

Optimization

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From the Desk of the Chief Editor.....

In the rapidly changing world, businesses are witnessing an exciting era of challenges. Organizations are grappling with constant change—from strengthening economic activity in emerging markets, to the rise of digital revolution, to increasing regulations, growing threat of cybercrime and data privacy risks, the war for talent, and the quickening pace of technology innovation. This is coinciding with the positive phase when our bi-annual peer reviewed **‘Optimization: Journal of Research in Management’** have assumed a very professional and proactive role in promoting research of high standards in India and globally. Since its inception, the Journal has made outstanding progress and has exceptionally contributed in the field of research. In adherence to reflection of its excellence, we are pleased to inform you that **‘Optimization: Journal of Research in Management’** is now **listed in EBSCO and indexed in i-Scholar Database.**

The present issue of the **‘Optimization: Journal of Research in Management’, Volume 11, Number 1, January-June 2019** encompasses an excellent assembly of articles and research papers on themes like financial inclusion, assets investment, risk management, digitalization, customer relationship management, green logistics and human resource development for the benefit of the readers, practitioners, researchers and academicians.

The first research paper **“The Poor’s Wealth: The Case of Istanbul’s Suburbs in Turkey”** has been authored by **Beyza Oba, Djamchid Assadi, and Zeynep Kabadayi Kuscü.** The researchers examined the Accumulation of Wealth by Poor People of Turkey by conducting a survey on assets possessed by them. Based on interviews with minimum wage earners about the wealth of their households it was found that the lower-income groups accumulated wealth mainly by debt which makes them vulnerable to any financial crises and negatively influences their living conditions.

The next paper co-authored by **Subagyo and Kanchan Bisht** on **“Performance Analysis of Different Asset Class in India”** compares historical returns of different asset class namely Nifty 50, Sensex 30, Equity Mutual fund, Debt Mutual fund, Gold and Real Estate for 10 years horizon and discusses the impact of recent change in the Indian Financial Budget relating to Long Term Capital Gain Tax (LTCG) over Real Estate investor’s returns.

Shwetank Parihar and Chandan Bhar in their paper on **“Markov Analysis as a Tool for Developing a Model for Risk Management: A Case Study based on Electrical Transmission Line Installation Projects”** analyzes the various aspects of risk assessment, when there is very low historical data available, by the use of Markov analysis and expert opinion for impact value. The paper also proposes a model for risk assessment that can be very well employed at the projects where the historical data is very less and overall risk mitigation can be dealt very efficiently.

The next research paper by **Debarun Chakraborty and Wendrila Biswas** on **“Digital India and Indian Society: A Case Study”** reviews the impact of Digitization on Indian Society and highlights that how digitization has led to social transformation by supporting and enhancing elements such as literacy, basic infrastructure, overall business environment, regulatory environment, etc. It argues that the Digital India program is just the beginning of a digital revolution, once implemented properly it will open various new opportunities for the citizens.

The fifth research paper entitled “**Effective CRM Adoption and Implementation: The Critical Role of Flexibility**” by **Kumar Shalender** emphasizes the importance of customer relationship management in the ever-changing market conditions and evolving technology. It argues that flexible strategies ensure that CRM adapts to changing business realities timely, thereby minimizing the negative effect on the organization due to a delayed response.

Raj Kumar Malik and Gyanesh Kumar Sinha in their case study based paper on “**Study of Green Logistics Practices – A Case of 3PL in the Automobile Industry**” have examined the significance of logistics & green logistics initiatives taken by automobile manufacturing companies in India with special reference to one of the leading automobile industry at Uttarakhand that has introduced 3PL (Third party logistics provider) initiative for substantial reduction in pollution level.

The last paper entitled “**Human Resource Development Practices and Employee Performance: Study Of Indian Automobile Industry**” authored by **Ashwini Mehta and Yogesh Mehta** investigated the impact of HRD Practices namely compensation, performance appraisal, training and development, job definition, career planning, employee participation, selection on employee performance of selected Indian automobile industries and provides ways to human resource professionals for formulating strategies to maximize employee’s performance.

We would like to profusely thank our contributors, readers, editorial board members, and advisory board members for their ongoing commitment to raise the standards to which the journal aspires. In the spirit of continuous improvement, we welcome any constructive input on streamlining our processes and look forward to more contributions in the near future.

With best wishes for a very happy and successful year 2019!!



Dr. Urvashi Makkar

Chief Editor and Director General
GLBIMR, Greater Noida

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The Poor's Wealth: The Case of Istanbul's Suburbs in Turkey

Beyza Oba,* Djamchid Assadi** & Zeynep Kabadayi Kuscü***

ABSTRACT

What constitutes the wealth of the poor and how is it accumulated? The objective of this paper is to appraise the assets that the poor might have in the specific context of Turkey where the official statistics might underestimate them. This question is of crucial importance because of its contrast with the accumulation of wealth that occurred following the financialization of the economy in this country and market-oriented policies. Based on interviews with minimum wage earners about the wealth of their households we identified major categories of wealth prevalent among low-income groups that might have been invisible to the official statistical radars and how they are accumulated. Our sample of low-income groups and their wealth means having a house, a car and ability to pay for the schooling of older children. Our results indicate that lower-income groups accumulated wealth mainly by debt which makes them vulnerable to any financial crises and negatively influences their living conditions. Furthermore, we argue that accumulating wealth through debt reproduces social inequality and high interest debt of many low-income families leads to wealth (dis)accumulation since they own less of their material wealth.

Keywords: *Wealth, income, Social stratification, Financialization, Financial inclusion, Turkey*

INTRODUCTION

Social scientists have under-estimated the impact of wealth on economic wellbeing and social stratification in favor of that of income in the last few decades. Basically, the absence of data for empirical analysis and the evolution of theoretical paradigms explain this oversight.

While data on wealth accounting and estimates and on national balance sheets were available prior to World War 1, the focus has progressively shifted to the income statistics to explore social inequality. The focus of national accounts has been mainly flows of output, income and consumption rather than stocks-assets and liabilities (Piketty and Zucman, 2014). Thus, data on wealth accumulation in a specific country has been based on flows of savings and investments. The theoretical apparatus on wealth have also evolved. In the early post World War II years, wealth was theoretically associated to the elite power, as mainly elite groups could proceed to accumulation of wealth (Skopek et al., 2014). Only after the full-blown industrialization, wealth became an issue encompassing the whole population.

The above theoretical under-estimation is however detrimental to studies of social stratification because wealth plays a significant role as generator of income, material comfort, stabilization of consumption, access to political power and social

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status (Wilterdink, 2007), educational attainment and social mobility (Kus, 2016), health and well-being (Bonini, 2008; Hochman and Skopek, 2013). Furthermore, ordinary traits of every society such as age composition, households' structure and earnings, inheritance (Cowell et al., 2017), institutional settings, property rights (De Soto, 2000) and economic conditions also contribute to wealth accumulation and consequently to wealth distribution.

Many researchers assert that financialization which penetrated almost all countries has also intensified wealth accumulation and subsequently social stratification. Policies of easy access to credit such as subprime loans, refinancing, credit cards and automobile titling enabled lower and lower-middle groups to acquire assets, which they would not have been able to afford otherwise.

Asevolution of wealth modifies social stratification, the study of wealth distribution supports the understanding and conceptualizing of social stratification. Individuals and households often consider wealth as the basis of decisions on consumption and investment in any given society (Skopek et al., 2014).

In line with the above, we address this inquiry: do the poor have actually wealth that national statistics overlook? The objective is to appraise the poor's assets that public authorities might have neglected to record because of high cost of registering small and unclassified properties. In this perspective, we endeavor to discover how low-income groups accumulate wealth -in particular- with recourse to indebtedness. In so doing, we aim to provide grounds for further discussions on the usage of credit to improve the low-income groups' position in social stratification.

We conduct this research in the specific context of Turkey which contains the two pillars of our research subject: social stratification by wealth distribution and recourse to loans to build up assets. Turkey scores high in poverty rate (17.3 % in 2014). 50% of the population earn less than 50% of the median disposable income as compared to 11 % in the OECD countries (OECD, 2016). Gini coefficient stands at 0.404 in 2016 (Turkish Statistical Institute). However, credit usage steadily increases in the balance sheet of even modest revenue, households (TCMM, Central Bank of Turkey; TBMM, The Banks Association of Turkey). Financial crises forced banks to change their target the credit segment of the middle and low-income groups (Ku^o, 2016). Households started to use

credit to improve their living standards. Low income and upper middle classes are the main target of consumer credits, mortgage and automobile titles. Low-income groups face a dilemma. They can use high-cost debt to improve their wealth such as home, car, higher education and even consumption of heavy appliances. However, by doing so, they must meet simultaneously daily expenses and financial charges to honor their debts. Low-income groups risk vulnerability during a crisis because of high-cost financial products, sold disproportionately to people with less education. The percentage of non-performing loans is particularly high in Turkey.

We conducted our field study in suburbs of Istanbul and collected data about the assets and liabilities of several low-income households. However, we did not aim to form a representative sample to generalize findings to a parent-population at a national level. At this stage, we designed our field research for familiarizing with the peculiarities of the poor's wealth and comparing it to the official statistics. Since we consider wealth rather than income to explore social stratification -without disbelieving the role of the latter- we have corollary focused on understanding the peculiarities rather than counting variable of a preconceived model.

The contribution of this paper is twofold; first we aim to develop an insight about household wealth of the low-income households which cannot be delivered by national statistics. As an alternative to studies on wealth we use micro level data on households provided by individuals. Although this micro data, to a limited extent is available for some countries, in case of Turkey such data is not available. Forexample, the OECD report "In It Together" (2015) provides a detailed data set about the composition of household wealth which incorporates the distribution of non-financial and financial assets and liabilities, whereas data regarding household wealth is not available for Turkey. Second, this study focuses on low-income groups; forexample, Piketty and Zucman (2014) estimate top wealth shares based on tax returns and estate returns. Alverado et al., (2018) indicate that as a sample for top income groups in the Middle East countries they have used billionaires list published by Forbes. However, this is a difficult task as well, due to under-reporting and usage of offshore bank accounts. In contrast this study focuses on low-income households and tries to understand to what extent wealth and income are correlated.

Attempting to address this inquiry, the reminder of the paper is structured as follows: First, we review the extant literature to provide a precise definition of wealth and its components. What we exactly understand by wealth logically precedes any exploration on the wealth of low-income groups. Second, we provide an overview of Turkish economy with an emphasis on poverty and the actions taken by political authorities. Third, we present the research design and in particular, the multidimensional questionnaire we have developed according to the literature review. Fourth, we describe the empirical study and a report of the findings. Paper concludes with the discussion of the findings as they pertain to wealth, financial inclusion and social inequality.

LITERATURE REVIEW

Drawing on the requirements of our research inquiry, this section proceeds to the review of literature on wealth, accumulation of wealth, distribution of wealth and income inequality in Turkey.

Wealth and its Functions

A person's purchasing power mainly derives from income and wealth. The former's main source is employment. The latter's is the ownership of assets like property, savings, shares, etc. Wealth and income are different with reference to time; income is what an individual has at a point in time, while wealth generally accrues across periods and generations. In other words, wealth is a stock of assets, which is accrued through time and reflect historical well-being, but income reflects current flow of earnings (Cowell et al., 2017; Skopek et al., 2014).

Income and wealth are however complementary in the sense that wealth is often the result of the accumulation of not affected revenues. Individuals build their patrimony by renouncing affecting income to current expenditure and consumption. Wealth can also yield an income and contribute to an agent's current or future purchasing power. One can also increase his/her assets through credit and debt. However, what s/he still owes on them is not considered yet as his/her wealth. Wealth is thus the total assets belonging to a certain unit such as a person, a family or a country minus any liabilities.

These assets can be financial assets such as savings accounts, stocks, or bonds; material assets like vehicles, refrigerators or other consumer durables; property such as home, farm, or business (Scholz

and Firestone, 2007; Cowel et al., 2017; Spilerman 2000). Generally, a household's wealth contains property wealth, financial wealth, physical wealth, and private pension value. *Property wealth* reflects the value of a household's main residence plus any other property such as second home, holiday homes, buy-to-lets, and land. The net property value equals properties minus values for any mortgages held against the properties. *Financial wealth* comprises monies saved both formally (in currents account, saving accounts, stocks and shares) and informally (saved under the bed and in children's assets). Liabilities such as debts on credit cards, arrears on household bills, student loans are subtracted from the above to provide a net measure of financial wealth. *Physical wealth* reflects the value of household contents, possessions and valuables in the main residence and any other properties owned. Some examples include antiques, artworks, stamp collections, etc. The values of vehicles are included here. The calculations sometimes do not register smaller belongings, such as computers, because they have less retained value. Finally, *private pension value* is the accrued value in all pensions that are not related to state supported retirement. This includes occupational pensions, personal pensions, retained rights in private pensions and pensions in payment.

Carl Menger (1934) does a distinction between property and wealth which is insightful for our research. Property is the sum of goods at a person's command. Wealth is the sum of economic goods at an individual's command. The existence of wealth presupposes, therefore, an individual in a position to employ for the satisfaction of his needs, the economic goods whose supplies are smaller than the demands for them. Hence, if there were a society where all goods were available in amounts exceeding the requirements for them, there would be neither economic goods nor any wealth.

Researchers believe and distinguish wealth accomplishes different functions in society (Wilterdink, 2007; Skopek et al., 2014):

- 1) Replicating itself by profits, interest, rents and dividend,
- 2) generating revenues,
- 3) providing material comfort through durable goods having utility functions,
- 4) safeguarding material security in case of interruptions in income (Spilerman, 2000) and as a result, prevent downward social mobility (Yorke, 2015),

- 5) offering freedom and autonomy in consumption, leisure, postponing or quitting work,
- 6) achieving social status by showing possessions or by obliging others through generosity and material help,
- 7) giving access to political and economic power, and
- 8) enhancing family privileges and links transferring fortune from one generation to the next through inheritance to descendants (Scholz and Firestone, 2007).

Accumulation of Wealth

Semyonov and Lewin-Epstein (2013) identify three mechanisms as the main sources of wealth creation and accumulation: income from work, intergenerational transfers (inherited wealth) and state created opportunities. Income is mainly used to cover household expenditure and if any is saved creates wealth for investment or else. In this perspective, wealth generated by income is a tradeoff between savings and consumption. People can save more when they earn and de-accumulate when their incomes decline. Schneider et al. (2016) also believe that different saving habits affect inequality of wealth. If the work is the main source of a household's income, then its members generally prefer to save rather than consume (Spilerman, 2000). Low-income groups will suffer in both cases since they will have meager resources for building their future (getting a life insurance or a house) and enjoying present (consuming leisure, arts and household durables). Inheritance can also influence wealth accumulation process positively (Skopek et al., 2014, (Gale and Scholtz, 1993). It has been reported that intergenerational transfers influence educational and human capital attainment (Rumberger, 1983). Finally, the government transfers constitute a third source for wealth accumulation and include welfare policies like housing and land acquisition, pension funds, taxation, inheritance laws (Semyonov and Lewin-Epstein, 2013; Cowell et al., 2017).

