATURE REVIEW

Biloch and Lofstedt (2013) created a model referred as gamification, partially based on established concepts within performance management and motivation and partially based on a pioneer concept within business to promote employee engagement. The aim of their study was to adapt this model to an organizational setting characterized as potentially unengaging to be able to identify possible benefits and concerns with the model developed. The data collection was done through a case study involving both qualitative semi-structured interviews and observations with professionals within haulage firms. The model created was thereafter configured to the work situation of a truck driver, in order to illustrate how employee engagement can be promoted within haulage firms. An important finding of their study is that each component of the performance management cycle can, to various extents, be supported by game elements to drive employee engagement within the performance management process. It has also been found that this model can be adapted to different work situations on the basis of the appropriate style of management control and a means-ends analysis of the constituent game elements that underlie the model. Moreover, this thesis propose how haulage firms, through this model, can promote employee engagement and thereby an opportunity to command a source of competitive advantage. This study therefore sought to explore the effect of employee engagement on organization performance.

Organisational climate assumes a discriminating part in organisations and impacts employees' observations, which affects on their practices. Organisational climate is seen as

the whole of recognitions focused around the collaboration between the individual perception and organisational environment. Schneider and Hall (2010) exhibited organisational climate as a set of worldwide observations held by people about their environmental surroundings.

The sets of discernments are fundamentally the after effect of cooperation's in the middle of individual and hierarchical qualities. The connection between the measurements of organisational climate, view of backing for advancement and execution is directed by organisational slack and a solid association exists between the diverse measurements of organisational climate and view of backing for advancement (Antonia Ruiz-Moreno Văctor J. Garcia-Morales, Francisco Javier Llorens-Montes, 2008). There is a positive and solid relationship between assorted qualities administration and organisational climate measurements: strategies and systems, segregation, sexual orientation issues, uniformity in states of occupation, segregation and work value (Tjale, Tsedile Ethel, 2005). Zhang, Jianwei , Liu, Yuxin (2010) explored that organisational climate had significant main effects on human resources management effectiveness such as turnover intention, job satisfaction and work efficacy; organisational climate also had significant main effects on organisation effectiveness like staff members' organisation commitment and collective identity. .

Forehand, G.a., & Glimer, B.h. (2009) plotted three gimmicks of organisational climate: firstly, it shifts among distinctive organisational; besides, it is tireless; finally, it can influence the conduct of organisational parts. Filipe Jorge Coelho, Mário Gomes Augusto, Arnaldo Fernandes Coelho, Patrăcia Moura Sa (2010) created a structural mathematical statements model also experimentally tried, demonstrating that impression of client, moral, and innovation climates apply a circuitous impact on the appropriation of customer oriented practices by cutting edge employees.

The concept of Human capital has relatively more importance in labour-surplus countries. These countries are naturally endowed with more of labour due to high birth rate under the given climatic conditions (House, 1996). The surplus labour in these countries is the human resource available in more abundance than the tangible capital resource. According to Kelly (2007) human resource can be transformed into human capital with effective inputs of education, health and moral values. The transformation of raw human resource into highly productive human resource with these inputs is the process of human capital formation. The

problem of scarcity of tangible capital in the labour surplus countries can be resolved by accelerating the rate of human capital formation with both private and public investment in education and health sectors of their National economies.

Friedlander and Margulies (2004) investigated various effects of organisational climate parts and individual employment values upon laborer's fulfillments and the mixes of distinctive climate parts which expand work fulfillments are directed by the work values held by the employee. Schneider, White, and Paul (1998) inspected how administration arranged practices by employees can advance reporting of positive client administration experiences.

RATIONALE

Today banks are operating in a highly competitive scenario; it is pertinent to note that they need to differentiate themselves from each other. They need to have employees who are passionate about their work and strive to take their organization to greater heights. This study measures employee engagement in the banking sector. The strength and impact of organizational culture and communication on facilitating employee engagement is also measured in the scope of this study. It focuses on organizational drivers which can be channelized to enhance engagement levels of employees. Conducting employee engagement survey is in order to find out the involvement and willingness of employees to perform their jobs and contribute to the success of their organization is not a new idea; however, it has become more popular than ever. The reason for doing research on this topic is to find out a direct link between organization climate and employee engagement with the productivity and profitability of an organizational.

OBJECTIVES

1. To study the impact of organizational climate on employee engagement.
2. To study the engagement level of employees in an organization.
3. To examine the organizational climate existing in the organization.

RESEARCH METHODOLOGY

The Study

This is a descriptive study, which involves collection and analysis of the primary data collected with the help of structured questionnaires.

The Sample

For the purpose of this study primary data as well as secondary data is being used. The population of this study consists of the employees of the **State Bank of India, Indore**. To achieve the objectives of the study 100 questionnaires were distributed to the employees of **State Bank of India Indore**.

The Tool of Data Collection

The Primary data was collected through a self structured questionnaire based on **Employee Engagement Surveys (ESS)**. The Secondary data was collected from existing literature.

The Tool of Data Analysis

The tool used for analysis were Pie Chart and Percentage Analysis. The variable used in the study are depicted in the figure below.

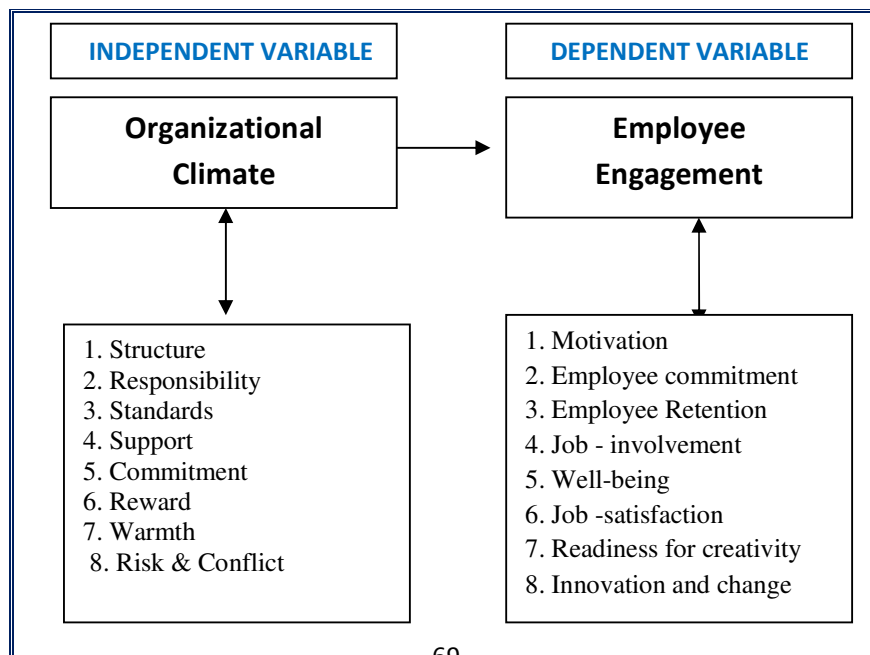
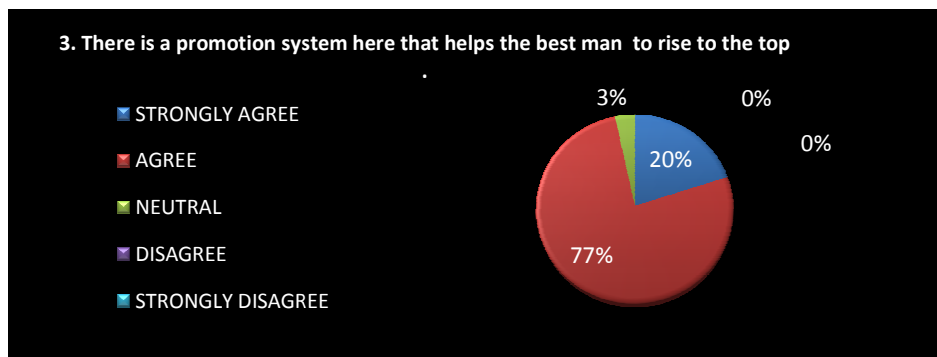
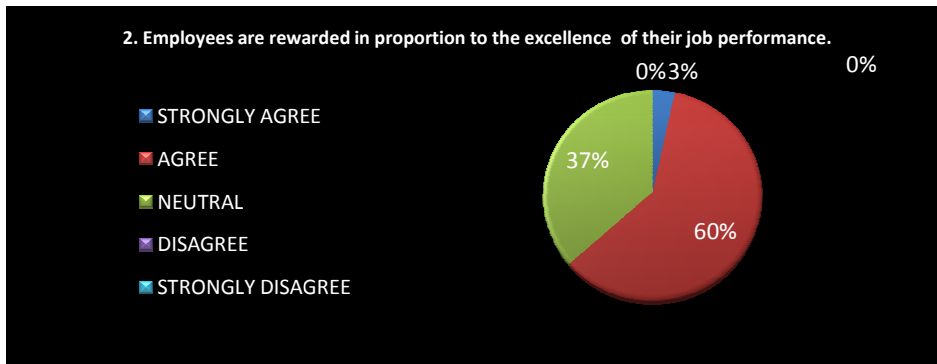
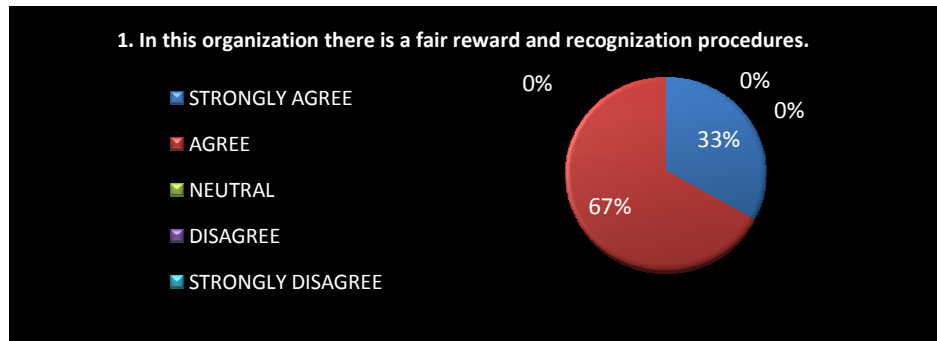