Distribution of Wealth

As wealth gives access to privileges, one can argue that unequal wealth accumulation can lead to inequality and social stratification. Various studies report a positive relation between wealth and living standards (Spilerman, 2004), education (Nam and Huang, 2009), life performance (Pfeffer and Hallsten, 2012), health (Semyonov et al., 2013), well-being (Hochman and Skopek, 2013).

If wealth is taken as a capacity of maintaining a standard of living, then it can have differing effects on consumption of wealthy and poor groups (Semyonov and Lewin-Epstein, 2013; Torche and Costa-Riberio, 2012). For example, illness or job loss affect more households who cannot benefit from security provided by wealth. Similarly, low-income groups have less chance to participate in the political process and be involved in the power process.

Also, household wealth in the form of a vacation home or piece of art can provide enjoyment to its owner and household assets can be used as a collateral for the provision of credits for starting up a small business. Households with less wealth have less chance of acquiring assets (a house, a car), cultural capital and experiencing entrepreneurial ventures. Thus, wealth and its accumulation will have a significant influence on the development and maintenance of social stratification.

While most economists have paid attention to the distribution of income, a few like Atkinson (1996) have pioneered the research on the distribution of wealth. Piketty (2017) used a plethora of data to confirm that the growing inequality between incomes derived from capital, super-manager salaries and inherited wealth on one side and those derived notably from labor on the other side, has considerably undermined the meritocratic values of democracy. The distribution of wealth continues to be unequal, unless the proportion of capital-income lowers as opposed to that of other forms of income (Piketty, 2017). However, Schneider et al. (2016) demonstrate that inequality in the distribution of incomes accounts for only half of the inequality in the distribution of wealth.

For reducing wealth inequality, Schneider et al. (2016) suggest a variety of methods such as taxation of wealth-holders and transfers, upsurge in communal ownership, development of shares in mutual funds, a progressive inheritance tax, and measures to reduce the marginal benefits to the benefits of low income earners. Corollary, incentives to save among low-incomers and to consume for the rich would reduce inequality of wealth.

Whilst distributive policies might be useful, it is vital to avoid capital flight and decline of a nation's affluence (Schneider et al., 2016). One should not underestimate that economic growth improves the situation of the poor, even though it is often accompanied by inequality. Okun (2015) believes

in a positive correlation between inequality and economic growth. In fact, a degree of inequality might mean that the savings of the rich can meet large set-up costs of providing more funds for investment, and creating more income-generating jobs for the poor. Inequality fell continuously during the first three quarters of the twentieth century, but thereafter remained either relatively constant or increased (Schneider 2004, Schneider et al. 2016).

From an economic perspective, people might accept increasing inequality if economic growth benefits to their income and wealth. However, from a social vantage, they might consider the material equality as a due right in a modern society. Schneider et al. (2016) claims the level of accepted inequality of the wealth distribution depends on views of what a society should be like.

The Turkish Context

In this section, we provide evidence about macro level variables that influence wealth accumulation of low-income groups in Turkey. Turkey scores 0.398 in income inequality, highest among member OECD countries, and represents a high rate of poverty rate in both older and younger groups. In younger groups poverty rate is even more pronounced. Poverty gap in Turkey is 0.306, which indicates that the mean income of the poor is below the poverty line (OECD 2014). 14.3 percent of the population is below the poverty line (TUIK, 2016).

Distribution of household income shows that low-income groups (first quintile) account 6.2 percent of the total while high income groups' share (last quintile) is about 47.2 percent (TUIK, 2016). Main sources of household income among low-income groups is wages and salaries (39.7 per cent), social transfers (20.5 per cent), ownership of small business (16.9 per cent), casual work (14.5 per cent) and pensions (12.8 per cent) (Table 1).

Table 1: Distribution of Household Income (Comparison Between Low and High Income Groups)

Types of Income	Years	Total	First Quintile	Last Quintile
Wages and salaries	2016	49,7	39,7	51,4
Casual	2016	2,5	14,5	0,4
Entrepreneurial	2016	19,8	16,9	23,7
Agricultural	2016	5,0	8,9	3,7
Non-agricultural	2016	14,8	8,0	20,0
Rental income	2016	3,1	1,2	4,3
Property income	2016	2,5	1,4	3,4
Social transfers	2016	19,6	20,5	14,7
Pensions and survival benefits	2016	18,0	12,8	13,8
Other social transfers	2016	1,6	7,7	0,8
Inter-household transfers	2016	2,5	4,5	2,0
Other	2016	0,2	1,3	0,0

Source: TUIK, 2016

Largest portion of household expenditure (all quintiles combined) goes to rent (25.2 percent), food (19.5 percent) and commuting (18.2 percent). House is a common asset in most of the Turkish households. 52.9 per cent of the low and middle-income families and 64.9 per cent of the upper middle and high-income families have a house

(TUIK, 2016). Similarly, both groups use consumer credits: 56 per cent and 74.5 per cent respectively. However, 93.3 per cent of low-income groups cannot afford to have a week of holidays in a year and 60.4 per cent of them report that they do not have a capacity to afford unexpected expenses (Table 2).

Table 2: Some Indicators of Living Conditions (2015, 2016)

Living conditions indicators	Below 60% of the Median income		Between 60%-120% of the Median income		Above 120% of the Median income	
	2015	2016	2015	2016	2015	2016
Owner (%)	57,2	52,9	58,5	58,2	64,2	64,9
Tenant(%)	25,8	29,4	23,9	24,6	21,4	21,5
Lodging (%)	0,3	0,5	1,0	1,0	2,4	2,6
Other(%)	16,7	17,2	16,6	16,2	11,9	11,0
Installments and loans (Other than mortgage -for the main dwelling-and housing cost)						
A heavy burden (%)	27,0	25,3	28,1	22,5	22,7	19,5
A slight burden (%)	27,5	28,8	37,5	41,8	42,4	44,1
Not burden at all (%)No installment/	1,6	1,8	2,6	3,8	9,3	11,0
loan (%)	43,9	44,1	31,8	32,0	25,6	25,5
Capacity to afford paying for one week holiday/year						
Can afford (%)	5,2	6,7	17,7	23,9	53,0	59,3
Cannot afford (%)	94,8	93,3	82,3	76,1	47,0	40,7
Capacity to afford a meal with meat, chicken or fish every second day						
Can afford (%)	29,1	37,1	56,2	56,1	92,3	82,3
Cannot afford (%)	70,9	62,9	43,8	43,9	7,7	17,7
Capacity to afford unexpected financial expenses						
Can afford (%)	33,5	39,6	61,0	60,4	93,0	85,0
Cannot afford (%)	66,5	60,4	39,0	39,6	7,0	15,0

Source: TUIK, 2016

Given these facts about poverty and wealth in Turkey, a deeper insight can be developed by providing a background about the political, social and economic antecedents of poverty gap with a special focus on the role assumed by the state.

Two dominant actors characterize the Turkish modernization project: family owned conglomerates and a centralized bureaucratic state. The latter had a dominant role in the creation of business elites, big business groups as well as the maintenance of law and order (Heper, 1985). Industrialization was the major of the political authorities during the statist period (Buđra, 2007).

During 1960s, the rural poor started to find temporary and seasonal jobs in the newly developing fringes of cities, called “*gecekondus*”. *Gecekondus* settlements were built on publicly owned land with often no water and sewage

systems and without legal permissions. People moving from the countryside to the cities continued to keep their fields in their villages and in a way had a double income. *Gecekondus*, which were built on public property (either state owned or belonging to municipalities). By provisioning amnesties and assurance for a legal ownership, political parties aimed to gain the support of the *gecekondus* settlers as a voting pool by political parties. *Gecekondus* definitely enjoyed a redistribution effect (Bağlevant and Dayıođlu, 2005).

In 1980, Turkey shifted from state-led and inward oriented industrialization to neoliberal reforms conducting to the development of private entrepreneurship and the strengthening of informal economy. The *gecekondus* settlers moved to cities for a better earning and possibly better living conditions. This migration created a labor force (Elveren and Ozgür, 2016) and the “urban poor” (Pınarciođlu and İpık, 2008).

Another outcome of the post 1980 neoliberal reforms was the emergence of informal economy (Kus, 2014). Increase in informality led to less tax revenues and social security premiums, and in fine influenced income redistribution. After 1980, with the expansion in labor-intensive sectors like textiles, a decrease in wages in these sectors was observed. Urban poor, which were not educated or only had a primary school education, became part of the informal economy by being involved in entrepreneurial activity. In addition, they find job opportunities as unskilled labor force in the informal economy.

Parallel to the evolution of the incomes, the formation of wealth also witness changes as the regulative capacity of the state has decreased, urban poor located at the outskirts of cities, as “*gecekondu*” habitants were able to benefit and accumulate wealth from the illegal real estate market (Pinaricioğlu and İpýk, 2008). Also, meanwhile the former *gecekondu* owners who were able to benefit from the various populist moves (amnesties) of the ruling parties were able to increase the value of their property; *gecekondu*s that were once modest one room structures turned to be multi-floor structures. Owners of these multi-floor *gecekondu*s turned out to be property owners of the urban property. This phenomenon reminds the argument Do Soto (2000) states about the impact of institutional settings on property rights. The development of this market was not limited to the deliberate actions of the urban poor; high income groups were fascinated to have enclaves (so called *site*) which will provide a high quality of life (facilities which provide opportunity for sports, for socializing, replace cooking at home, a space for quasi-cultural activities), guarded and safe and yet affordable. Big business groups that were engaged in construction industry were also drawn in to exploit this opportunity. Thus, *gecekondu*s built at the fringes of big cities by the rural poor for housing necessity became valuable urban property and an income source for their owners. Furthermore, as a recent phenomenon these areas (former *gecekondu* districts), became the subject of gentrification and are transformed to suburban residence sites or satellite cities. These sites accommodate both middle class professionals and low-income groups whose ancestors once owned a *gecekondu* on that land. Since by various amnesties, *gecekondu* owners had the legal right to ownership gentrification provided an opportunity for them to own a house in these dwellings.

Currently, the low-income groups are better equipped in terms of material wealth since they can accumulate through intergenerational transfer of wealth from their ancestors who were the property owners of *gecekondu*s and benefitting from credit usage opportunities provided by financialization. We also stress that wealth accumulation and redistribution of the poor is influenced by the populist initiatives of the political parties, which evaluate these groups as an important potential source for ballots. As indicated by Kus (2016), Turkey witnessed the rise of a “debtfare system” where as discussed by Carruthers (2007) political rules determined the boundaries for economic rules and people engaged in markets followed the political rules forced the market forward.

RESEARCH METHODOLOGY

On the field, we aimed to measure household wealth and of low-income families in Turkey. We also tried to find out how wealth is accumulated among low-income groups. Our unit of analysis was household. Following Cowell et al. (2017), we define household as a group of people who live in the same dwelling and share household expenses. TUIK, Turkish database where we collected some of our data also adopts a similar definition and stresses that household members collectively meet their basic needs. If wealth is taken as a potential of consuming and maintaining a living standard, then household as a unit of analysis is pertinent for a better understanding of poverty, wealth accumulation or dis-accumulation and finally social stratification.

Referring to our literature review, we define household wealth as the total sum of assets (financial and non-financial) minus total debt (mortgage, consumer credit, vehicle credit, student loans, etc.). To simplify data collection, we utilized a *household balance sheet* (see figure 1), which was developed in line with extant literature. Such a detailed list is important for both obtaining data and constructing a thorough picture of the low-income household's wealth.

Fifteen items are surveyed according to our household balance sheet around five basic themes: financial assets, non-financial assets, income sources, current liabilities and investments. Besides questions about wealth, we also questioned about socio-demographic characteristics such as the size of the household (number of members), number of income earning members in the household, and location of the household as well as the demographic characteristics of the sample (Table 3).

Table 3: Socio-Demographic Characteristics of Households and Respondents

	No. of household members	No. of income earning feamily members	Location (City, District)	Age of respon- dent	Gender of respon- dent	Occupation of respondent
R1	4	3	Alibeykoy/Istanbul	Female	46	Cleaning staff
R2	5	2	Sangazi/Istanbul	Female	22	Office worker
R3	3	2	Cekmekoy/Istanbul	Male	23	Worker in a Hairdresser
R4	4	4	Yenidogan/Istanbul	Female	32	Waitress at a Cafe
R5	5	3	Kartal/Istanbul	Female	22	Office worker
R6	4	2	Cekmekoy/Istanbul	Female	39	Charlady
R7	2	2	Tasdelen/Istanbul	Female	42	Owner of a hairdresser
R8	4	2	Sarigazi/Istanbul	Female	37	Cleaning staff
R9	4	2	Tasdelen/Istanbul	Male	17	Waiter in a Cafe
R10	3	2	Umraniye/Istanbul	Female	26	Manicurist
R11	5	2	Sarigazi/Istanbul	Female	26	Office secretary
R12	4	2	Sancaktepe/Istanbul	Female	50	Charlady
R13	3	2	Tasdelen/Istanbul	Female	30	Office worker
R14	4	3	Sahryicedit/Istanbul	Female	26	Office worker
R15	4	2	Pendik/Istanbul	Female	26	Office worker
R16 worker	4	3	Esenler/Istanbul	Female	36	Photocopy center
R17	5	2	Esatpasa/Istanbul	Female	38	Charlady
R18	3	1	Sancaktepe/Istanbul	Female	37	Cleaning staff
R19	2	2	Umraniye/Istanbul	Female	25	Office worker
R20	3	2	Umraniye/Istanbul	Female	37	Charlady
R21	5	2	Umraniye/Istanbul	Female	38	Charlady

Source: Authors

The interview guide (Appendix 1) was first prepared in English and then translated into Turkish. In line with the rationale of a household balance sheet, the interview guide stressed on twelve categories of question: socio-demographic features, general attitudes about wealth, financial liquid assets, real estate, personal property, investment, current liabilities, noncurrent liabilities.

We have decided to accomplish the field survey around Istanbul because gentrification policies that the Turkish government provided for the

construction industry created a boom in the number of available houses in general, and particularly in İstanbul.

Data Collection: Method and Sampling

For the primary data collection purpose, we used semi-structured interviews. This method, whose rationale resides in gaining insights on informants' opinions and behaviors through conversation and interaction, corresponds to our research objective of discovering the poor's definition and report of

their wealth. As previously mentioned, our research rationale was not surveying a representative sample and to generalize the findings to a whole parent-population.

In this vein, we conducted a series of semi-structured face-to-face interviews with 21 respondents between August 2016 and October 2016 to obtain micro level data on household wealth of low-income groups in Turkey. We focused throughout the interviews on household because we have assumed that wealth such as a house is usually made at the household level. We defined a household as a unit of individuals whose center of life is at a shared address and who share daily finances. Individuals who temporarily do not live at that address but regularly return there are also considered as members of the household. We have not considered as household, individuals who share a home without having a couple (family) life or parenthood, or domestic staff residing at that address.