Figure 1. Variables under study

Data Analysis and Interpretations

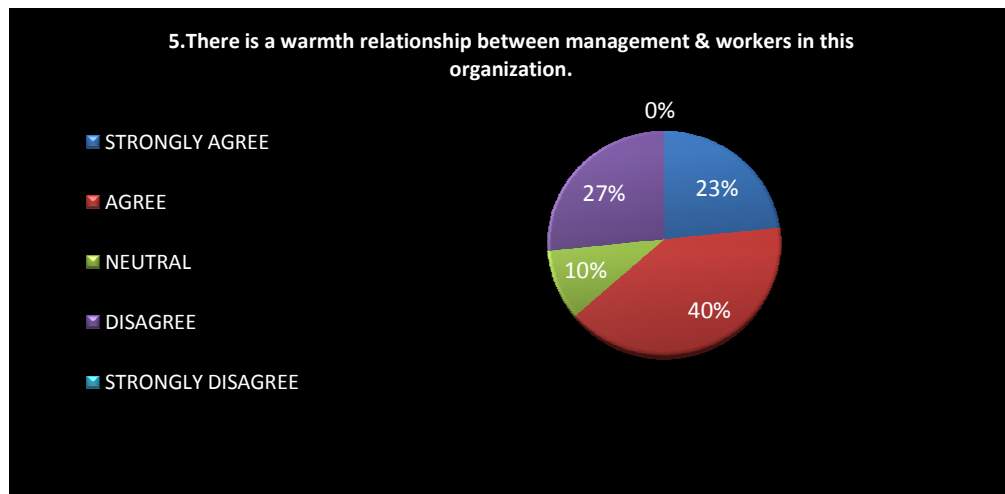
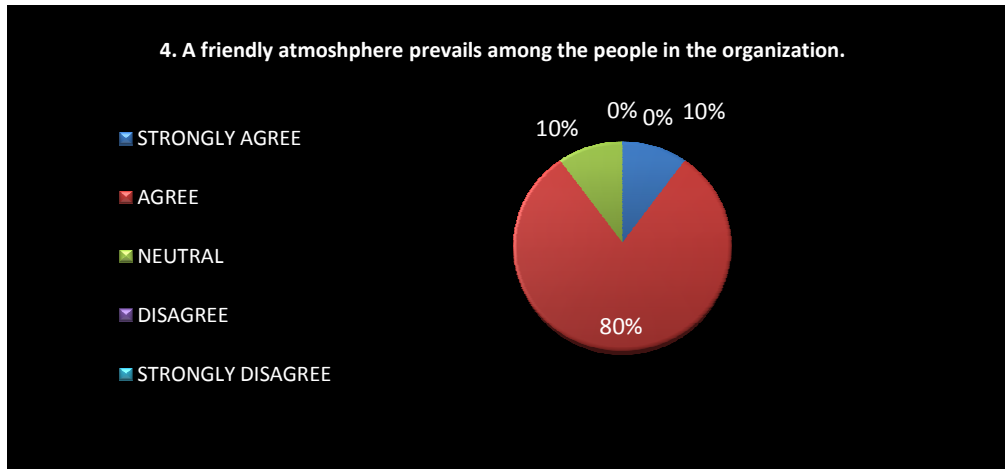
Percentage analysis was carried out on the collected data and the results are discussed below

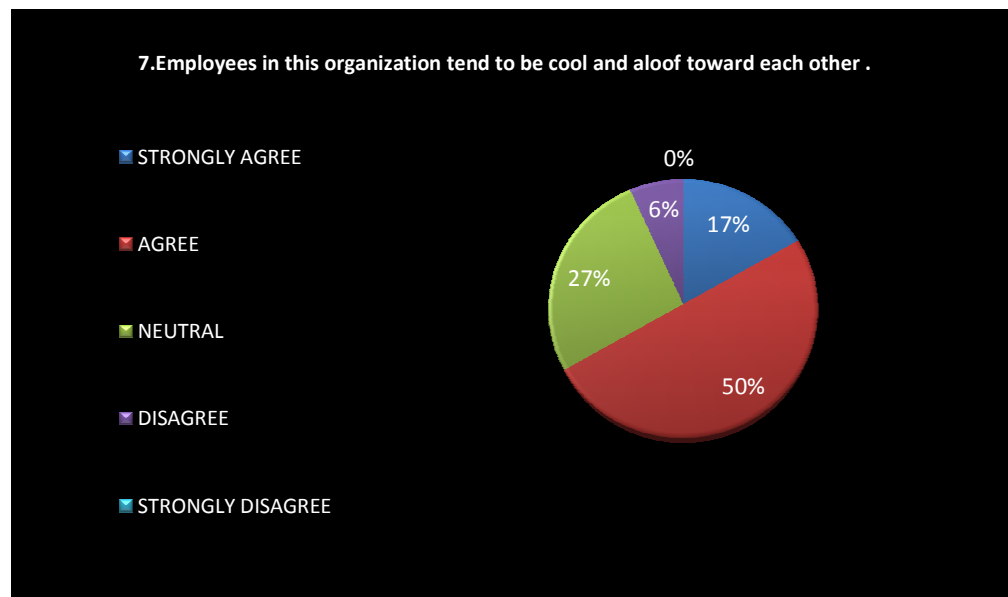
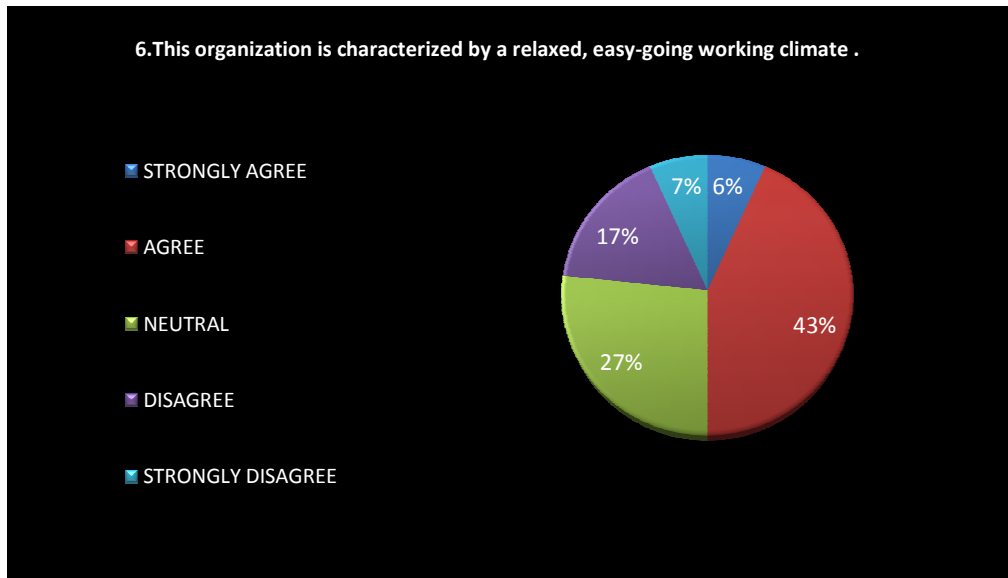
FACTOR 1: REWARD



From the pie charts above, we found out that most of the employees in the State Bank of India, Indore agree with the reward system of their bank. Thus the employees were satisfied with their jobs.