Interviews were conducted with a single person representing the household. For this purpose, we identified a referent in each household who is expected to have full information about the members of the household and has assumed responsibility to for household consumption.

The sample members were heterogeneous in terms of age (17-65, mean age 35.9) and gender (male and female). In terms of income, they represented the lowest income group, either minimum wage earners or slightly higher. In 2016 minimum wage was set as net 1.300 TL (approximately 371 US dollars) and gross 1.647 TL (approximately 470 US dollars).

Interviewees were mainly occupied by small and medium sized companies or work as charladies. Only one respondent (R7) is self-employed. Two of the respondents are retired and one of them is jobless. Table 3 provides a detailed information about the demographics of our sample.

We gave respondents time to think for responding in their own words in a relaxed environment. We conducted all interviews in Turkish. Flow of conversation determined statements and order of questions. Interviews ranged in length from approximately 15 minutes to 20 minutes. Each interview was digitally recorded and fully transcribed. We have also enriched the interviews with observation notes taken during the conversations and some secondary data.

The values reported are assessments the respondents made in particular, about the values of real estates and businesses owned by households. Although they may be flawed, self-assessments are crucial for two reasons: the poor's attitude about their wealth and the difficulty of assessing the actual value of properties that are often not registered.

DATA ANALYSIS AND DISCUSSION

The first part of the interviews aimed at understanding the *financial assets* of the household.

In this vein, we collected data about the bank deposits both with and without an interest in Turkish lira (one TL equals 0.22 € and \$ 0.26 in the date of our survey), gold accounts, gold kept at home, foreign currency accounts (mainly US dollar and euro), stocks and bonds.

All respondents complained that they are unable to spare some money as savings as they have to meet their liabilities and cover household expenses. R17's comments reflect the comments of other respondents;

My husband works with minimum wage and I work two days a week, so we just manage expenses, we can just balance [if we can save some amount] I would open a bank account [and keep it in interest].

R1's comments strengthen this point as well, "*when calculated all we earn goes for debts, if any is left we either pay for bills or for kitchen expenses*". However, even if the possibility to save is weak in case they can, the financial asset is preferred. The majority of the respondents preferred demand deposits (19 out of 21) then time deposits (8/21) and gold kept at home (8/21). US dollar is also preferred (5/21) as compared to euro (3/21) as an investment tool.

As Respondent 5, a retired primary school teacher indicated, "*dollar and euro are short term, occasional investments, we prefer TL*" most of the respondents asserted that TL and gold at home are the preferred investment tools. As indicated by Respondent 11, a female office worker, "*gold is a popular investment tool at the moment*" and "*...prefer to keep at home*" (R 19).

Second theme of questions are related to the *non-financial assets* (real estate, personal wealth and a second real estate like farm, office, summer house) owned by the household. Having a house

seems to be a priority for most of the Turkish citizens and our respondents shared this attitude as well. Most of the respondents (17/21) owned a house and furthermore. The same number used mortgage for buying their house. Half of those who owned a house has also invested into a second real estate. Respondents who do not own a house are a newly married couple (R 19), a household owning only a summerhouse (R 14) and a bread earner of a large household where the other members are dependents (children and mother-in-law) rather than wage earners (R17).

Nearly half of the respondents (10/21) owned a car. 10 households in our sample owned a house and a car and five of them had a house, a car and a second real estate. In most cases, respondents buy car by bank loans (at interest rates ranging from 1.09 % to 1.29 %) and for buying a house (at interest rates ranging from 0.80 % to 1.19 %) they use mortgage, as indicated by R1, using financial instruments is done simultaneously, "We have mortgage, car loan just finished".

In the third section of the questionnaire, we asked for the *revenue* sources of a household. Except 3 respondents (R2 jobless, R6 retired and R20 charlady) 18 respondents reported that at least one member of the household is on the payroll of a company and receive monthly salary.

For three respondents (R5, R1 and R21), monthly retirement pay provides an additional household revenue. Except for R20, work as a charlady is an additional revenue to the total budget of the household.

Four households (R2, R5, R7, and R9) collected rent from their second real estate investments. Four households (R1, R2, R9, R16) generated revenues by harvesting their fields in their villages located in places other than İstanbul. However, this is an irregular income depending on climate, market price of the agricultural products and distribution of the revenues among the members of the extended family is not even.

"We came from Ordu [a city in Black sea coast], we have hazelnut fields in our village, and we might have some extra income from hazelnut. But my husband's family is a large one and we share the money raised" (R1).

"In Sivas [mid Anatolia] we have a field which we inherited from my father, but my cousins take care of it and do the harvest. So, we get nothing" (R7).

In the fourth section of the interviews, we aimed to understand the type of *current liabilities* (mortgage, consumer credits, car loans, loans for education, credit card debts) that dominate the balance sheet of a low-income household.

Nearly all non-financial assets (car, house, and second real estate) are purchased by using bank loans in our sample. Consumer loans are mainly used as advance payments for buying a house. Most of the respondents claimed that they used mortgage or car loans in the past but currently they are over with the payments. As is stated by R13 *"we have consumer loan for one year that we used for the advance payment of our house"*. Also, in most cases loans for house and car are used consecutively. R1 indicated *"we have mortgage, car loan just finished"*.

18 respondents use credit cards, 7 of them have mortgage payments, 6 of them use consumer credits and 5 of them used bank loans for paying university fees for their children. There are two types of universities in Turkey. While public universities are free of charge, private foundation-charge fees for students.

R12, a charlady commented, *"we don't have any debts except debts for my daughters' school fees 28.000 TL (approximately 8.000 \$ US) for both for a year"*.

Finally, we asked questions about the *investments* (stocks, bonds, social security, and private pension) of the respondents. None of the respondents invested in stocks and bonds. One of the reasons for eliminating stocks and bonds as an investment tool can be explained in line with the thinly traded financial markets in Turkey. Furthermore, volatility in financial markets, lack of knowledge to invest to these instruments strengthens this negative attitude towards bonds and stocks.

In each household of our sample at least one member benefited from SGK (Turkish social security system). In some cases, more than one member of the household had SGK. In this system, premiums paid by one employed family member (male or female) will provide benefits for the other members of the family (spouse and children). The Turkish social security system is modeled as a hybrid of Continental and Mediterranean insurance systems. Accordingly, employees pay premiums in line with their insurance status and then collected in a joint pool. Provision of benefits is based on the premiums paid. SGK incorporates short term (work accidents, occupational disease, sickness, and

maternity leave) and long-term (invalidity, old age, survivor's) insurances.

Fifteen respondents have SGK and premiums are paid by their employers. One respondent (R7) is self-employed and is registered to Baðkur (alternative to SGK for owners of small and medium sized companies) whereas her husband has SGK.

Three respondents (R12, R17 and R20) pay SGK premiums themselves. One respondent (R21) benefits from her husband's SGK package. Seven respondents have subscribed to private pension system. In contrast to SGK, in the private pension system, they pay their fees but recently with a new regulation, 25 per cent of the monthly payments is subsidized by the state.

Nine respondents have private health insurance. SGK insurance coverage is applicable in public hospitals whereas private insurance benefits cover private hospitals and freelance doctors, thus private health insurance is a complementary to SGK. Private health insurance is given as a fringe benefit payment in most of the privately owned medium and big sized companies. Only one respondent (R13) receive private health insurance benefit from her employer and 8 of them pay for themselves.

CONCLUSION

We aimed in this paper to identify the forms and the origins of the poor's wealth beyond the official statistics. The results of our field study provide significant insights for our research inquiry and purpose.

The wealth of the typical low-income Turkish household is mainly a house and a car, which are owned by bank loans in the form of mortgage, vehicle credits and consumer credits. Acquiring real estate has become affordable in Turkey even for modest income earners mainly as a consequence of utilizing financial instruments and political parties' supportive policies for legalizing "illegal" properties. Also, gentrification policies adopted by the AKP government has been instrumental in increasing housing supply.

Gentrification policies that the Turkish government provided for the construction industry created a boom in the number of available houses in the market, especially in İstanbul. Furthermore, the market-oriented state strategies in the late 1980s have also enabled many low-income individuals to reap the benefits of informal economy as labor force and else to accumulate revenues and acquire

(illegal) real estate market. By exploiting the populist strategies of the ruling parties of all political wings, the poor was able to traverse between formal and informal economy and accumulate material wealth which provided an opportunity for upward mobility.

Finally, financialization provided instruments for the provision of assets that otherwise would have been too costly to afford for the low-income families. After 2006 financial crises and the fall of demand for investing, banks turned to consumer markets and consumption. Credit usage became an important instrument for middle and low-income households for accumulating material wealth.

It is true that finance-led instruments turned to be one of the dominant cause of wealth accumulation in particular for home or car ownership. The members of our sample acquired nearly all their non-financial assets (car, house, and second real estate) by using bank loans. Most of the respondents claimed that they used mortgage or car loans in the past but currently they are over with the payments.

However, wealth accumulation with debt might be the main source of insecurity. Especially, if the evolution of the labor market leads to outsourcing and incoming migrant workers; factors that weakens the low-income groups' ability to meet their obligations. As their dependence on financial markets deepened, low-income households share in fact their wealth with the actors of financial markets. We think that the financial inclusion which contributed the wealth accumulation of the poor has also opened a venue for social precarity. Flaherty (2015) believes these policies have socialized *in fine* private debts and damaged the strata of many low-income households. Montgomery and Young (2010) provided evidence about how increasing debts and servicing costs for marginalized households have led to wealth (dis) accumulation. It is now clear that financialization has significantly influenced wealth redistribution and enhanced the shares of top income groups.

Besides house and car, gold is also kept "under the mattress" according to a Turkish saying by some low-income householders mainly for giving away as a present for weddings, child birth or acquisition of a new house. If a child attending university lives in a household, then most likely education loans are used as well.

In addition to the wealth creation and accumulation, our study also provided insights on the low-income households' *revenue* sources. Salary and retirement pay showed to be the predominant form of regular income for a big majority of our sample members. Some of them also gain some other types of income such as revenues of harvesting their fields in their villages.

The findings of the research on hands open avenues for further research. As the poor have formed and accumulated wealth mainly through the conventional financial institutions, a major axe of research would be that of the alternative finance's impact on the poor's access to financial facilities and the more accommodating conditions of debt access and reimbursement. By alternative finance, we mean channels and instruments that have emerged outside of the conventional system such as regulated banks and capital markets. This is an important issue because conventional market imperfections might particularly affect the poor and reduce their ability to contribute to economic growth.

The findings of this research also provide insights for public policies. If the poor are not that poor that official statistics show, then the institutions are more defective than what they seem to be in the fight against poverty. In this perspective, the rule of law is not a luxury in the poverty eradication, but a *Sine Qua Non* condition.

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- ## APPENDIX
- ### Appendix 1: The Interview Guide
- #### 1. Information Profile and Socio-Demographic Features
- First part of the interview collects data about socio-demographics features of the respondents. Since unit of analysis is the household, we will address total household wealth but not the wealth of a single individual. Respondent(s) is (are) the most financially knowledgeable member of the household, although other household members may also provide information about wealth. The following will be addressed:
- Size of the family (family members)
 - Age, education, and gender of the members
 - Number of income earning family members
 - Number of non-income earning family members
 - Location of the home (region, city, district)
- #### 2. General Attitudes About Wealth
- Objective: Discovering the poor's understanding of wealth
- Unpaid bills
 - Where does wealth come from?
 - What are the different types of wealth?
 - Which type of wealth is important for making more money and having regular revenue?

3. Financial Liquid Assets

Objective: In this part, also we will ask questions to understand the composition of most used liquid financial assets in by a household such as cash, bank accounts, gold accounts, and credit cards.

- Cash
- Banking accounts
- Credit cards and loans
- Gold (kept at home)
- Foreign currency (kept in hand)
- Other

4. Real Estate

Objective: Finding out respondents' assessments of their own real estate property mainly comprised of residential (land, flat, house, condominiums and townhomes), commercial (office buildings, warehouses, livestock in rural areas, retail store buildings) and industrial categories (factories, farm, mines).

- Residential real estate
- Commercial real estate
- Industrial real estate
- Other

5. Personal Property and Wealth

Objective: Assessing the poor's wealth

- Automobile
- Jewellery
- Tools and machinery
- Furniture and appliances
- Collectibles
- Other

6. Investment

Objective: Finding out respondents' assessments of their own investments, i.e. financial assets

purchased with the idea of generating income in the future or selling at a higher price. We also try to collect data about types of social security benefits (if ever), retirement pensions (if ver) and life insurance (if ever). The reason we decided to include such data is that pensions, social security and insurance can be complementary indicators of wealth.

- Stocks
- Bonds
- Social security benefits
- Life insurance Retirement pension
- Tools and machinery
- Furniture and appliances
- Other

7. Current Liabilities

Objective; Assessing the respondents' debts or obligations that are due within one year.

- Unpaid bills
- Installment loans
- Mortgage due
- Vehicle loans
- Student loans
- Other

8. Noncurrent Liabilities

Objective: Assessing the respondents' debts or obligations that are due within one year.

- Installment loan due after one year
- Mortgage due
- Other

9. Final Remarks on Wealth and Income Generation

Is there anything you would like to add on how your family wealth can be used for generating income?

Performance Analysis of Different Asset Class in India

Subagyo* & Kanchan Bisht**

ABSTRACT

Investment is a way of investing the funds in different asset class available such as equity, debt, bonds, fixed deposits, real estate, gold etc. Each asset class has different risk return trade off. This study compares historical returns of different asset class namely Nifty 50, Sensex 30, Equity Mutual fund, Debt Mutual fund, Gold and Real Estate for 10 years horizon i.e 2007-2016. It also takes 20 years data for Nifty 50, Sensex 30 and gold i.e from 1997- 2016 and compares the returns over the years. Further, it discusses the impact of recent change in the Indian Financial Budget relating to Long Term Capital Gain Tax (LTCG) over Real Estate investor's returns. This study shows that Debt Mutual fund has given better returns as compared to other asset classes for shorter period of time i.e. for one year period. However, for long term investors, equity mutual funds have performed consistently better as compared to other asset class. This study also reveals that change in budget relating to LTCG holding period for immovable property has made the real asset investment class more attractive for wealthy investors.

Keyword: Mutual Fund, Net Asset Value, Long Term Capital Gain, Stock Index, CAGR.

INTRODUCTION

Investment is the employment of funds with the aim of getting return on it. It is commitment of funds which have been saved from current consumption with the hope that some benefits will be received in future. Thus, it is a reward for waiting for money. Various investment options are available, offering differing risk-reward tradeoffs. Each asset class has its own merits and demerits. The following table shows characteristics of various asset class based on returns, risk, liquidity, tax and convenience.

Keeping these different asset classes, investors may have following different investment objectives.

Short term high priority: Investors have a high priority towards achieving some objectives in a short time. For example, a couple will give high priority to buy a house and invest their money accordingly.

Long term high priority: Some investors look forward for long term needs e.g. investing for education of a child or post retirement period etc.

Low priority goal: These objectives have low priority in investing. These objectives are not painful. After investing in high priority assets, investors can invest in these low priority assets like buying domestic appliances etc.

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Table 1: Characteristics of Various Asset Class

Asset class	Return		Risk	Liquidity	Tax Shelter	Convenience
	Current Yield	Capital Appreciation				
Equity Shares	Low	High	High	Very High	High	High
Equity Mutual Funds	Low	High	High	Very High	High	Very High
Debt Mutual Funds	Moderate	Low	Low	High	Low	Very High
Gold	Nil	Moderate	Moderate	Moderate	Low	Moderate
Real estate	Moderate	Moderate	Low	Low	Low	Low

Money making goal: Investors may have objective to maximize wealth. The investors invest in companies to get benefitted with capital appreciation apart from regular/current income (dividend).

Mutual Fund

Mutual fund is a way of investment by pooling money from different investors and diversifies collected funds into different option like equity, debt, gold, bonds, etc. Investors can get exposure of same securities through mutual fund who may not want to invest directly in financial markets. Investors can diversify their portfolio holdings with small amounts, by investing in gold and real estate through mutual funds. Each product offered by a mutual fund company is called a scheme. Mutual Fund Company offer varieties of schemes or funds, each catering to a different investment need of the investor. An investor may choose to invest through a mutual fund to be able to use the services of the fund manager who will make the investment decisions relating to selection of securities, timing of investments, reviewing and rebalancing the portfolio periodically and executing the operational decisions related to the portfolio. These services are provided to the investor by charging a fee. There are different types of mutual funds available in the financial market. Some of them are listed below.

Equity Mutual Fund: An equity fund is a mutual fund that invests in stocks. It can be managed actively or passively. Equity funds are also known as stock funds. These funds invest a maximum part of their corpus into equities holdings. Equity investments are meant for a longer time horizon. The Equity Funds are classified, based upon their investment objective, as follows:

- Diversified Equity Funds(Large Cap)
- Mid-Cap Funds
- Small Cap Funds
- Sector Specific Funds
- Tax Savings Funds (ELSS)
- Thematic Funds

Debt Mutual Fund: Debt Mutual Funds is a mixture of debt or fixed income securities such as, Government Securities, Treasury Bills, Corporate Bonds, Money Market instruments and other debt securities of different time periods. Debt securities have a fixed maturity date with a fixed rate of interest. These funds provide low risk and provide stable income to the investors. Debt funds are of following types:

- Gilt Funds
- Income Funds
- Short Term Plans
- Liquid Funds
- Monthly Income Plans (MIPs)

Gold: Gold is the most popular as an investment product. Investors buy gold generally to diversify risk, through the use of derivatives. The gold market is subject to speculation and volatility as are other markets. Gold is useful as a store of wealth. It acts as secret assets. The investment is highly liquid and can be sold at any time. The market prices are continuously increasing with return on investment. The investment is also safe and secure. There is a high degree of prestige value for gold in the society. The benefit of capital appreciation is also available.

Real Estate: Real estate generates income or is otherwise intended for investment purposes. This is considered as one of the oldest investment

product and has gained a lot of importance in the recent past due to very high returns it has generated for the investors.

Stock Index

Nifty50: The NIFTY 50 index is National Stock Exchange of India's benchmark stock market index for Indian equity market. Nifty is generally owned and managed by India Index Services and Products (IISL), which is a wholly owned subsidiary of the NSE Strategic Investment Corporation Limited. The Nifty is a well diversified 50 stock index accounting for 22 sectors of the economy. It is used such as benchmarking fund portfolios, index based derivatives and index funds.

SENSEX 30: The SENSEX was introduced by the Bombay stock exchange in 1986. It is one of the prominent stock market indexes in India. It comprises of 30 stocks.

LITERATURE REVIEW

The literatures review on performance analysis of different asset class has revealed that there has been a very few study which focuses on the comparison of different asset class over 20 years time period.

There have been different studies in the past which have analyzed the performance of some asset class in terms of their risk and return. Guha Deb, Banerjee and Chakrabarti in 2007 have conducted a study on Indian mutual fund data for the period 2000-2005 on a sample of 96 mutual funds. Their study showed that only 18 funds exhibited positive excess returns over their style benchmarks although none of them are statistically significant at 5% significance level. Anand and V. Murugaiah in 2008 conducted a study on performance of mutual funds of 113 selected schemes and found that mutual funds were not able to compensate to investors for the additional risk taken by investing in mutual funds. Dziukevicius and Vetrovin 2012 combined business cycle and asset allocation theories by adding significant information about performance of different asset classes during different stages of business cycle and demonstrated that different asset classes have different return characteristics. Rajni in 2015 calculated that the Indian equity market had provided an average return of 16.59% as against the expected rate of 10.84% during the period of 2003-2013 with a delivered risk premium of 9.78% per annum. S. Narayan Rao in 2003 evaluated performance of Indian mutual funds in a bear market through relative performance index,

risk-return analysis, Treynor's ratio, Jensen's alpha ratio, Sharpe ratio and Fama's measure. This study takes into account 269 open-ended schemes for calculating relative performance index. The results of performance measures indicate that 58 schemes of mutual fund in the sample were able to satisfy investor's expectations by providing excess returns over expected returns. Thenmozhi & Karthika in 2014 found that Debt is another significant asset class for the investors and the major debt instruments are the bonds. Dilip in 2014 found Gold to be a valuable asset class that can improve the risk-adjusted performance of a well-diversified portfolio of stocks which also hedge against various market and macroeconomic factors. Inder and Vohra in 2012 evaluate the long run performance of index funds schemes and capture sentiments of market and performance of the market.

Cole and IP in 1993 studies the performance of Australian equity trusts and found portfolio managers were unable to earn positive returns in investment. Most of these studies are either limited to one or two asset classes or having analysis of limited time period. Therefore, this study has got relevance as it has different asset classes with time horizon of as high as 20 years included into it.

OBJECTIVES OF THE STUDY

This study has following objectives to achieve.

- i) Comparison of returns of different asset class with different time horizon
- ii) Impact of change in Long Term Capital Gain Tax over investor's return in Real Estate Asset.

RESEARCH METHODOLOGY

This section discusses an overview of various dimensions of the research, tools and techniques and methods used to achieve the research objectives.

The Data and the Sample

The study is primarily exploratory as well as descriptive and is focused on six categories of asset class namely SENSEX 30, NIFTY 50, Equity Mutual Fund, Debt Mutual Fund, Gold and Real Estate.

Data

The data has been taken from Association of Mutual Fund Industry of India (AMFI), Bombay Stock Exchange (BSE), National Stock Exchange (NSE), Bank Bazaar, and Residex Index published

by National Housing Bank (NHB). The sample period undertaken for study is from the year 1997-2016.

In this study, it is proposed to do a comparative analysis of six categories of asset class namely SENSEX 30, NIFTY 50, Equity Mutual Fund, Debt Mutual Fund, Gold and Real Estate. The analysis has been done for the short term, medium term and long term horizon. Here, short term is defined as one year period, medium term is defined as 5 years period, and long term is defined as 10 years and more.

For this purpose, Compound Annual Growth Rate (CAGR) of index of SENSEX 30, index of NIFTY 50, Net Asset Value (NAV) of Equity Mutual Funds, NAV of Debt Mutual Funds, prices of gold, and index of Residex have been calculated. The calculation of NAV and CAGR have been explained in the following chapter under the head 'models and techniques'.

Sample Frame

The sample frame is called the list of the target population. The sample frame in this study is all those Mutual funds which are reporting their performance data to AMFI, and Real Estate prices reported to NHB.

Sample Size

This study has taken samples of top four Asset Management Company (AMC) on the basis of their Asset Under Management (AUM) for Equity and Debt oriented mutual funds. It also included top 8 popular cities (Delhi, Mumbai, Chennai, Bangalore, Kolkata, Hyderabad, Ahmadabad and Pune) for the calculation of real estate price change.

Sampling Technique

In order to analyze and compare the performance of different asset class, a convenience sampling is chosen.

Models and Techniques

For the conduct of the study, CAGR of NAV, SENSEX30, NIFTY50, Real Estate Prices, Gold Prices have been used.

CAGR is calculated as under:

$$CAGR = \left(\frac{EV}{BV} \right)^{1/n}$$

Where:

EV = Investment's ending value

BV = Investment's beginning value

n = Number of periods (months, years, etc.)

Net Asset Value (NAV) is calculated as under:

NAV = (Market Value of All Securities Held by Fund + Cash and Equivalent Holdings - Fund Liabilities) / Total Fund Shares Outstanding

ANALYSIS AND FINDINGS

Comparison of Returns of Different Asset Class

One Year Comparison: It can be observed from Figure-1 that Debt Mutual Funds have given highest returns as compared to other asset class for one year time horizon. It has delivered 12.50 % return during the year 2016 while Equity mutual fund has given 6.39%. The investors have received 8.65% return on Gold while SENSEX 30 and Nifty 50 have given 3-4% return for the same period. The Real Estate sector was also shown a lackluster performance with little over 2% return.

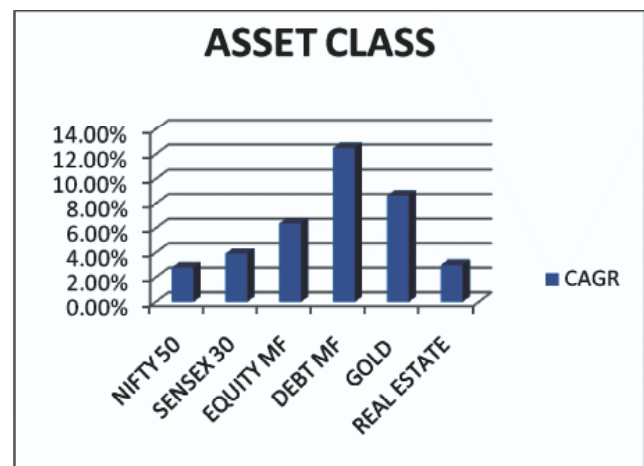


Figure 1: One Year Returns of Different Asset Class

Three Years Comparison: If investor is investing for medium term, i.e. if the holding period is for three years then, Equity mutual fund has outperformed other asset class with the returns of 15.67% per annum. The Debt mutual fund comes second with the return of 10.70% per annum. Gold being the worst performer yielded just 0.73% per annum. Other asset classes were in the range of 7-9%.

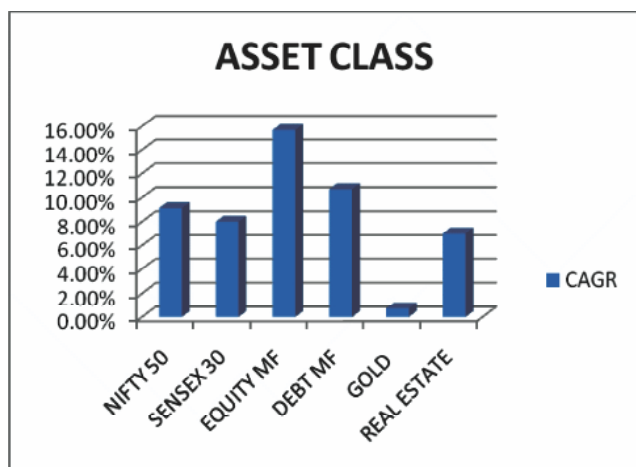


Figure 2: Three Year Returns of Different Asset Class

Five Years Comparison: If investor is investing for five years then again Equity mutual fund has outperformed other asset classes with the returns of 16.28 % per annum. The Debt mutual fund comes with the return of 9.30% per annum. Sensex and Nifty has given 11.40% and 12.03% per annum respectively. Real estate has given return of 11%. Gold again being the worst performer yielded - 1.61 % per annum returns.

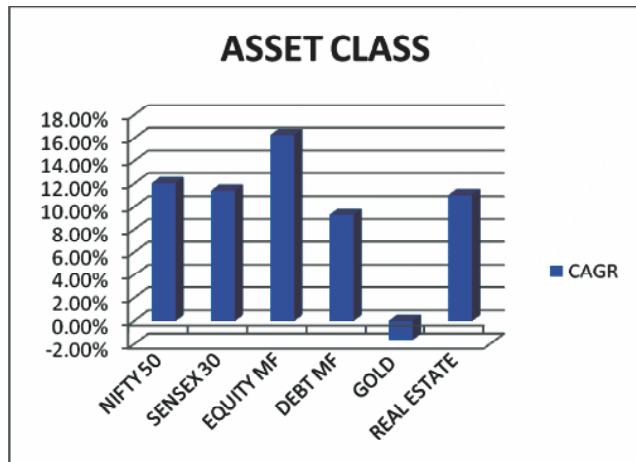


Figure 3: Five Year Returns of Different Asset Class

Ten Years Comparison: If investor is investing for ten years then again Equity mutual fund has outperformed other asset classes with the returns of 11% per annum. Gold has given second highest return among all with 10.23% per annum. The Debt mutual fund comes with the return of 8.20%. Sensex and Nifty has given 6.683% and 9.11% respectively. Real estate has given return of 9 % per annum over ten years period.



Figure 4: Ten Year Returns of Different Asset Class

Twenty years Comparison: For twenty years comparison, data relating to Gold, Nifty 50 and Sensex 30 are only available. Looking at these data, it is observed that NIFTY 50 is giving the highest returns with 11.4% per annum, while Sensex30 with 9.54% and Gold with 9.42% came second and third respectively.

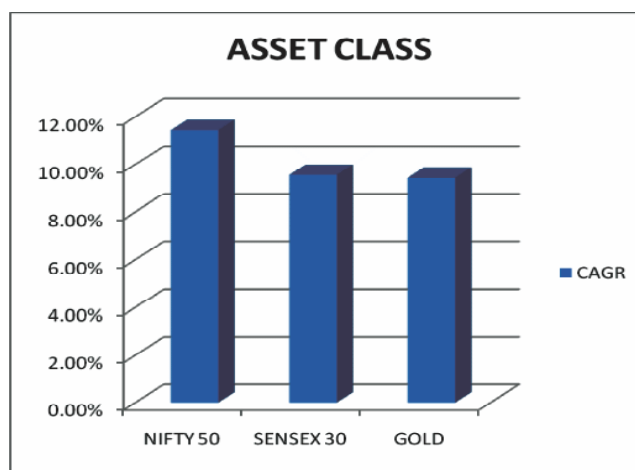


Figure 5: Twenty Year Returns of Different Asset Class

Table-2 below gives the snap shot of the returns of various asset classes over different time horizon.