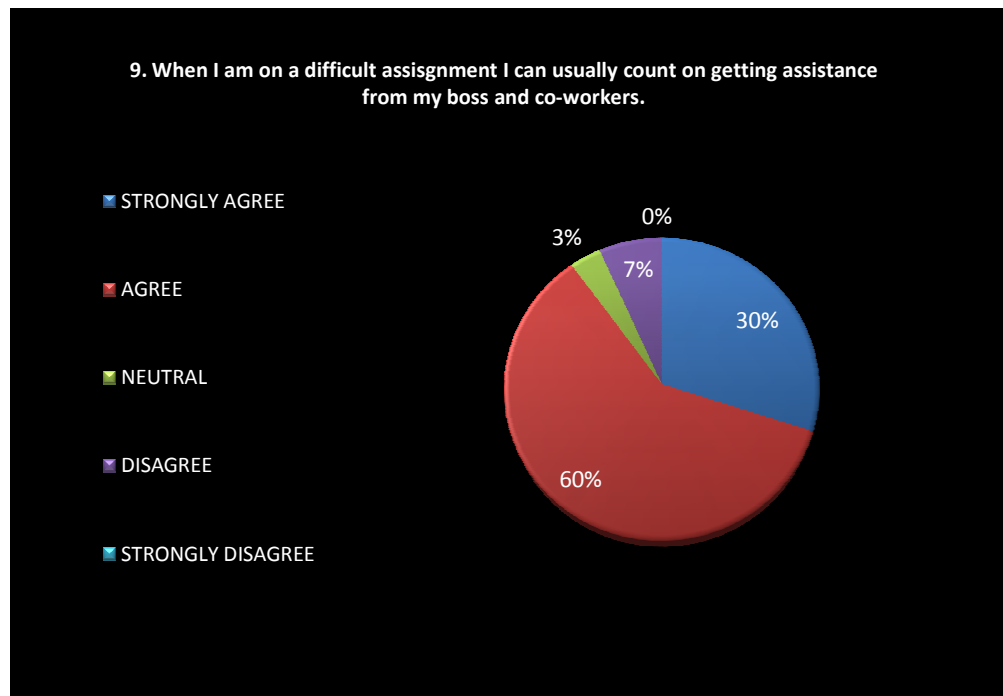
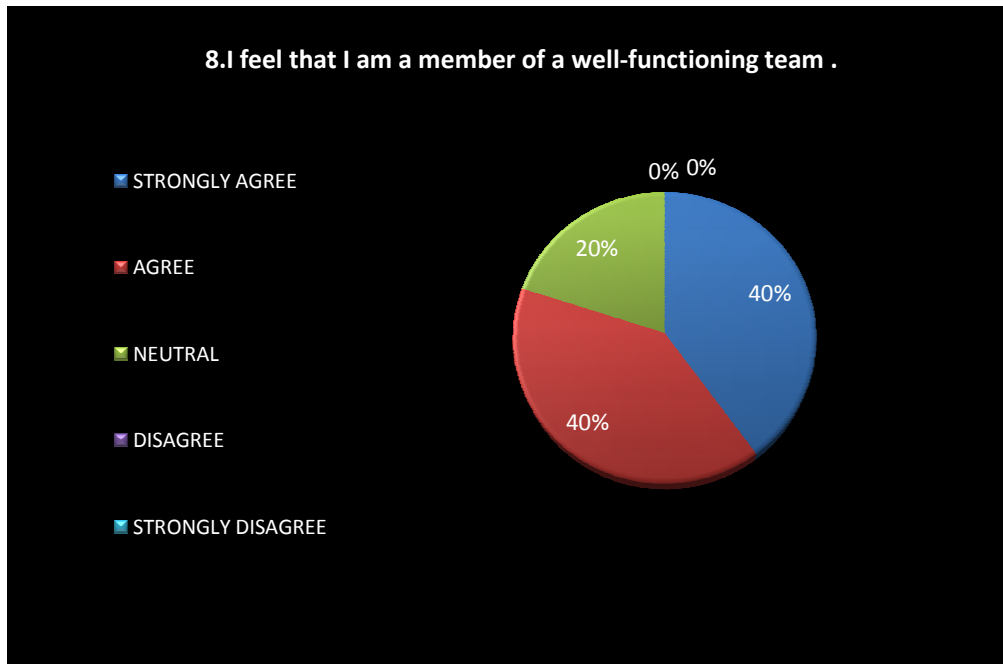
FACTOR 2: WARMTH

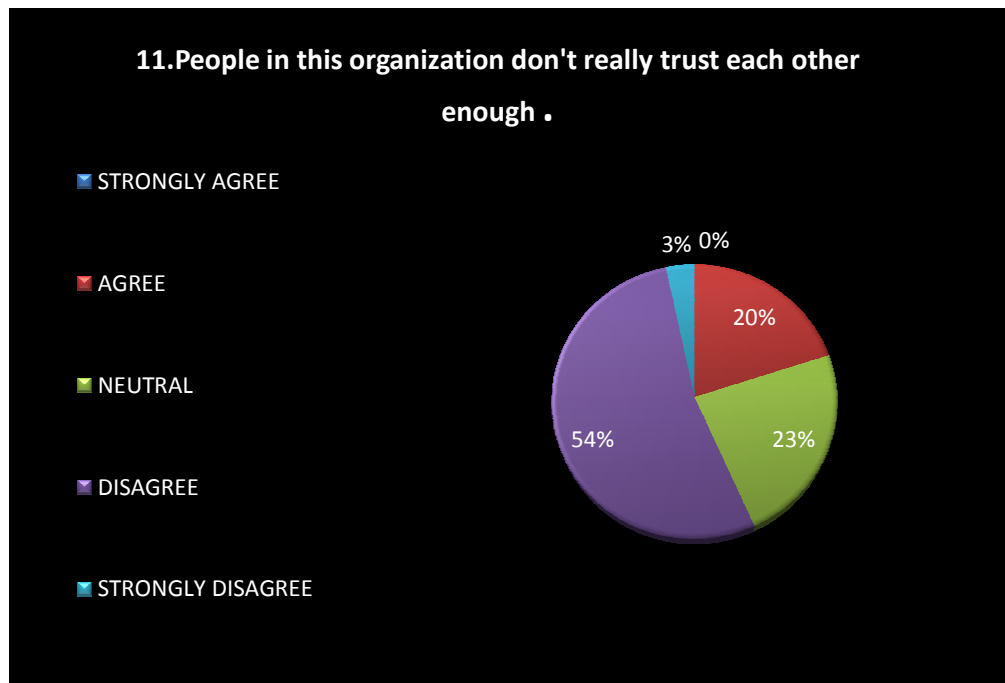
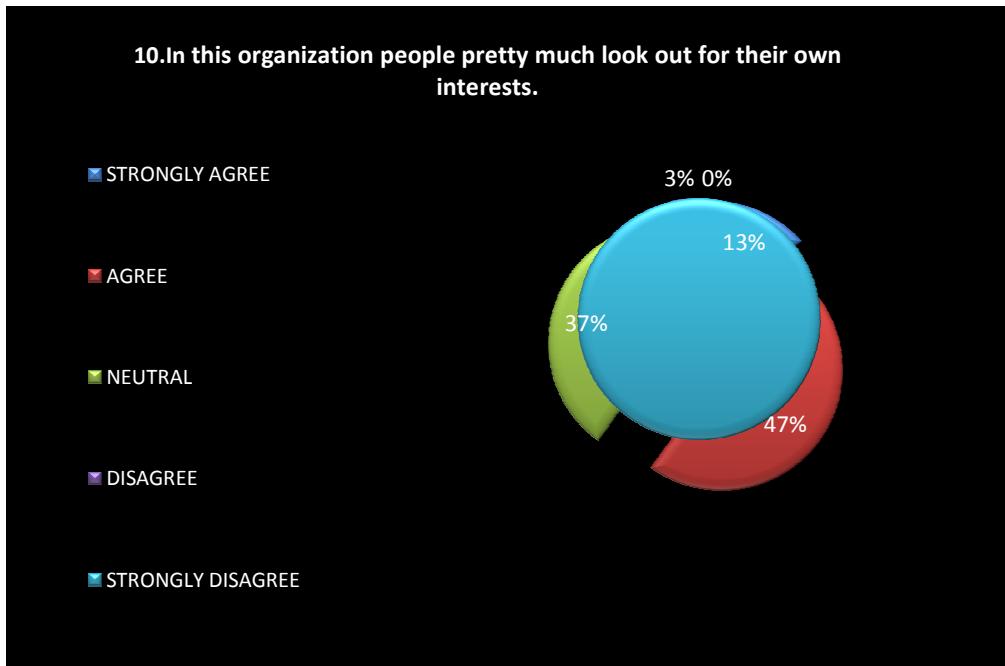




From the above findings, there is a feeling of warmth between the employees but relation between management and employees were found to be neutral.

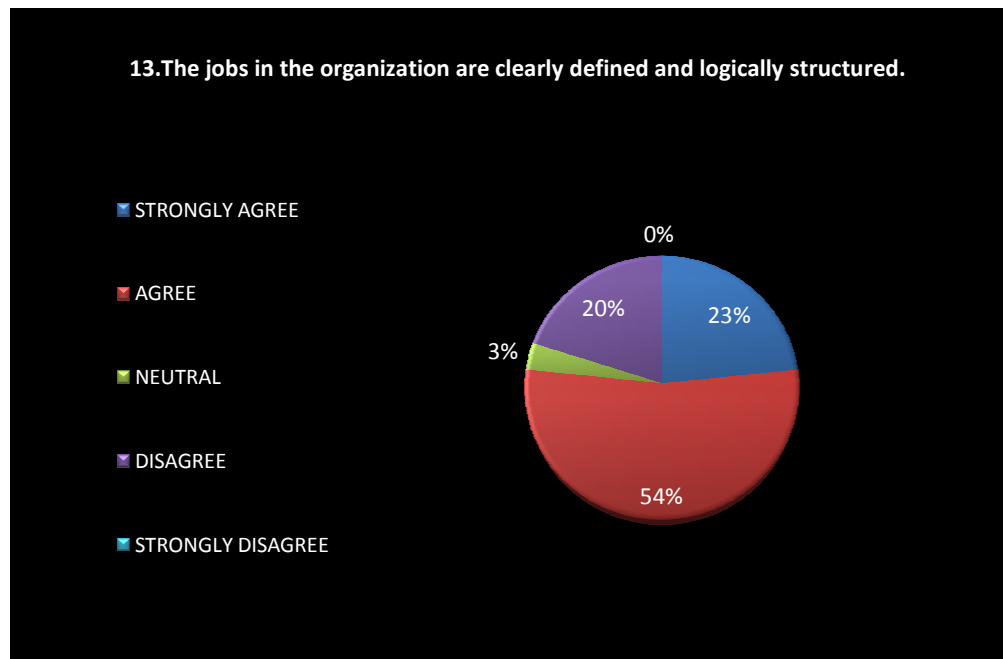
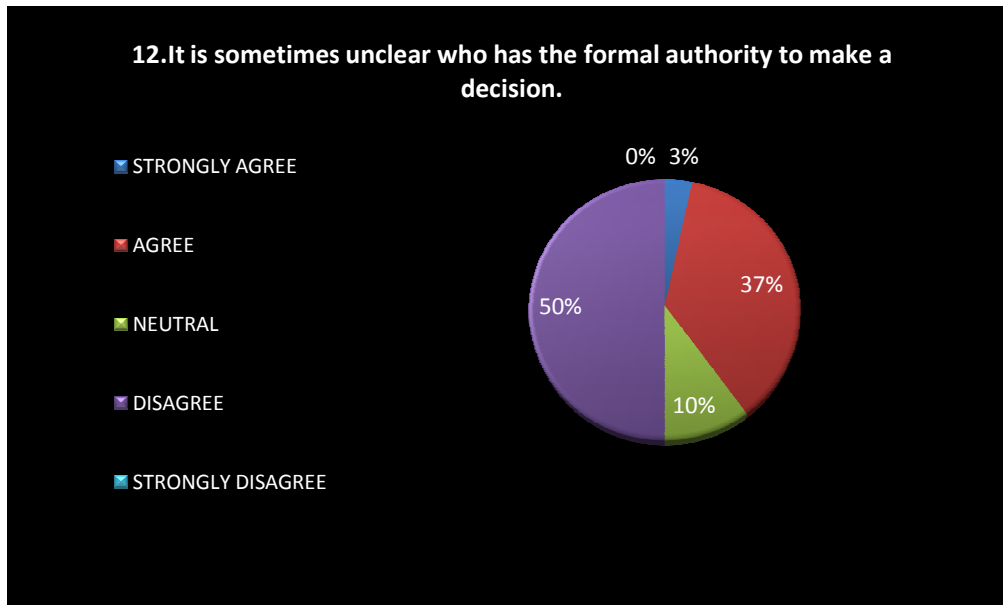
FACTOR 3: SUPPORT AND COMMITMENT





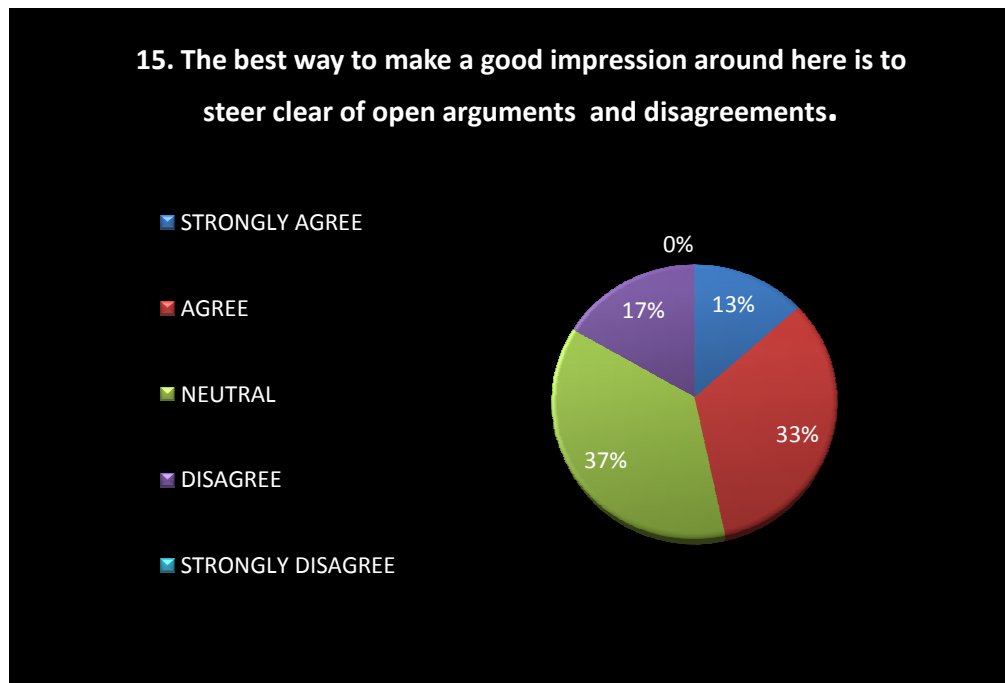
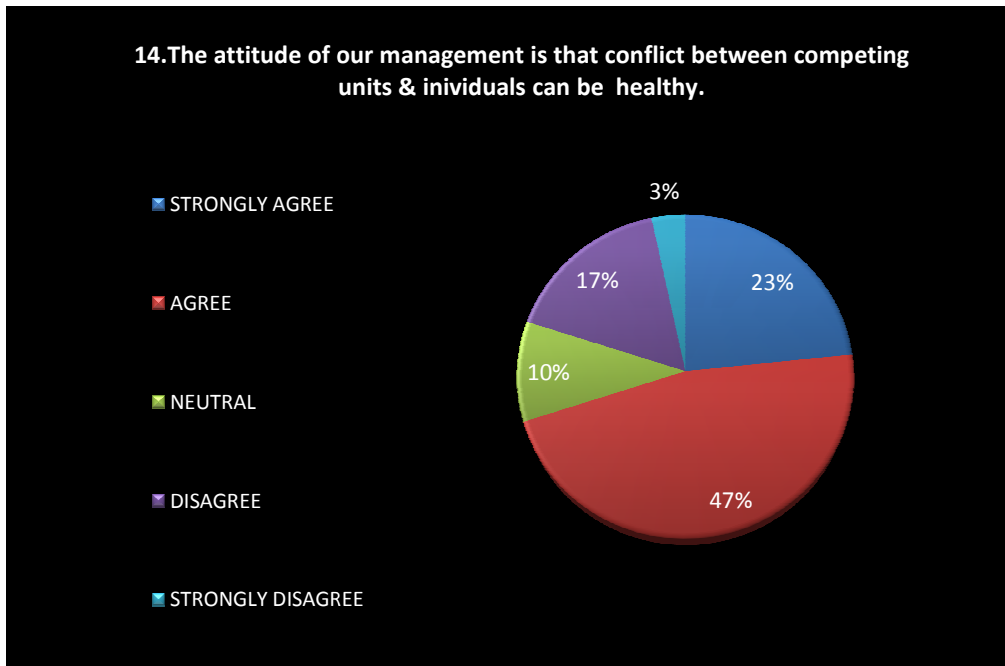
The results of pie chart depicts that most of the employees agree on the fact that there is lack of support and commitment in the organization from the management point of view.