Budget implication on return of Real Estate Asset: Indian Budget 2017 has proposed a change in Long Term Capital Gains (LTCG) holding period for Immovable property (like Real Estate Asset) from 3 years to now 2 years. This means that if investor sells the property after the holding period of two years, he will get the advantage of LTCG.

Table 2: Summary of Returns of Various Asset Class

		CAGR			
ASSET CLASS	1 Year	3 Year	5 Year	10 year	20 Year
Nifty 50	2.8%	9.11%	12.03%	7.40%	11.43%
Sensex 30	3.92%	7.99%	11.40%	6.68%	9.54%
Equity MF	6.39%	15.67%	16.28%	11%	-
Debt MF	12.50%	10.70%	9.30%	8.20%	-
Gold	8.65%	0.73%	-1.61%	10.24%	9.42%
Real estate	3%	7%	11%	9%	-
Best performer	Debt MF	Equity MF	Equity MF	Equity MF	Nifty 50

Table 3: Scenario-1 Pre-Budget and Post-Budget Comparison

Pre Budget	(Rs)	Post Budget	(Rs)
Salary Income (A)	1500000	Current Income	1500000
Tax Slab	30%	Tax Slab	30%
Investments		Investments	
Purchase Price (Year 2015)	2500000	Purchase Price (Year 2015) A	2500000
Selling Price (Year 2017)	3000000	Selling Price (Year 2017) B	3000000
Time horizon	2 years	Time horizon	2 years
STCG (B)	500000	LTCG	500000
Total Income (A+B) (STCG added to Salary income)	2000000	Tax on LTCG	20% After Indexation
Tax Slab	30%	Price After Indexation (C)	$= 2500000 \times (1125/1024) = 2746582$
Effective tax on STCG	30%	Effective LTCG (B-C)	253418
Tax amount on STCG	150000	Tax amount on LTCG	50684
Tax Reduction			66%

Table 4: Scenario-2 Pre-Budget and Post-Budget Comparison

Pre Budget	(Rs)	Post Budget	(Rs)
Salary Income (A)	300000	Current Income	300000
Tax Slab	10%	Tax Slab	5%
Investments		Investments	
Purchase Price (Year 2015)	2500000	Purchase Price (Year 2015) A	2500000
Selling Price (Year 2017)	3000000	Selling Price (Year 2017) B	3000000
Time horizon	2 years	Time horizon	2 years
STCG (B)	500000	LTCG	500000
Total Income (A+B) (STCG added to Salary income)	8000000	Tax on LTCG	20% After Indexation
Tax Slab	20%	Price After adjusting for Cost Inflation Index (C)	$= 2500000 \times (1125/1024) = 2746582$
Effective tax on STCG (10% for Rs 2 lakh, 20% for next Rs 3 lakh)		Effective LTCG (B-C)	253418
Tax amount on STCG	80000	Tax amount on LTCG	50684
Tax Reduction			37%

Table 5: Scenario-3 Pre-Budget and Post-Budget Comparison

Pre Budget	(Rs)	Post Budget	(Rs)
Salary Income (A)	600000	Current Income	600000
Tax Slab	20%	Tax Slab	20%
Investments		Investments	
Purchase Price (Year 2015)	2500000	Purchase Price (Year 2015) A	2500000
Selling Price (Year 2017)	3000000	Selling Price (Year 2017) B	3000000
Time horizon	2 years	Time horizon	2 years
STCG (B)	500000	LTCG	500000
Total Income (A+B) (STCG added to Salary income)	1100000	Tax on LTCG	20% After Indexation
Tax Slab	30%	Price After Indexation C	=2500000X(1125/1024) = 2746582
Effective tax on STCG (20% for Rs 4 lakh , 30% for next Rs 1 lakh)		Effective LTCG (B-C)	253418
Tax amount on STCG	110000	Tax amount on LTCG	50684
Tax Reduction			54%

This study also analyses the implication of such changes in returns of different type of investors (different income group investors). There are three scenarios possible for different income group of investors.

Scenario-1 assumes that the investor has income of Rs. 15 Lakh per annum and he is liable to pay 30% tax. Suppose, he has invested Rs. 25 Lakh in Real Estate and sold it after 2 year for Rs 30 Lakh. In this case, table below shows the calculations of effective returns and compare both Pre-Budget and Post-Budget scenario. It can be observed that the investor can reduce its tax liability by 66% post budget. Scenario-2, where the income of an investor is Rs 3 lakh per year, reduces the tax liability by 37% post budget. Scenario-3, where the income of an investor is Rs 6 lakh per year, reduces the tax liability by 54% post budget.

CONCLUSION

This study concludes that the medium to long term investors should prefer Equity oriented Mutual Fund schemes to maximize their returns. However, if the investor has short investment horizon, debt oriented mutual fund schemes should be the preferred choice.

Budget 2017 has further enhanced the net take home from these investment assets in general. The study reveals that change in budget relating to LTCG holding period for immovable property has made the real asset investment class more attractive for wealthy investors. Investor, having the tax bracket of 30 %, is able to reduce its tax

liability by 66%. At the same time, those, having the tax bracket of 10 %, are able to reduce its tax liability by 37% only.

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Markov Analysis as a Tool for Developing a Model for Risk Management: A Case Study Based on Electrical Transmission Line Installation Projects

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ABSTRACT

The study develops a model for risk assessment by the use of Markov analysis combined with the Delphi approach for expert opinion, the paper gives a methodology under which the various risk factors are firstly collected then they are applied for Markov analysis, the Markov analysis returns the probability of occurrence of that particular risk factor, this probability is then used to calculate the R_{value} , a model is then given which is used to calculate the final impact value for each risk, which will be used in risk deciding risk mitigation plan.

Keywords: Risk Management, Markov Analysis, Electrical Transmission Line Installation Project and Risk Assessment.

INTRODUCTION

The risk management process for any industry is dependent on the risk assessment and this process is in particularly cumbersome when the project involves a severe amount of civil work and is riddled with deadlines and day to day operational problems like an electrical transmission line installation projects.

In this study we have developed a model in which we can assess the probability of risk occurrences for an electrical transmission line installation project with the help of probability, the model developed gives us the risks involved in a transmission line installation project along with the use of other factors that influence these risks are also studied and included in the analysis, an electrical transmission line installation project is very highly sensitive in case of risk management and every such project is unique in itself hence the need for historical data is more but such data is very scarce and hence we have developed a system which can predict risk level with minimal usage of historical data, but the main problem that had been encountered is that if historical data is less we have to tend towards probabilistic approach but such an approach is also bounded by the need for a huge amount of data and involves non practical assumptions and conditions.

On giving an insight we found that both qualitative and quantitative risk assessment methods are discussed by many authors (Chen et al., 2011; Thevendran and Mawdesley, 2004; Olaru et al., 2014) in which basically risk factor based approach is used, on the other hand many authors (Ping

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and Li, 2010; Erickson and Evaristo, 2006; Wu et al. 2008) have made a more generalized study for risk assessment which is not based on any specific industry. The need for better risk assessment is always present since both qualitative and quantitative assessment methods discussed by many authors are heavily dependent on historical data, so what we have analyzed here is that Markov analysis can be used in order to have a specific probability of risk occurrence to be decided, the main advantage that has emerged in our study is that we need very less amount of data to forecast the risk occurrence level, further the study takes turn and calculates the impact level of various risks involved and on combining the probability and impact we can have a system which is very helpful in deciding the risk level and hence the risk mitigation plan for an electrical transmission line installation project.

Risk management in power sector is one such topic which is always given priority since the cost involved in the project is very high and even a small amount of risk can cause dramatic loss for the project (Gerald, et al., 2008), moreover with the increase in the development process of the country we have even more electrical transmission line installation projects underway, so in order to have dedicated system for risk assessment in such projects we have developed a model which needs very less amount of historical data and works on both quantitative and non quantitative techniques to decide upon the level of the risk. This study deals with a model for risk assessment of electrical transmission line installation projects which will be helpful in optimizing the risk management process for the whole of the project.

The study stresses on the identification of risk factors involved in an electrical transmission line installation project, then these risk factors are discussed by experts and finally the experts employ probability of transition matrix for being used as seed value in Markov analysis, the analysis returns the final probability of risk occurrence for each risk factor. Then R_{value} is calculated by multiplying it with the impact value of each risk factor, this impact value is generated by the use of mathematical modeling. Hence finally the R_{value} which is the risk indicator value is obtained from multiplying the probability obtained from Markov analysis with the impact value of that risk factor.

Hence the study deals with quantifying the risk factors with the help of probability. Markov analysis is used to give that probability and the seed value

that is the transition matrix that is required for Markov, is obtained by qualitative data analysis that is completed by questionnaire and expert discussions. Hence in this study the balance is established in between the various quantitative and non quantitative methods available for risk assessment and this is what makes the study more useful and flexible in its approach, finally the risk value calculated is divided into percentage of total R_{value} so that in accordance with the percentage employed by the analysis we can distribute the risk mitigation resources so that the investment in risk process is optimized. The study shows that technical and human resource related risks are having highest risk levels so special care is needed to be given for these risk factors while designing risk mitigation plan for such a project.

The purpose of this paper is to introduce a model that requires very less input but the accuracy level for deciding the risk level should be high, hence the Markov analysis is used in order to have a probability of risk occurrence being generated which will be analyzed along with the impact level to give final risk value for that electrical transmission line installation project, that also with very less amount of historical data requirements.

LITERATURE REVIEW

Risk management process is defined and analyzed by many authors but sector specific studies are less in number and more so over a dedicated study for an electrical transmission line installation project are very few, risk management is generally seen over as a planning process for a series of events that can be related with one another or independent events which can cause problems with the upbringing of the project at various levels. The risk management process is analyzed by many authors (Dey, 2001; Dey, 2010; Aloini et al., 2012; Fang and Marle, 2012; Dikmen et al., 2008; Thevendran and Mawdesley, 2004; Fan et al., 2008; Chen et al., 2011 Menches, and Hanna, 2006) with different aspects, some have even taken a specific risk factor and worked on its importance in risk management but all the studies generally point out in the direction that risk assessment and monitoring is essential for preparation of risk mitigation plan or for having a better risk management plan, although different techniques may be used or the industry type can be different but the risk factor decision is very general and the overall process is one or the same.

The uncertainty management is also given in-depth analysis by many authors (Soderholm, 2008; Sun, Wei and Yue, 2008; Tavares, Ferreira and Coelho, 1998), mainly the calculable events in a project are called as risks and the incalculable are called by the name of uncertainty, even power network sector is also studied keeping in view the optimization of project risk management, but still specific studies on transmission line installation phase, which itself is a big phase, is missing. Although techniques which are suggested are different but mainly they are of two types that is quantitative and qualitative.

The main difference that lies is the decision or choice related to the type of techniques to be used. The main techniques that are used are ISM (Interpretive Structural Modeling), AHP (Analytical Hierarchy Process), Decision tree based approach and Probabilistic methods etc. So what we can analyze is that the process for risk management is quite well accepted and generalized and is based on risk factor decision and treatment but the technique that are to be used for dealing with these risk factors needs to be worked upon since one technique is entirely different from the other and hence we have decided to analyze upon such a technique which can be accurately used to predict these risk factors with less dependence on historical data and still being more reliable.

Risk assessment for any particular project is a daunting task, many authors (Baccarini and Archer, 2001; Barber, 2004) have given insight on this aspect also, since for this risk ranking of projects, what is of utmost importance is the measurement of risks involved in the projects, both the authors have introduced the methodology of risk rankings on the basis of five point rating method and generalized system based assessment for the benchmarking of the whole project respectively. Similarly (Thiry, 2002) has also given a value based model in which it is proved that performance based tools that reduce uncertainty are better adapted for project success. The tools that are used for ranking of risk factors can be ISM (Interpretive Structural Modeling), AHP (Analytical Hierarchy Process) and Monte Carlo as demonstrated by different authors (Iyer and Sagheer, 2010; Olaru et al., 2014).

The studies are also done specifically on power sector (Wyk et al., 2007; Regos, 2013; Tummala and Burchett, 1999) but special consideration to electrical transmission line installation section is missing, although each of these studies analyses

exhaustively the factors and considerations that are necessary for power sector projects, the studies are more concentrated on operating condition risks but in our study we have included the risks that are present during installation phase of electrical transmission line installation. These studies are also used in pooling of risk factors for our own analysis and considering various risks factors that are taken for consideration in our own study also but only after expert discussion on these collected risks.

For Markov Analysis the probability that is needed to prepare the transition matrix is obtained with the help of expert discussion, many authors (Tanimoto & Hagishima, 2005; Skulj, 2011) have given different viewpoints regarding collection of probabilities, the mathematical approaches seems to be having a very large number of assumptions for generating functions for probability but these assumption are impractical for our case study of transmission line installation projects and hence we can say that deriving out these probabilities mathematically always proves full of constraints. Hence, in order to generate transition probabilities we have taken expert opinion from Delphi method, Skulj (2011) has used conditional desires as risk reducing methods, which is based on probabilistic studies only on the other hand authors (Tanimoto & Hagishima, 2005) have also taken survey method to derive the transition probabilities, in their paper for the Markov dealing with the operation of air conditioner in dwellings, we have field data collected and then parameters are decided on which the probability function is generated in the form of sigmoid function. Finally, the transition probability of on and off of air conditioner is calculated and shown on the graph for different dwellings on the basis of temperature differences, similarly in our study we have generated probabilities for risk occurring and non occurring from field data and expert opinion on these transition probabilities and finally to increase the accuracy we have calculated probabilities for about fifty period's of state transition matrix and the result is used to generate the overall risk model by multiplying it with impact function hence generated. The calculation is done simply by collecting data for each of the risk factors and then they are fed into a single value by taking the average, this average value then work as seed value for the Markov process and generate probability of risk occurrences.

RESEARCH METHODOLOGY

Markov Analysis

It is a technique which forecasts probabilities of future events by analyzing presently known probabilities. It is a very simple yet effective method in which a matrix of transition probabilities is developed, which is a matrix of conditional probabilities of being in a future state with respect to a current state. Then this transition matrix is multiplied with original probability matrix and with each ongoing multiplication we get a new probability finally when there is an equilibrium

point for probability at each period we reach the final probability. This analysis is used extensively in predicting market changes and bad debts in case of finance but it can be very well used in prediction of risk occurrences in the same fashion.

Now we will find out the various risk factors that are involved in any conventional transmission line installation project, then after collection of these risk factors from literature survey, we have taken expert opinion regarding each major risk factor, the various risk factors that are collected by expert opinion and literature survey are shown in table 1.