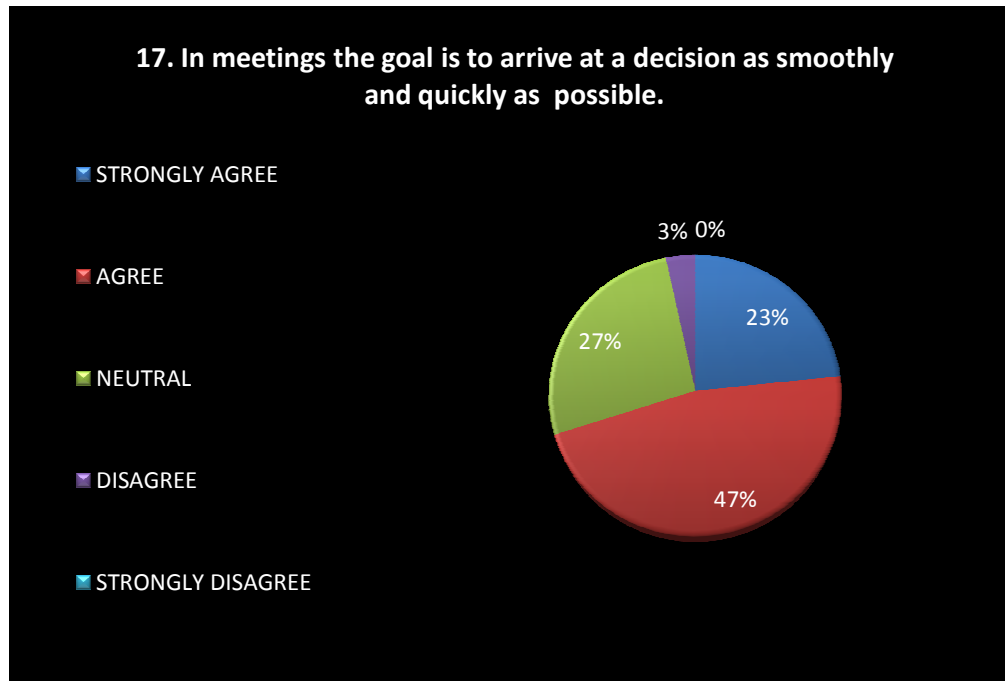
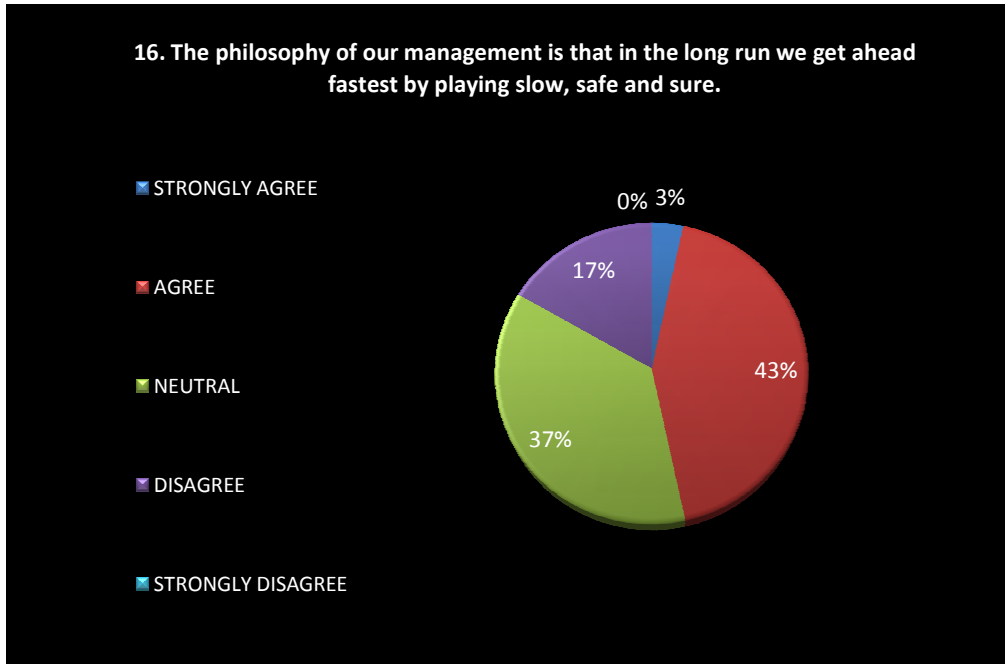
FACTOR 4: STRUCTURE



The analysis confirms that most of the employees agree on the fact that inspite of having clear and logical job structure, but who have the formal authority of performing it, is sometimes ambiguous.

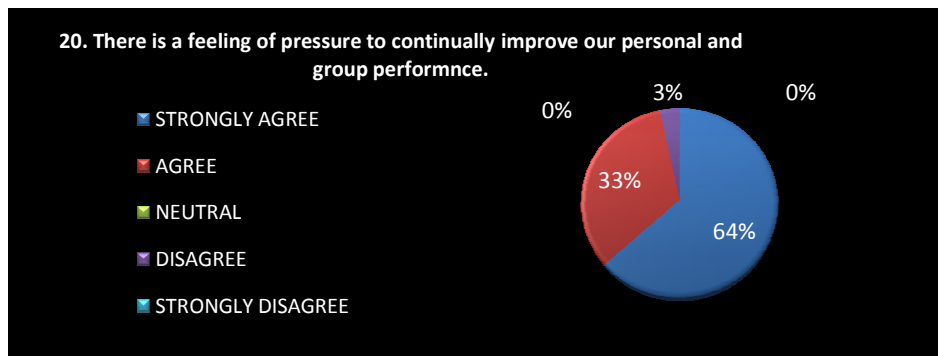
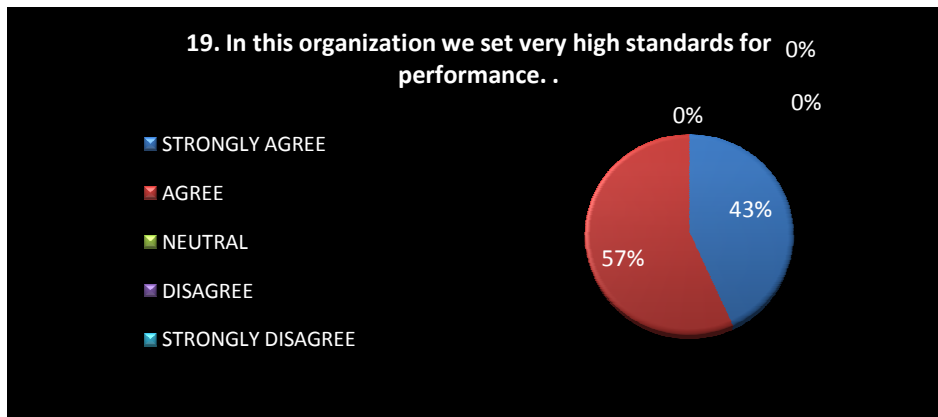
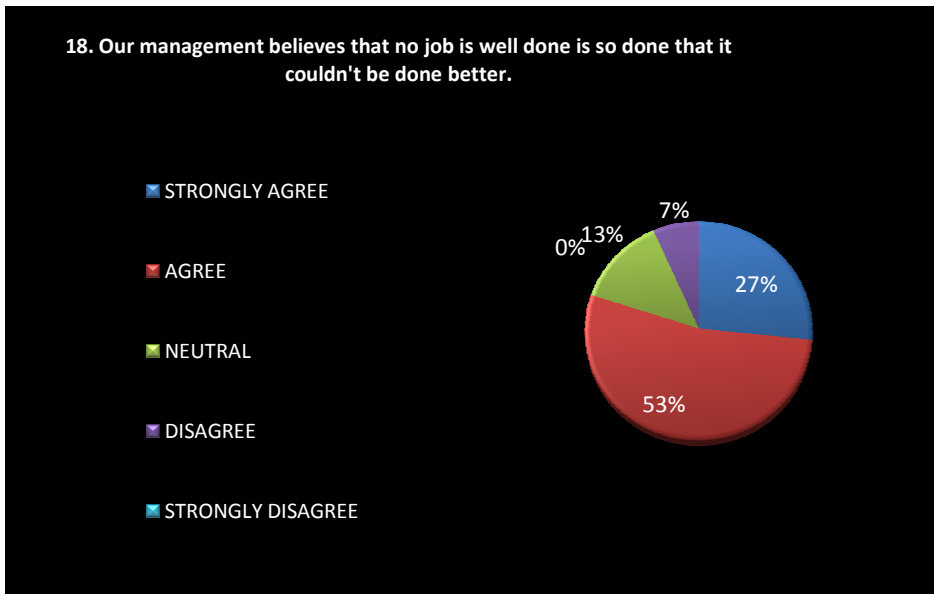
FACTOR 5: RISK AND CONFLICT





The findings above reveal that most of the employees strongly agree on the fact that risk and conflict solving techniques are appreciable in the organization.

FACTOR 6: STANDARDS



The charts given above confirm that standards set by the organization are superior and effective.

CONCLUSION

Employees create the key element for organizations to achieve sustainable competitive advantage in today's dynamic and changing operating conditions. Organizations try to attract qualified employees, take advantage of them at the maximum level and keep employing them in working conditions in which the workforce have a critical role. Therefore, creating a healthy and positive organizational climate, which cares about the welfare of employees, is thought to be important. Because, it is thought that a positive working environment which appreciates employees is expected to positively affect their performance levels, so they will undertake additional roles in organizational processes and act in an innovative and creative way. In other words, organizational climate has either a positive or negative effect on performance levels, attitudes and behaviours of employees. It is possible that employees can perceive organizational climate with a positive perception and consider it to be matching with their personal objectives and so, they can demonstrate positive attitudes towards colleagues and the organization. However, a negatively perceived organizational climate which does not support its employees is expected to promote counterproductive behaviour among employees. In the literature, it is possible to see lots of studies dealing with many variables such as personality, emotional intelligence, organizational justice, trust, perceived organizational support and ethical climate which lead employees to show counterproductive behaviours. Among all these, limited numbers of studies referring to organizational climate are available. In this respect, this study aims to investigate the impact of organizational climate on counterproductive behaviours. Therefore, it is believed that this study will contribute to and fill the gap in the literature.

SUGGESTIONS AND RECOMMENDATIONS

Employees and Managers should meet at regular intervals with the employees to discuss about the improvement in the company, at work place and in their living of standard, family problems etc. Gap between managers and the employees should be reduced by raising the level of engagement. For example: by conducting extra co-curricular activities like social and cultural programs. Very few employees feel that their ideas or work is not recognized/

appreciated. So management should encourage them by making them feel that their ideas are noteworthy as well as they are important for the company. Create good and healthy environment at work place and increase the environment. Some of the employees find their job boring and monotonous. Encourage them to take part in extra co curricular activities.

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HRD Practices in Insurance Industry: A Comparative Study between Indore and Ujjain City

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Krati Sharma^{**}

To manage the Human Resource Development (HRD) practices in Insurance industry is one of the major challenge in today's era. Human resources play a very important role in management of insurance companies because the central sub system of modern management is human resource management and development. This truism is very well known across the country especially in USA, UK and France. The effective functioning is possible in insurance sector only when human resources are properly managed. The purpose of this research paper is to find out difference in HRD Practices in insurance sector of Indore and Ujjain city. This study has been done for the welfare of the third level employees of insurance industry who are dealing with the problems of HRD practices which are implemented by management. Primary data was collected through a self-designed questionnaire based on rank scale.

Key Words: HRD Practices, Employee Empowerment, Labor Welfare, Employee Development, Insurance Industry.

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INTRODUCTION

Philosophy means a set of assumptions and beliefs about any purpose or activity. Philosophy or beliefs and assumptions may be some time implicit in the mind of the person who is decision maker. Two premises that relate with this concept are value premises and fact premises. HR philosophy should be based on few beliefs. First that the most important asset of any organization are “Human Beings”. Second, we can develop human being to any extent and they have creative energy. Third, organization should develop the feel of belongingness among human beings so that they feel more committed towards their work and lastly, human beings are more powerful if organization provides them proper training and take care of their needs and satisfaction. Under present market forces and competition, the insurance companies are required to be competitive.

Due to constant pressure, contemporary companies are required to seek ways to become more competent, productive, flexible and innovative. The traditional ways of gaining competitive advantage have to be supplemented with organizational capability (Ulrich and Lake, 1990). Organizational capability relates to hiring and retaining competent employees and developing competencies through effective human resource management practices (Ulrich and Lake,1991). Indeed, developing a talented workforce is essential to sustainable competitive advantage (Kundu and Vora, 2004). High performance work practices provide a number of important sources of enhanced organizational performance (Pfeffer and Veiga,1999). HR systems have important, practical impacts on the productivity, quality of work life of employees, survival and financial performance of firms (Cascio,2006). The main objective of the study was to assess the human resource management practices being implemented in insurance companies operating in India.

RATIONALE OF THE STUDY

The detailed study on Human Resource Development in insurance sector, under the current scenario of among all the service industry which is successfully running in the country is very much essential is helpful to understand the HRD practices and philosophy and if any error found so we can give the concrete suggestions for formulation of right practices of HRD in insurance sector. There are only few study had done under this perspective. This study place the new dimension with varying responsibilities on the shoulder of insurance such as expansion in to the remote rural areas. This study will also give concrete suggestion to the

policy maker of insurance industry, that to prepare the policy which gives better quality of work life to their employees.

REVIEW OF LITERATURE

Larsen & Toubro, a prominent Engineering Company in India, had appointed two consultants from the Indian Institute of Management, Ahmadabad to study the performance appraisal system and make recommendations for improving it. The two consultants Pareek and Rao (2009) studied the system through interviews etc, and suggested a new system. They recommended that "Performance Appraisal, Employee development, Labor welfare, Employee empowerment, Potential Appraisal, Feedback and Counseling, Career Development, Career Planning and Training and Development get distinct attention as unique parts of an integrated system which we call the Human Resources Development System" This system was proposed as a separate system with strong linkages with Personnel (Human Resources) system. In their second report of the Human Resources system in L&T recommended that the personnel function be viewed as Human Resources Function (HRF) and suggested a trifurcated function: PersonnelAdministration, HRD andWorkerAffairs.

Rao, T.V., (2010) conducted a Survey of HRD practices in Indian industries. The survey reveals that only 17 out of 53 companies had formal policy focusing on HRD. All in all HRD appeared to be becoming a significant aspect of work life in many organizations. Rao, T.R. (2012) to judge HRD climate in Indian organizations. The survey revealed that the general climate was not very conducive to HRD due to general indifference of employees to their own development. The top management in most organizations was not making sufficient efforts to improve the quality of work life.