Table 1: Showing Risk Factors Considered in the Study

Author s /Risk Factors	Alo ini et al. (2012)	Bacca rini et al.(2001)	Castr o et al.(1995)	Ch en et al. (2011)	Dey (2001)	Dik men et al. (2008)	Erick son et al. (2006)	Fan et al (2008)	Fan g et al. (2012)	Iye r et al. (2010)	Reg os (2012)	Theven dran (2004)	Wu et al. (2008)	Wy k et al. (2007)
Technica l Risk	N	S	S	S	S	S	S	S	S	S	N	N	S	S
Environ mental Risk	N	S	N	S	S	S	S	S	N	S	S	S	S	N
Financia l Risk	N	S	N	S	S	S	S	S	S	S	N	S	N	N
Human Risk	N	S	N	N	S	N	S	N	N	S	S	S	S	N
HR Risks	S	S	N	N	S	S	S	N	S	N	N	S	S	N

S= Supported by author, N= Not Supported by author

Here the main risk factors that have been collected are Technical Risk, Environmental Risk, Financial Risk, Human risk and Human Resource (HR) risk.

Steps involved for calculation of risk value for each risk factor –

Step I – Take each risk factor one by one, since we have got five major risk factors identified they are Technical Risk, Environmental Risk, Financial Risk, Human risk and HR risk, we will be taking each risk one by one, for example if we assume $R_{\text{Technical}} = \pi(1) = [1, 0]$ in I state, that means risk has occurred in state I so the probability of risk occurrence in state I is 1 and the probability of non occurrence of risk is 0.

Step II – Now prepare matrix of transition probabilities **P**.

$$P = \begin{pmatrix} P_{11} & P_{12} \\ P_{21} & P_{22} \end{pmatrix}$$

Where P_{11} = Probability that risk occurred in first state and will occur in next state also.

P_{12} = Probability that risk occurred in first state and will not occur in next state.

P_{21} = Probability that risk do not occurred in first state but will occur in next state.

P_{22} = Probability that risk do not occurred in first state and will not occur in next state also.

Step III – We know that $\pi(1) = [1, 0]$, now find $\pi(2)$ which is equal to $\pi(1) * P$, similarly

$\pi(3) = \pi(2) * P$, now generate a state probability table for each risk, as shown in Table 2.

Table 2: Format of State probability table

Period	State I	State II
$\pi(1)$	1	0
$\pi(2)$		
$\pi(3)$		
$\pi(4)$		
$\pi(n)$		

In our study the above table is prepared by the help of MS Excel QM. The final values of probability will be reaching the equilibrium as the number of periods will be increased.

Step IV – The result derived in step III shows the probability of risk occurrence. This way the same process is repeated for all other four risk factors.

The probabilities for matrix of transition (P) are assessed with the help of historical data from the companies working in transmission line installation projects and through expert opinion by Analytical Delphi method, with the help of questionnaire asking for probability of transition and impact value.

Model for Risk Assessment

Let us consider P be the probability of risk occurrence derived out from Markov analysis, I be the impact value of that particular risk, for generating the impact value we have done the following considerations, all the given factors are measured by Delphi method and are marked on a scale of 0 to 1 hence giving the indexed results, the direct and indirect proportionality for I upon various factors is shown below.

$I \propto$ Cost loss associate with that risk (C)

$I \propto$ Life loss associate with that risk (L)

$I \propto$ Project delay loss associate with that risk (D)

$I \propto$ Ability to drive other risks (A_D)

$I \propto$ Frequency of occurrence in a single project (F)

$I \propto 1 /$ Effect of risk mitigation plan in indexed form (R_M)

$I \propto 1 /$ Cost of risk mitigation plan in indexed form (C_{RM})

Overall $I \propto 1 / ((R_M) - (C_{RM}))$

Hence the functions of Impact value (I) can be written as –

$$I = K (C^*A^*L^*D^*A_D^*F) / ((R_M) - (C_{RM})) - (i)$$

When we have derived I, the next thing is the generation of R_{value} , which is the rating of the risk, this value is obtained by the multiplication of probability derived from Markov analysis with the risk impact value that is $R_{value} = P * I$, where $I = K (C^*A^*L^*D^*A_D^*F) / ((R_M) - (C_{RM}))$, hence the overall risk function will be as given under –

$$R_{value} = P * [K (C^*A^*L^*D^*A_D^*F) / ((R_M) - (C_{RM}))] - (ii)$$

DATA ANALYSIS

After performing all the above stated steps in research methodology we have got the following results, in case of the probability assessment by Markov analysis (after 50 step transition matrix) for five types of risk factors, the transition matrix is developed with the help of expert discussion using Delphi method in which only those personals which are having related work experience of more than 5 years are chosen and then opinions are collected from questionnaire, if there is a wide difference in opinion we resolve it by mutual discussion and reach at the consensus, we have got the following results which are shown in table 3.

So out of five major risk factors identified Environmental Risk, Financial Risk, Human risk and HR risk are having low probabilities of risk occurrence in equilibrium state probability, wherever Technical Risk is having high probability of occurrence.

The final risk value (R_{value}) derived from expert discussion by Delphi method using equation (ii) taking constant $K = 1$ for getting equal weights for comparison of all the five risk factors are shown below in table 4.

Table 3: Probability Assessment by Markov Analysis

Risk category	Probability value derived from MS Excel QM software			
Technical Risk	50 step transition matrix			
		1 1	1 2	1 2
	1 1	0	0.436241611	0.5637584
	1 2	0	0.436241611	0.5637584
	End prob(given init)		0.436241611	0.5637584
Environmental Risk	50 step transition matrix			
		1 1	1 2	1 2
	1 1	0	0.153005465	0.8469945
	1 2	0	0.153005464	0.8469945
	End prob(given init)		0.153005465	0.8469945
Financial Risk	50 step transition matrix			
		1 1	1 2	1 2
	1 1	0	0.250000001	0.75
	1 2	0	0.25	0.75
	End prob(given init)		0.250000001	0.75
Human Risk	50 step transition matrix			
		1 1	1 2	1 2
	1 1	0	0.194233687	0.8057663
	1 2	0	0.194233687	0.8057663
	End prob(given init)		0.194233687	0.8057663
HR Risks	50 step transition matrix			
		1 1	1 2	1 2
	1 1	0	0.280370027	0.71963
	1 2	0	0.280355844	0.7196442
	End prob(given init)		0.280370027	0.71963

Table 4: Showing Comparison of all the Five Risk Factors on the Basis of R_{value}

Risk Factors	P	C	L	D	AD	F	R_M	C_{RM}	$(C*A*L*D*AD*F)$	$(R_M - C_{RM})$	FINAL (I)	$R_{value} = P * I$
Technical Risk	0.4362	8.33	5.69	5.66	7.25	3.69	8.63	5.9	7176.919446	2.73	2628.908	1146.839
HR Risks	0.2804	6.51	5.4	6.91	6.35	5.63	8.9	4.87	8684.301962	4.03	2154.914	604.1732
Human Risk	0.1942	3.25	7.8	2.41	1.4	8.61	5.9	5.6	736.421049	0.3	2454.737	476.7926
Environmental Risk	0.153	4.58	7.58	7.28	5.63	3.65	5.347	2.6	5193.585938	2.747	1890.639	289.2781
Financial Risk	0.25	5.7	2.6	5.2	5.2	5.48	6.89	2.5	2196.015744	4.39	500.2314	125.0578

From table 3 we can very well say that technical and HR related risks are having highest R_{value} . Moreover we all can say here that the analysis provides a very sound detail for risk mitigation plan in which we can say that those risks whose R_{value} are higher should be given more importance, we can express it also in terms of percentage and then total investment of all sorts that are decided for risk mitigation can be usefully divided on the basis of this percentage only, as shown in table 5 below.

Table 5: Showing the R_{value} of Each Risk in Terms of Percentage of Total R_{value} .

Risk Factors	$R_{value} = P * I$	%
Technical Risk	1146.8	43.406
HR Risks	604.17	22.867
Human Risk	476.79	18.046
Environmental Risk	289.28	10.949
Financial Risk	125.06	4.7332
Total	2642.1	100

Hence the results also guide how much investment can be done for each risk in terms of percentage of total monetary level kept aside for risk mitigation. The results shows that same methodology can be used to upkeep the risk mitigation plans for any project and since the Markov analysis being based on transition probabilities the overall accuracy is greater as compared to the case of pure probabilistic methods.

CONCLUSION AND FUTURE STUDIES

The paper analyzes the various aspects of risk assessment when there is very low historical data available, by the use of Markov analysis and expert opinion for impact value. The paper also gives a model for risk assessment which comprises of impact value of each risk, this impact value hence generated when multiplied by the probability derived from Markov analysis shows that the risk level can be very well decided, in our study Technical and Human resource (HR) are found to be most important risks since they both governs about total 66 percent of total R_{value} , hence when ever risk mitigation plans are needed to be fulfilled for electrical transmission line sector we need to be especially careful for such risks.

Another important aspect of this study is that we need to have better and trained work force which

will reduce the HR risks and human life risks both, since collectively they form about 41 percent of total R_{value} , these risks are heavily interrelated and hence on applying proper training to the HR team and the workers we can drastically reduce such risks, which will be helpful in removing unnecessary risks that come in between the project schedule.

In future such studies can be very helpful in deciding the risk level or standards for the entire industry, moreover the same methodology can be very well employed at the projects where the historical data is very less, the results shows that with very less amount of time and monetary inputs we can have a complete analysis of risk for any project, moreover its better than non quantitative methods that are used generally, since these non quantified methods are only used because of lack of historical data for probabilistic methods but this method is based on probability but still requires comparatively very less historical data. The study revels and proves how efficiently the risk value can be calculated with the combined use of Markov analysis and model derived in the study, the overall risk mitigation can be very efficiently dealt since the results are quantified without the need of historical data, in future such decisions can also be done by the use of automated systems since the process can be very well converted into algorithm and can be even directly attached as a module with various project management software. Hence the study proves very helpful for not only electrical transmission line projects but in numerous other type of projects also, which involves great monetary and non monetary inputs at the stake.

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Digital India & Indian Society: A Case Study

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ABSTRACT

It is a well-known fact that digital India is the outcome of many innovations and technological advancements. These transform the lives of people in many ways and will empower the society in a better manner. The Digital India Program, an initiative of honorable Prime Minister Mr. Narendra Modi, will transpire new development in every sector. The motive behind the concept is to build participative, transparent and responsive system. The Digital India drive is a dream project of the Indian Government to remodel India into a knowledgeable economy and digitally empowered society, with good governance for citizens by bringing synchronization and co-ordination in public accountability, digitally connecting and delivering the government programs and services to mobilize the capability of information technology across government departments. Today, every nation wants to be fully digitalized and this programme strives to provide equal benefit to the user and service provider. Hence, an attempt has been made in this paper to understand Digital India – as a campaign where technologies and connectivity will come together to make an impact on all aspects of governance and improve the quality of life of citizens.

Keywords: Digitization, Digital India, Impact on Society.

INTRODUCTION

Advanced Technologies, which incorporate Cloud Computing and Mobile Applications, have risen as impetuses for speedy monetary development and national strengthening over the globe. Advanced advances are by and large progressively utilized by us in regular daily existences, from retail locations to government workplaces. They enable us to interface with each other and furthermore share data on issues and concerns looked by us. Decent Prime Minister imagines changing our country and making open doors for all residents by bridling advanced advances. His vision is to enable each resident with access to advanced administrations, learning and data. Advanced India is the following enormous thing that India is seeing. It goes for significantly contacting the lives of everybody with the change venturing to every part of the ways of both provincial and urban India.

Today, the world has changed from an information wise to techno learning astute. Consider something and it is accessible in a single tick. Along these lines, Digital India is a stage by the administration to motivate and interface Indian Economy to such an information shrewd world. The program focuses to make Government administrations accessible to individuals carefully and appreciate the advantage of the most up to date data and mechanical advancements. It brings out different plans like E-Health, Digital Locker, E-Sign, E-

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Education and so forth and across the country grant entryway. The program endeavors to give level with advantage to the client and specialist organization. The buyers will be profited by method for sparing time, cash, physical and psychological vitality spent in protracted government forms.

The Digital India Program has been propelled with a point of changing the nation into a carefully engaged society and learning economy. The Digital India would guarantee that Government administrations are accessible to natives electronically. It would likewise get open responsibility through ordered conveyance of taxpayer driven organizations' electronically; a Unique ID and e-Pramaan in light of credible and standard based interoperable and coordinated government applications and information premise.

Computerized India is a fantasy venture of the legislature for the residents and Industries of India which could help in associating the different over a wide span of time tasks to convey India to a worldwide stage. Through this task taxpayer supported organizations are accessible for urban and rustic nationals carefully or electronically. It will accomplish advanced development and make constructive effect in the general population living in rustic and urban regions. It will draw in interest in all item producing ventures. Andhra Pradesh is the principal State to have picked this usage. The Digital India venture plans to change our nation into an advanced economy with cooperation from provincial or urban natives and organizations. This will guarantee that all taxpayer driven organizations and data are accessible anyplace, whenever, on any gadget that is anything but difficult to-utilize, exceedingly accessible and anchored. Computerized India Project expels advanced hole between the rustic and urban India.

LITERATURE REVIEW

A Study of New-Age e-Entrepreneurship in India (Arjuna Kumar Sahul, 2015) Arjuna Kumar investigate Digital India and other activity like National Digital Literacy Mission (NDLM) entrance of cell phone and broadband has brought up in huge number and example of clients has changed. 'Entrepreneurial urbanization' in Dholera brilliant city, Gujarat (Datta, 2015) Datta has investigated top to bottom basic examination on Dholera savvy city to recommended how state endeavor to draw in worldwide capital and improve financial development through development of new town ships. An Empirical Study (Sarin, 2016) Sarin

clarified Digital India program, which goes for setting up e-framework in the country will empower quicker foundation of the IoT business. A Trend Analysis (Sarkar, 2016) Sarkar examination IT and Innovation in keeping money segment has made it more focused and conveying better client administrations. It has change keeping money from money and paper based to cashless and paperless. (G.Piro, 2014) G. Piro center around progress ICT innovation bolster administrations (i.e. e-government and open organization, shrewd transportation framework, open security social, medicinal services, training, building and urban arranging, condition and vitality and water administration application in Smart urban communities by forthcoming remote innovations.

Dream to the real world (Suresh, 2016) Suresh investigates techniques for arranged urbanization, rule for keen city improvement and disclose musings to change urban India. (Singh, 2016) Singh explored Indian saving money segment and examined the difficulties and openings in it. Creator put his perspectives that Indian Government needs greater banks to back, its social undertakings, framework stores like Digital India, Bullet Train and so forth. A walk towards advanced India (Joshi, 2016) Joshi dissect the parameters (i.e. comprehension and learning, legitimate part of portable wallet) for the utilization of versatile wallet, Banks giving this administration must concentration to give mindfulness about it More than 75%(more than 100 center) of populace utilizing cell phone and each one of versatile client must utilize portable wallet. Versatile wallet benefit is critical device of Digital India. (Joshi, 2016) Joshi an endeavor to comprehend calculated comprehension and review with the present pattern in computerized human services in India and world. This examination likewise addresses issues and difficulties in digitization of human services benefits in India. (Singh, 2016) Singh concentrated on the reasonable comprehension of advanced locker. The proposed a mindfulness battle in this nation about advanced bolted is required and computerized locker is imperative piece of Digital India. Green Tab information bistro (Bharat Bhagtani, 2016) Bharat investigated the attainability of plan of action of e-library through essential research and advantages of it. Creator expects it will achieve its breakeven point in two years. (Raghavendra Kulkarni, 2016) Raghavendra Kulkarni clarifies and examination the describes, favorable circumstances and difficulties in the execution of E-Governance the two principle points

of interest of E Governance are expanded straightforwardness and quick open administration conveyance. Electronic conveyance of Services (Sarkar, 2016) Sarkar features highlights and administrations of E-Kranti. Request of IT equipment will increment with the assessment of this program a viable approach in view of past involvement for Ne GP ought to be actualized for the E administration.