The current challenges caused by the globalisation pressures in the realm of economics behoves work communities to review their personnel training and management practices (Pitkanen 2007). Companies must develop a customer-oriented workforce to deliver service quality, which is met through training (Kundu 2000). Training must be viewed as an important investment for future success (Zeithmal and Bitner 2004).Companies need to provide comprehensive training to the agents in the ways to narrow the gap between clients and agents i. e. trust building training (Law, Wong, and Theresa 2005). Long-term basis

training has a systematic influence on the improvement of management techniques (Zadel, 2006).

Performance is defined as the record of outcomes produced on a specified job function or activity during a specified time period (Bernardin and Russell 1993). Effective managers need to incorporate performance review and feedback as part of their day-to-day communications with employees (Webb 2004). Appraisals are used widely for tying pay to performance (Schellhardt 1996; Cleveland, Murphy and Williams 1989). Present day firms are facing increased pressure to create human resources policies and programs that avert discrimination against individuals on non-work related aspects with respect to the various functions within human resource management, particularly selection and performance appraisal (Lillevik 2007).

OBJECTIVES

- To find out differences in H.R.D practices in insurance sector of Indore and Ujjain region on the basis of age and gender.

METHODOLOGY

The Sample: The researcher contacted 150 employees of insurance Sector. They were appraised about the purpose of the study and request was made to them to fill up the questionnaire with correct and unbiased information. The duly filled in questionnaires were edited by the researcher and in accordance with the requirements of the objectives and hypothesis. In addition to this various statistical tools, graphs, diagrams have also been used to draw inferences. The researcher selected the branches on the basis of convenience sampling and respondents on the basis of non probability sampling.

Tools for Data Collection: Every research project has a specific framework for collection and analysis of data in a manner that aims at combining relevance to the purpose of research with economy of scale. The present research work is based on both primary and secondary data. The primary data has been collected by well structured questionnaire, personal observation, interviews, and discussion with staff. Most of the information has been collected by administering a well structured questionnaire based on five point Likert

scales, ranking from strongly agree to strongly disagree. Secondary data has been collected from insurance industry through published and unpublished records, manuals, magazines, periodicals etc. Most of the information has been collected and compiled from various issues of annual reports and different publications in newspapers like the Economic Times.

Tools for Data Analysis: Data has been analyzed using statistical package for Social Sciences (SPSS), version 16.0. The data is analyzed and interpreted by calculating Mean, Standard Deviation, and Coefficient of Variations to get a better picture of the HRD practices in Insurance sector.

Reliability Test

Cronbach's alpha test is designed as a measure of internal consistency that is all the items within the instruments measure the same thing. It allows measuring the reliability of different variables. It consists of estimates of how much variation in scores of different variables is attributable to change or random errors (Selltiz et al. 1976). As a general rule, a coefficient greater than or equal to 0.7 is considered acceptable and a good indication of construct reliability (Nunnally 1978), low value below the 0.5 implies that reliability may not be appropriate. The Cronbach's coefficient of the total scale here is found to be (0.796). Hence, the scale used here can be said as reliable and can be used for analysis.

t-test

t-test was performed to analyze difference between values of two independent data sets and response of every case for respective variables. Independent samples t- test was performed to analyze difference between mean values of two data sets concerning respective variables. Value of the selected based on Levene's F test for equality of variances.

Factor analysis

Factor analysis is used to describe variability among observed, correlated variables in terms of a potentially lower number of unobserved variables called factors. For example, it is possible that variations in four observed variables mainly reflect the variations in two unobserved variables. Factor analysis searches for such joint variations in response to unobserved latent variables. The observed variables are modeled as linear combinations of the potential factors, plus "error".

HYPOTHESES

In the light of above mentioned objectives, the following Hypothesis is developed.

H_{0.1}: There is no significant difference in HRD practices between age group 15-30 and 31-45 in insurance sector of Ujjain and Indore region.

H_{0.1.1}: There is no significant difference in employee development among age group 15-30 and 31-45 in insurance sector of Indore and Ujjain region

H_{0.1.2}: There is no significant difference in labor welfare among 15-30 and 31-45 age groups in insurance sector of Indore and Ujjain region.

H_{0.1.3}: There is no significant difference in employee empowerment among 15-30 and 31-45 age groups in insurance sector of Indore and Ujjain region.

H_{0.2}: There is no significant difference in HRD practices between male and female in Insurance sector of Ujjain and Indore region.

H_{0.2.1}: There is no significant difference in employee development among male and female in insurance sector of Indore and Ujjain region.

H_{0.2.2}: There is no significant difference in labor welfare among male and female in insurance sector of Indore and Ujjain region.

H_{0.2.3}: There is no significant difference in employee empowerment among male and female in insurance sector of Indore and Ujjain region.

ANALYSIS AND INTERPRETATION

Testing of hypothesis H_{0.1.1}: When the employee development practices were find out in insurance sector of Indore and Ujjain region with respect to age group 15-30 and 31-45, the significance value for age group was found to be $p=0.413$ (Table.3), which is greater than the significance value of 0.05 which means that null hypothesis is accepted. So it may be concluded that there is no significant difference in employee development practices between age group 15-30 and 31-45. So results suggest that the employee development practices are better in insurance of Ujjain and Indore. In insurance sector the development of employees is based on the work they perform during their working life. If they match up target what company has given to them so rewards has given to them and it may be monetary and non-monetary. If they perform well so career opportunities are pointed out to juniors by senior officers in the organization.

Testing of hypothesis $H_{01.2}$: When the labor welfare practices were found out in insurance sector of Indore and Ujjain region with respect to age group 15-30 and 31-45, the value of significance for age group was found to be $p=0.951$ (Table 4) which is greater than the significance value of 0.05 which means that null hypothesis is accepted. So it may be concluded that there is no significant difference in labor welfare practices in age group 15-30 and 31-45. So results suggest that the labor welfare practices are better in insurance of Ujjain and Indore. It is difficult task for the women to visit frequently out of city as compared to men so management care about the need and requirements of the women employees and has special programmed and schemes for the welfare of women employees. Prakash et al. (2002) in his research concluded that until or unless if the management not provide the welfare facility to their workers or employees so kind of un satisfaction feelings comes out and then the employee of the organization will not take their work seriously.

Testing of hypothesis $H_{01.3}$: When the employee empowerment practices were found out in insurance sector of Indore and Ujjain region with respect to age group 15-30 and 31-45, the value of significance for age group was found to be $p=0.661$ (Table 5) which is greater than the significance value of 0.05 which means that null hypothesis is accepted. So it may be concluded that there is no significant difference in employee empowerment practices in respect to age group 15-30 and 31-45. So results suggest that the employee empowerment practices are better in insurance of Ujjain and Indore. In employee empowerment the management empower their employees through various ways like in Ujjain and Indore one practice is common that they transfer their employees for learning to allied fields and management are more centric towards the lower age group because they have learn all the course quickly.

Testing of hypothesis $H_{02.1}$: When the employee development practices were found out in insurance sector of Indore and Ujjain region with respect to gender, the value of significance for gender was found to be $p=0.087$ (Table. 6) which is greater than the significance value of 0.05 which means that null hypothesis is accepted. So it may be concluded that there is no significant difference in employee development with respect to gender. So results suggest that the employee development practices are better in insurance of Ujjain and Indore. Female employees are more satisfied with respect to employee development because in the last 3 years in insurance sector of Ujjain and Indore the female has generated the more revenue as compared to the male. The top management is willing to invest a considerable part of their time and other resources to ensure the development of female employees.

Testing of hypothesis H₀2.2 : When the labor welfare practices were find out in insurance sector of Indore and Ujjain region in respect of gender, the value of significance for gender was found to be $p=0.768$ (Table.7) which is greater than the significance value of 0.05 which means that null hypothesis is accepted. So it may be concluded that there is no significant difference in labor welfare practices in respect to gender. So results suggest that the labor welfare practices are better in insurance of Ujjain and Indore. In the labor welfare with respect of women here the female employees are more satisfied as compared to male employees because management are more concerned for female employees in respect of safety practices. The management does not allow female employees to go to the backward areas of city for selling the policies.

Testing of hypothesis H₀2.3: When the employee empowerment were find out in insurance sector of Indore and Ujjain region with respect to gender, the significance value for gender was found to be $p=0.273$ (Table. 8) which is greater than the significance value of 0.05 which means that null hypothesis is accepted. So it may be conclude that there is no significance difference in employee empowerment in respect to gender. So results suggest that the employee empowerment practices are better in insurance companies of Ujjain and Indore. Insurance companies are somewhat indulgent with female employees. Management is encouraged to female employees to experiments with new methods and tries out some creative ideas. There was less periodic transfer for women. So that female employees have better perception towards male in respect of employee empowerment.