RESEARCH OBJECTIVE

- To study the impact of Digitization on Indian society

RESEARCH METHODOLOGY

The secondary data has been gathered at first. For this reason, different magazines and diaries have been utilized as it is a calculated paper. Hence, the concentration is to find out about the idea, its application and the effect on economy. Along these lines subjective information have been utilized. As the examination paper is of calculated and survey nature, the specialist has connected exploratory research configuration by utilizing fluctuated secondary data profited from the optional information sources. In view of the auxiliary information and audit, the scientist has written about different rising patterns and issues and difficulties in advanced India. Research report, diary and daily paper articles from famous authors have been checked on.

IMPACT OF DIGITIZATION ON INDIAN SOCIETY

Social sectors such as education, healthcare, and banking are unable to reach out to the citizens due to obstructions and limitations such as middleman, illiteracy, ignorance, poverty, lack of funds, information and investments. These challenges have led to an imbalanced growth in the rural and urban areas with marked differences in the economic and social status of the people in these areas. Modern Information and Communications Technology (ICT) makes it easier for people to obtain access to services and resources. The penetration of mobile devices may be highly useful as a complementary channel to public service delivery apart from creation of entirely new services which may have an enormous impact on the quality of life of the users and lead to social modernization.

The poor literacy rate in India is due to unavailability of physical infrastructure in rural

and remote areas. This is where m-Education services can play an important role by reaching remote masses. According to estimates, the digital literacy in India is just 6.5% and the internet penetration is 20.83 out of 100 populations. The digital India project will be helpful in providing real-time education and partly address the challenge of lack of teachers in education system through smart and virtual classrooms. Education to farmers, fisher men can be provided through mobile devices. The high speed network can provide the adequate infrastructure for online education platforms like Massive Open Online Courses (MOOCs).

Mobile and internet banking can improve the financial inclusion in the country and can create win-win situation for all parties in the value-chain by creating an interoperable ecosystem and revenue sharing business models. Telecom operators get additional revenue streams while the banks can reach new customer groups incurring lowest possible costs.

Factors such as a burgeoning population, poor doctor patient ratio (1:870), high infant mortality rate, increasing life expectancy, fewer quality physicians and a majority of the population living in remote villages, support and justify the need for tele medicine in the country. M-health can promote innovation and enhance the reach of healthcare services.

Digital platforms can help farmers in know-how (crop choice, seed variety), context (weather, plant protection, cultivation best practices) and market information (market prices, market demand, logistics). One of the most interesting and important factors related to digitization is the link to overall societal welfare. Digitization, as a social process, enables the institutions to generate, cooperate and create larger for the benefits and progress of the society through digital communications and applications.

The process of digitization involves the mass digitization of books and older and rare materials. For the purpose of preserving the knowledge contents for future generations or making them available to a much wider community than could ever access the physical objects, many of the institutions (libraries and cultural archives) have started digitization initiatives to provide access to the history of societies, countries, cultures and languages. More than a last three decades, cultural heritage institutions (libraries, archives and museums) have incorporated technology into all

aspects of their mission and services. By digitizing their resources, cultural heritage institutions can make information accessible that was previously only available to a selected group of users. For digitization, a number of libraries, archives, museums and publishers have been scanning their older documents and rare images for many years and catalogued and made them available through the World Wide Web.

However, the process of digitization is not only means of preservation of knowledge contents, but also protecting these delicate and rare originals documents from heavy wear and tear when presenting to a large community. By providing access to digitized item online, institutions enable the users all over the world to view the information at different time sequel or simultaneously. Also, the users no longer need to invest much time and money to visit the physical location for an item. This conversion of all types of valuable and cultural contents into bits and bytes gives rise to a new dimension of reaching towards the vast audience making availability to valuable cultural resources in ways that were not possible in the past. Thus, users from all over the world are depending on the ease and speed of digital access for unearthing many new and rare resources, of which they never have any knowledge or found in print collections. Moreover, the digitization is facilitated awareness, research and promotion of both past and present culture and knowledge, also has a direct impact on overall happiness and satisfaction of the people that they get from the capacities and capabilities connecting with digital technology.

CONCLUSION

Digital conversion of print sources has improved rapidly in the past few years. Digitization is the social transformation started by the massive adoption of digital technologies to generate process, share and manage digital information. Digitization is an inclusive technique of preservation and access by which all the institution's assets are transformed into digital and creating high-quality copies in digital format. It provides advanced opportunities for preservation and access to knowledge contents, also it changes the ways in which collections are used and accessed. Emerging digitization initiatives and ways in which institutions are becoming digital are causing various effects on economy, society and academics as well. These radical and rapid changes make the information presentation and distribution more rapid, open, and global access

to the information than has been available in the past. In addition, converting material from analog to digital format reduces some of the costs included in digitization operations for providing access to print sources.

However, the digital copies should not be a replacement for the original items of knowledge. Digital files are not permanent and should need a regular maintenance and transformation to newer formats. For utilizing the full benefits from digitization, organizations should select the material carefully for digitization and digitize only those items that will provide the maximum benefit to both administrator and user. Because, successful digital projects are the outcome of careful evaluation of collections, and also, careful assessment of the institution's goals and priorities and development of thoughtful strategies will assure that meaningful, high-quality digital versions are created, and that both original and digital assets are managed well over time.

A digitally connected India can help in improving social and economic condition of people through development of non-agricultural economic activities apart from providing access to education, health and financial services. However, it is important to note that ICT (Information and Communications Technology) alone cannot directly lead to overall development of the nation. The overall growth and development can be realized through supporting and enhancing elements such as literacy, basic infrastructure, overall business environment, regulatory environment, etc. The Digital India program is just the beginning of a digital revolution, once implemented properly it will open various new opportunities for the citizens.

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Effective CRM Adoption and Implementation: The Critical Role of Flexibility

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ABSTRACT

Rapid globalization has presented phenomenal growth opportunities for businesses across the world. To leverage these opportunities, organizations are increasingly turning toward customer relationship management (CRM). CRM helps in maintaining long-term customer relationship by developing products/services aligned with the customers' need. However, ever-changing market conditions and evolving Technology have created a turbulent and tumultuous environment for the CRM. Flexible strategies ensure that CRM adapts to changing business realities timely, thereby minimizing the negative effect on the organization due to a delayed response. The study proposes that flexible strategies, particularly in marketing, services, and information system (IS), have a positive impact on firm performance and help the organization to retain its competitive edge.

Keywords: CRM, Flexibility, Information System (IS), Marketing, Relationship, Service.

INTRODUCTION

In the last three decades, Customer Relationship Management (CRM) has emerged as a powerful tool to align the interest of a firm with its customers

(Boulding et al. 2005). It has emerged as a powerful concept for achieving a sustainable competitive edge and being customer oriented, its importance in today's turbulent environment couldn't be over emphasized. CRM helps in developing long-term relationship with customers and in the process, strives to build a strong brand loyalty. No wonder, every customer-oriented organisation attaches utmost importance to its CRM. Along the same lines, the rapidly evolving marketplaces and shrinking product life-cycles have enhanced the importance of flexibility for achieving customer satisfaction and superior marketing performance (Gurau, 2009). Especially building flexibility in the core functions such as marketing, service, and information system (IS) have received much importance equally among academicians and practitioners. The purpose of the study is to propose a conceptual framework to aid effective adoption and implementation of the CRM in an organization.

Based on the literature and experts' interviews, the study has selected the three most important functions – marketing, service, and IS – for generation of flexibility. These three variables have been chosen on the basis of extant literature review which has later ratified by the experts form a wide array of Industry segments. Academic scholars and

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practitioners are almost unanimous of the fact that marketing, service, and information system (IS) are the most critical for the success of CRM as they significantly influence its adoption and implementation effectiveness. After selection, study revisits these variables from flexibility viewpoint to identify the critical areas where flexibility can be generated and how that enable the better adoption and implementation of CRM. Towards the end a conceptual framework integrating all these variables is proposed that not only aids the CRM's effectiveness but also helps the firm to achieve sustainable competitive advantage.

LITERATURE REVIEW

Customer Relationship Management (CRM):

Both the important aspects of this research, i.e., CRM and flexibility have received enough attention in the extant literature. CRM is the combination of people, processes, and Technology to better understand the customer perspective. The CRM should be considered as an integrated approach which focuses on customer acquisition, customer retention, and management of the relationship in a way that will become profitable for the organization. In sum, CRM is one of the ways to achieve customer loyalty and its effective implementation leads to the attainment of sustainable competitive edge. As acquiring a new customer is far more costly than retaining the present one, the organizations across the industry are rigorously implementing CRM practices for their customer retention and competitive advantage (Jain et al. 2016). In fact with the rapid evolution of Information Technology, the companies are adopting different ways including e-CRM to retain customers and enhance their loyalty.

Flexibility: Flexibility is a multidimensional concept and has many connotations to it. Adaptability, pliability, elasticity, suppleness, and malleability are some of the synonyms that are attached to flexibility. The flexibility has remained one of the core areas of research since 1930s though it is only after the globalization; the concept came back into limelight. The blurring boundaries of businesses, flickering customer taste, shortening product life cycles, and decreasing customer loyalty are some of the reasons behind the enhanced importance researchers today attached to the flexibility (Singh and Shalender 2014; Shalender 2018). The most suitable definition of flexibility that is near to the common man's understanding is doing something else than what was originally

intended. Flexibility also means taking a position between two extreme ends and constantly adapting and reconfiguring the strategy according to changes in the market on a real-time basis. From the literature review and expert interviews, we have identified three important functions – marketing, service, and IS – for building flexibility that will in turn aid effective adoption and implementation of CRM.

The very first variable, i.e., marketing flexibility is defined as the ability of transnational corporations to recalibrate its marketing efforts in a short period in response to changing environmental context (Grewal and Transtutaj, 2001). This aspect helps the organization to take a quick decision on the four P's of marketing – Product, Price, Place and Promotion. By quick and responsive tailor made marketing strategies that are based on changing preferences of target market, marketing flexibility helps to meet the customers' need more effectively and hence, aid in the customer retention and loyalty. Flexibility in second variable of study, i.e., service allows the organization to allow enhanced participation of customers in overall business processes. As consumers do not avail services but rather life-enhancing experiences (Vargo and Lusch 2004), enhancing their participation in the business is sure to result in mutually beneficial relationships. In fact, Prahalad and Ramaswamy (2004) suggested that nowadays the value is co-created by companies together with their customers, making it desirable to have requisite level of flexibility in service operation. Benefits of Service flexibility to the CRM can be realized in form of more harmonious customers having sense of belongingness for the company.

In contrast to direct benefits provided by marketing and service, Flexibility in the IS benefits the CRM indirectly by integrating the processes and procedures for its effective implementation. An ideal IS seamlessly connecting the databases, processes, and procedures across the departments and in the backdrop of turbulent environment, its flexibility has assumed so much prominence. Gebauer and Schober (2006) defined IS flexibility as the ability to accommodate a certain amount of variation regarding the requirements of the supported business process. In fact, IS flexibility not only aids to increase the overall effectiveness of CRM but also helps in the marketing and services by providing the quick and timely response.

THEORETICAL SCHEME AND UNDERPINNINGS

The study is conducted with the help of extensive literature review and experts' interviews which resulted into finalization of three aspects for the flexibility generation – marketing, service and IS. To this end, various online databases of the publications along with relevant conferences details have been searched to construct the theoretical framework for the study. Besides, practical case studies from the corporate world have also been included in the research to demonstrate the adoption and implementation benefits that CRM realize on account of flexibility incorporation in areas of marketing, services and IS. Flexibility attributes related to each variable along with their relevance have been presented in the section given below:

Marketing Flexibility: Flexibility in context of marketing refers to the ability of a company to meet the challenge of satisfying customers within the overall framework of its business strategy (Sharma, M.K. et.al. 2010). This requires the company to be flexible enough to have wide range of products to cater needs of diversified groups which also makes the organization less dependent on one category and reducing its vulnerability on single product (Shalender and Singh 2015). Marketing flexibility also enables the organizations to have a high market share/ strong market presence (Abbot and Banerji, 2003). To achieve marketing flexibility, a firm must generate the flexibility in its 4 P's that will help the organization to recalibrate its efforts in response to evolving conditions (Shalender et al. 2017). The first dimension of product flexibility refers to the ability of organization to make a variety of products on the same production facility/line. It equips the manufacturer with the ability to manufacture multiple products on same capacity, and the ability to relocate the capacity between different products in response to realized demand (Goyal and Netessine, 1998). Price flexibility, on the other hand, is the mechanism of free market to moderate output fluctuations in the face of demand shock (Kandil, 1999). Also Flaschel and Franke (2000) noted that price flexibility represents a spectrum ranging from one extreme of complete flexibility to complete rigidity at other end rather than having a characteristic of yes-or-no circumstances.

The Study by Ashkena (2000) attached significant importance to the place flexibility and in his article, "How to loosen organizational boundaries" the author emphasized the importance of place flexibility, along with speed, innovation and integration, in organizational success. Gilbert

(1999) described the importance of promotion flexibility in terms of an incentive to evoke desired response from the target market. Promotional flexibility equips the organization to react quickly to the campaign launched by its competitors. It also pertains to the advantage that company gets by taking the lead in terms of launching the promotional campaign before its rivals. This flexibility helps in realizing the effectiveness of CRM by providing better value proposition to customers that is according to latest trends and changed preferences. In turn, CRM helps back by providing the crucial information to marketing about the latest developments in market place with the help of IS flexibility.