CONCLUSION

The first objective relates to the study of employee development among 15-30 and 31-45 groups in insurance sector of Indore and Ujjain region. The study found that there is no significant difference in employee development practices in respect to age group. The employee development is slightly higher in age group of 31-45. The second objective relates to the study of labor welfare among 15-30 and 31-45 age groups in insurance sector of Indore and Ujjain region. There is no significance difference in labor welfare practices in respect to age group. The labor welfare is slightly higher in age group of 15-30. The third objective relates to the study of employee empowerment among 15-30 and 31-45 groups in insurance sector of Indore and Ujjain region. There is no significance difference in employee empowerment practices in respect to age group. The employee empowerment is slightly higher in age group of 15-30. The fourth objective relates to the study of employee development among male and female in insurance sector of Indore and Ujjain region. There

is no significant difference in employee development with respect to gender. The employee development practices are slightly higher in female.

The fifth objective relates to the study of labor welfare among male and female in insurance sector of Indore and Ujjain region. There is no significance difference in labor welfare practices in respect to gender. The labor welfare practices are slightly higher in female. The sixth objective relates to the study of employee empowerment among male and female in insurance sector of Indore and Ujjain region. There is no significance difference in employee empowerment in respect to gender. The employee empowerment practices are slightly higher in male.

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ANNEXURES

Table 1: Sampling

Service Sector	Region	
	<i>Ujjain</i> Respondents	<i>Indore</i> Respondents
Insurance	75	75
Total no. of respondents	75	75
TOTAL	150	

Cronbach’s Alpha

Reliability Statistics	
Cronbach's Alpha	N of Items
0.796	12

Table 2: Independent Samples Test

		t-test for Equality of Means				
	Levene's Test for Equality of Variances					95% Confidence Interval of the Difference

	F	Sig.	T	df	Sig. (2- tailed)	Mean Diff.	Std. Error Diff.	Lower	Upper
Equal variances assumed	0.673	0.413	1.456	148	0.148	0.243	0.167	-0.087	0.573
Equal variances not assumed			1.448	113.7	0.15	0.243	0.168	-0.09	0.576

Table 3: Group Statistics

Age	N	Mean	Std. Deviation
15-30	94	3.457	0.981439513
31-45	56	3.214	1.002755943

Table 3.1: Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
			t	df	Sig. (2- tailed)	Mean Diff.	Std. Error Diff.	95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2- tailed)	Mean Diff.	Std. Error Diff.	Lower	Upper
Equal variances assumed	0.004	0.951	3.469	148	0.001	0.562	0.162	0.242	0.882
Equal variances not assumed			3.456	114.42	0.001	0.562	0.163	0.24	0.884

Table 4: Group Statistics

age	N	Mean	Std. Deviation
15-30	94	3.75	0.954304868
31-45	56	3.18	0.968162002

Table 4.1: Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
			t	Df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	95% Confidence Interval of the Difference	
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	Lower	Upper
Equal variances assumed	14.27	0.661	-2.642	148	0.009	-0.381	0.144	-0.667	-0.096
Equal variances not assumed			-2.434	88.958	0.017	-0.381	0.157	-0.693	-0.07

Table 5: Group Statistics

Age	N	Mean	Std. Deviation
15-30	94	2.43	0.735805197
31-45	56	2.33	1.025556153

Table 5.1: Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
			t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	Lower	Upper
Equal variances assumed	4.582	0.087	1.517	148	0.131	0.269	0.177	-0.081	0.62
Equal variances not assumed			1.604	91.37	0.112	0.269	0.168	-0.064	0.602

Table 6: Group Statistics

Gender	N	Mean	Std. Deviation	Std. Error Mean
MALE	44	2.34	0.896	0.135
FEMALE	106	2.46	1.025	0.1

Table 6.1: Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	0.087	0.768	1.629	148	0.105	0.289	0.177	-0.062	0.639
Equal variances not assumed			1.652	83.018	0.102	0.289	0.175	-0.059	0.637

Table 7: Group Statistics

Gender	N	Mean	Std. Deviation	Std. Error Mean
MALE	44	3.75	0.965	0.145
FEMALE	106	3.46	0.999	0.097

Table 7.1: Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	1.21	0.273	-0.455	148	0.65	-0.071	0.157	-0.381	0.239
Equal variances not assumed			-0.481	91.45	0.632	-0.071	0.148	-0.366	0.223

Sushila Creations: Stitching up the Threads of Life

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Abstract

The Case Sushila Creations: Stitching up the Threads of Life focus on the journey of an entrepreneur Mr. Rakesh Ratjotkar. The case highlights the challenges faced by a small and medium enterprise in the expansion and running the business. It focuses on managerial acumen of the entrepreneur. The case try to bring the problem of shortage of skill based labor in small manufacturing unit and problem related to labor retention in such units. The paper extensively researches the literature of labor problem in India and across world. The study also tries to provide some implacable strategies and solution to the problem.

Key Words: *Small and Medium Enterprise, Entrepreneurship, Labor turnover, Skill Labor, Training and Development, labor Retention Strategies, Expansion Challenges.*

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INTRODUCTION

It was the Diwali of 2012, Sushila Creation have received an order of a lot for manufacturing Hosiery and Jeans which means expansion. But due to Diwali the labor was not present. Mr Vivek (son of Mr.Ratjotkar), a recent pass out Graduate from one of the top institute of fashion designing in India, is very exciting for order and believe in bringing some skilled labor from outside with the help of a association. But Mr. Ratjotkar, owner of Sushila Creation, is trying to convince him as four of his loyal labor have promised him to complete the order, but his son insist to hire labor from outside, which was not possible in the festive season. If the order is completed, the company will have good profit and expansion, but if not, it can hamper the image and creditability earn by Mr. Ratjotkar in years. In the argument between young generation and old experience, labor availability and labor training and development remains the major problem.

ABOUT OF THE FIRM

Sushila Creations, small manufacturing unit located at Readymade Complex, Indore, was established in 1996. The industry comes in SME sector and has 20 employees working on 15 stitching machine and some other technical machines. The small industry is well managed by expert entrepreneur Mr. Rakesh Ratjotkar and his son Mr. Vivek Ratjotkar.

Mr. Ratjotkar is very humble and down to earth man having excellent creditability in the market. Mr. Ratjotkar has done ITI in Tailoring and Cloth Designing and Diploma in the Tailoring and Cloth Designing in 1985. Mr. Ratjotkar started working in some tailoring Shop to gain experience, after which he started his own tailoring shop with his friend, where they only provide alteration of the clothes. His elder brother inspired him to launch the readymade clothing and this changed his fortune. His new journey as an entrepreneur begins. Initially, Mr. Ratjotkar started with single sewing machine and presently owns the multiple manufacturing units. The labor problem and shortage of skilled labor remains the major problem in this industry. The problem become more crucial at the time of festive season when demands are high and labor turnover is maximum.

The Industry

The Indore city is also called as Textile hub of Central India. The industry majorly consists of cloth manufacturing and garment manufacturing. 2500 units of readymade Garment manufacturer operate in Indore city. The industry is working on marginal profit on 6%. The industry has also an association of readymade manufacturer, which look after the annual leasing amount payment, leasing renewal and selling and buying of plot in industrial area. But the manufacturers has complains about association that they are not taking strict actions for labor turnover, labor retention. Labor are freely moving from one factory to another as their wages are not fixed. The association is also focusing on training and development of skill labor force.

CONCLUSION

The problem of skilled labor remains the crucial issue in small manufacturing organization like Sushila Creation. In emerging economies like India, the problem is very difficult as economy is generating job but skill in employees are lacking which leads to more unemployment, The solution lies in giving and promoting skill based learning in schools and colleges and promoting more number of skill based institution. Other than this women worker should also be encouraged for works in industry which are previously been a male dominated industry.

QUESTIONS

Q1. If you would be in place of Mr. Ratjotkar, what would be your decision in addressing the problem in this case? Kindly consider the consequence of your decision on Sushila Creations.

Q2. What are the different reasons for shortage of skilled workforce mentioned in the case?

Q3. Do you think that government initiative like Skill India Mission (Pradhan Mantri Kaushal Vikas Yojana PMKVY) will be helpful in effectively dealing with the shortage of skilled workforce in India.

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