Table 1: Marketing Flexibility

Attributes	Importance
Product Flexibility	broad range of customers
Price Flexibility	Value for money, swift price change
Place Flexibility	Customer convenience, reaching to the last mile
Promotion Flexibility	Effective positioning

Service Flexibility: This dimensions aims to increase the customer participation through the enhanced level of interaction with the organization. The involvement helps the organization by determining the responsibility to purchase and repurchase along with supporting the firm with positive referrals (Schneider and Bowdon, 1999). The desired level of service flexibility in the organization can be achieved through the structural changes and process reorientation. Organization structure is a means to achieve the mission and objectives of firm and hence bears a significant importance in realizing the overall efficiency of the work force. Traditional business structures favors the control from upward as power is vested at top most position of hierarchy. Though effective in the past its efficiency is on decline in face of emerging realities. Inefficiency of hierarchical organizations in the context of globalization has been pointed out by Achrol and Kotler (1999). Because of the rigid top down control that spans across a number of levels, these structures fails to respond effectively and efficiently to the changing environment situations. Decentralizing and flattening of the structures are some of the flexible approaches and in both the cases control moves closer to the action typically increase the decision maker understanding of the situation (Englehardt and Simmons, 2002). Another flexible strategy as discussed by Hamel (2000) advocates

the philosophy of dividing the structure like a cell. This helps to make the organization more responsive as the task-focus increases and customers will be benefitted in terms of increased attention aspect.

Table 2: Service Flexibility

Attributes	Importance
Enhanced Participation	Building customer confidence
Involvement in value creation	Evokes positive referrals
Permeability to processes	Allows enhanced transparency

The second component of service flexibility, i.e., process reorientation refers to the speed at which the company can make decisions, alter schedules, or amend existing orders to meet customer needs (Holweg and Pil, 2001). In case of services this aspects relates to making the processes more flexible in order to increase the customer exposure to the whole process. Prahalad and Ramaswamy (2004) suggested that the value co-creation by companies together with their customers require process reorientation to enhance value delivery experience. Having the capability of process reorientation helps the organization to quickly change the processes according to changing customers' preferences (Shalender and Yadav 2018). In case of services, this allows the processes to be personalized and meet the need of individual customers. This also enables the enhanced participation of the consumers while the value proposition is being generated and offers them an opportunity to give their crucial feedback.

Service flexibility helps CRM by providing more conducive environment which facilitate insights about the customers' behavior and demands preferences; ultimately enhancing its overall operational efficiency. In turn service gets benefitted from this enhanced level of CRM effectiveness as it is now better equipped to develop and sustain the value-constellation system that aids its own effectiveness even in case of changing dynamics.

Information System (IS) Flexibility: Information system (IS) plays crucial role in endowing the organization with capability to respond in timely and efficient manner. This requires end-to-end integration of information within the enterprise and a proper mechanism that makes this information available throughout the company seamlessly. Flexibility in this dimension helps by providing the updated information across the organization on real time basis. IS flexibility, as defined by Mensah (1989), is ability to respond

and adapt to changing business conditions both within and outside the organization. Successful implementation of CRM rests on the cross functional integration of the processes, people, operations, marketing capabilities, information, technology, and application (Payne and Frow, 2005) and hence, the flexibility of IS cannot be under-emphasized. Though there are various dimensions of IS flexibility; some relevant ones given by Byrd and Turner (2000) have been shown in table 3 as below:

Table 3: IS Flexibility

Attributes	Importance
IT connectivity	Enables effective coordination and enhanced integration
Data Transparency	Enables permeability as well as enhances efficiency
IT Compatibility	Enables the smooth completion of cross-functional operations.

Source: Byrd and Turner (2000)

CONCEPTUAL FRAMEWORK

Flexibility has inherent ability to act as a distinctive competence of organization and hence can provide the competitive edge to the firm. By use of flexible strategies, effectiveness of CRM can be enhanced that not only helps the organization at strategic level (by acting as a competitive weapon) but also at business level by hedging the organization against the devastating effect of decreasing customers' loyalty aspect.

Flexibility in marketing and services reduces the unreasonable pressure on CRM; helping it to concentrate on its core function while IS flexibility aids the efficiency of CRM by effectively integrating the various business processes along with responding effectively to changing customers and business demands. Thus a conceptual model aiding the effectiveness of CRM with the help of these three variables is shown in figure 1.

CONCLUSION AND DISCUSSION

Of late, CRM and flexibility have emerged as key research areas in the management domain. Both of the aspects have crucial implication for the firm's performance and sustainability. However, despite their separate importance, its remain unclear how these two concepts come together and affect the performance of the firm. Most often CRM initiatives; rather than focussing on their broad key objectives become victim of the efforts directed to get short term gains. Improvements confined

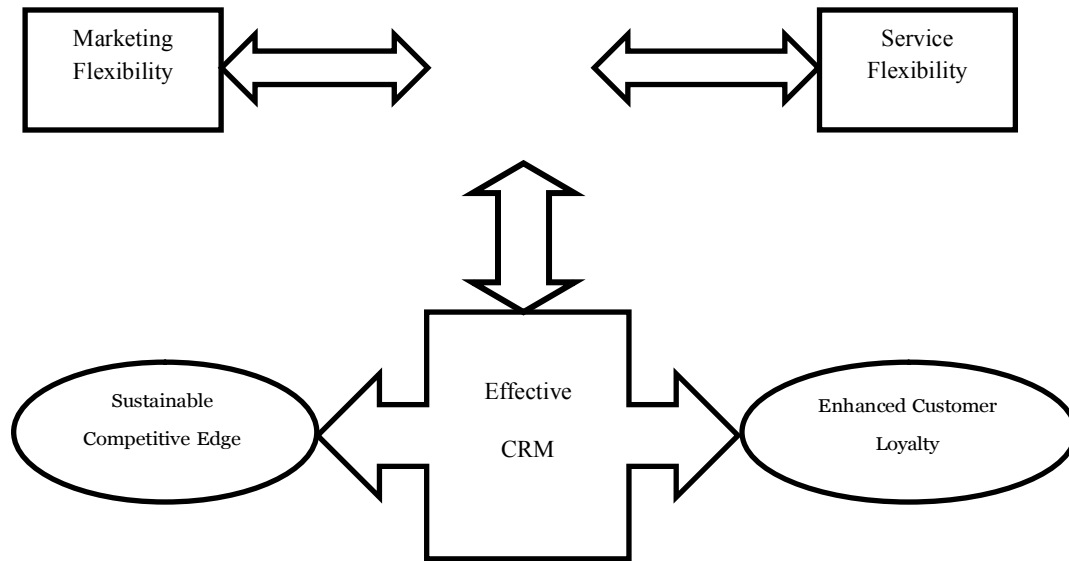


Figure 1: Conceptual Framework

within the boundaries of CRM might not get the desired result in terms of enhancing its overall effectiveness and the need to have a more holistic approach mandated in the wake of continuous change happening in market place.

This research makes a contribution in this regard as it studies how the effectiveness of CRM can be enhanced with the use of flexible strategies. In particular, the study correlates marketing flexibility, service flexibility, and IS flexibility with CRM and their combined effect on customer loyalty and competitiveness. The research proposes a conceptual model connecting all the variables for superior firm performance and assumes special significance by proposing fresh, systemic, and cross-functional approach to aid CRM competitiveness to help organization survive during the turbulent times.

We propose to empirical test the conceptual framework on the Indian automobile industry in future. To that end, the 4-wheeler segment has been selected and the empirical investigation will reveal whether the theoretical model is valid or not. The study has implication for the researchers as the combined effect of the flexibility and CRM has not been explored much in the past. Scholars can replicate this model on other segments too to find whether result aligns in the same direction or not. The practitioners will be benefited from this conceptual framework as it allows combining different flexibility strategies for enhancing the effectiveness of CRM. In other words, this can be used as a competitive tool for achieving an advantage over the rivals.

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Study of Green Logistics Practices: A Case of 3PL in the Automobile Industry

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ABSTRACT

Logistics plays a major role in polluting environment but it's an important part of supply chain management without which no business can run and our daily needs items cannot be fulfilled. With the increase in demand pollution level is also increasing which is threat to our coming generation. Transportation is main key indicator of logistics which creates pollution. This also emits the greenhouse gases which creates global warming. Certain rules have been made by Government of India to check on pollution. Similarly big industries are also taking green initiatives to minimize pollution level. various study claims that the small & medium companies has less focus due to lack of resources and have a fear to increase the cost. The present paper uses existing related research papers and journals with the objective to gain theoretical know-how on the significance of logistics & green logistics initiatives taken by automobile manufacturing companies in India. A case approach is used for empirical evidence in one of the leading automobile industry at Uttarakhand to understand their best practice to mitigate pollution. One of the initiative taken by them for reducing transportation need by introducing 3PL (Third party logistics provider) which has not only

reduced their cost, they got other intangible benefits also. This initiative has resulted substantial reduction in pollution level.

Keywords –Green Logistics, Supply Chain Management (SCM), Environment, Pollution, 3PL (Third Party Logistics).

INTRODUCTION

The world economy is growing very fast with this change in demand of products. Simultaneously need of logistics is also increasing. Logistics has majorly three elements transportation, warehousing & packaging. Transportation is one of the major source in creating pollution in air. Vehicles are exhausting greenhouse gases which is resulting thinning of ozone layer which ultimately causing global warming. So with the increase in demand pollution is also increasing as transport load is increasing. Evangelista, P., Santoro, L., & Thomas, A. (2018) says in logistics segment is more prominent due to increase in demand & is the second largest creator of greenhouse gases after power generation, demand is growing. In recent years, Green Supply Chain Management (GSCM) and sustainability issues have been attracting rising attention among researchers and practitioners, basically due to increased environmental concerns

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and to an ever-competitive environment. As remarked by Min and Kim (2012), this growing interest sparked a series of new lines of research dealing with various supply chain activities that have important environmental implications, ranging from manufacturing to logistics and transportation.

There is a need that organizations should focus on environment sustainability alongwith business growth. It is important to take suppliers, dealers & customers all together for balancing of environment. To deal with pollution due to logistics a concept has emerged called green logistics. Under green logistics all factors i.e. transportation, warehousing, Packaging to be account for to improve environment.

Green Transportation- Under this initiatives options are explored to minimize the need of transportation, use of alternative transport which creates less pollution, designing of vehicles which exhausts less pollution, proper maintenance of vehicles, reverse logistics and use of milk run concept.

Green Warehousing- Under this initiative, warehouse are designed in such a way they get natural light and usage of low consumption electrical equipment. The material handling equipment's doesn't exhaust pollution, Usage of vertical height for space optimization. Inventories are kept to optimize space and transportation.

Green Packaging- Under this initiative usage of ecofriendly, reusable and recyclable materials packaging is used to minimize the wastages whose disposal creates pollution. This initiatives also saves lot of tree cutting also because use of wood, corrugated box and paper are made from wood.

Government's regulations- Government of India has made stringent rules from design till implantation i.e. upgradation from the BS Standard BS-III to BS-IV Norms on 1st April-17. Similarly the next upgradation of BS standard BS-VI being implemented from 2020, as per BSES, Bharat Stage Emission Standard. Government has also come up with the regulation for regular checking & issuing pollution certificate for all vehicles running on road. The life cycle for all diesel vehicles have been fixed under which these vehicles will be permitted to run for 10 years in Delhi-NCR. Rule is also being formed to scrap all vehicles after 15 years (The Times of India, February 2018). The National Highway Authority of India has developed to national highways in the recent past in the outskirt

of Delhi (Eastern Peripheral and Western Peripheral) i.e. KMP (Kundli, Manesar, Palwal), eastern peripheral road which goes from Uttar Pradesh to Haryana without entering in to Delhi. It is expected to decongest Delhi by offloading movement of 50000 trucks (approx) per day out of Delhi and thus reducing the pollution level by reducing 27 percent (Chaudhry, 2018).

However, despite the initiative and efforts by the Government, checks are not found to be robust and compliances in stricter forms. The small industries have not shown to prompt in implementing it because of fear of cost impact & lack of resources and finding the shortcut route to bypass.

PROBLEM STATEMENT

Pollution is the biggest threat to environment. Logistics is one of the major source of pollution in supply chain especially through transportation. The needs of transportation is increasing with the increase in demand and it's the automobile industry which is responsible for production of vehicles for transportation. Therefore it must be studied to see how transportation is contributing in vehicular emission and what kind of practices (especially green practices) being taken by industries help in minimizing pollution level. While studying the impact of logistics on environment and green initiatives it is important to study simultaneously the challenges faced by small & medium organizations in implementation green initiatives, best practices adopted by big organizations & the cost impact of green logistics on their economy.

OBJECTIVE OF THE STUDY

Main objectives are described as under-

- To study the impact of pollution of logistics on environment.
- To study the green initiatives to minimize pollution level.
- To study the challenges in implementing green initiatives in automobile industries.
- To study the cost impact of green initiatives in logistics in automobile industries.

RESEARCH METHODOLOGY

The present study is descriptive in nature supported by empirical evidence using case study approach. For the purpose of present study, various research articles on logistics & green initiatives

on logistics have been reviewed from research journals couple with the case study approach in an automobile organization. A leading automobile company based in Uttarakhand was selected for conducting case study to explore current practices on green logistics, their methodology, outcome of the initiative & motivation as well as challenges faced by them for implementing the initiative. The has been done by interviewing management team of logistics including supply chain, warehousing, security & safety who are directly or indirectly responsible for handling logistics in the plant.

LITERATURE REVIEW

Logistics plays very important role in today's world with the increase in consumption and demand. But simultaneously it is delivering pollution which is impacting on environment. To overcome this problem green initiatives are required. The Council of Supply Chain Management Professionals (2007) describes logistics management "the part of Supply Chain Management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers' requirements." Reviews has been made from related journals to get the knowledge of study made so far in this regard.

Logistics & its Importance- Logistics is an integral part of Supply chain and it is one of the main element. Logistics takes care of material handling from end to end i.e. from suppliers end till dealers end. This also includes holding of material & finish goods in warehouse & designing of packaging material to take care of no transit damage with cost competitiveness. Martin Christopher (2016) says "logistics is the process of strategically managing the procurement, movement and storage of materials, parts and finished inventory (and the related information flows) through the organization and its marketing channels in such a way that current and future profitability are maximized through the cost-effective fulfilment of orders." As per EU, road freight carriage is most popular & utilizing approx. 49% share in Europe because of flexibility nature and have lesser cost impact. As per Stank et al., (2005) logistics is an integral and most important part of supply chain management.

Srivastava (2006) explored the Indian scenario of logistics and its integration with supply chain and supply chain partners. As per him managers know

very well how to integrate information flow from SCM of main manufacturer to supplier, material flow from supplier to manufacturer and the facility required to perform well. He also said there is extensive pressure globally on supply chain and logistics team to improve to manage environment but it is not implemented as expected due to various internal and external reasons.

Impact on Environment- Logistics has a larger impact on environment because transport vehicles emits greenhouse gases which contains CO₂, CO, NO_x, Hydrocarbon & smoke which are harmful and resulting air pollution as well as thinning the ozone layer causing global warming (Abukhader & Jönson., 2004). Vehicles running on road for material handling emits CO₂ which creates pollution, having road accidents and noise pollution as well (Sheu et al, 2005). Besides the logistics performance relates with organization image in terms of its delivery commitments with best price and safe transportation so that no any damage of product during transit. As per the study done by Green Jr, K. W. et.al (2008), the logistics performance is positively impacted by supply chain management strategy and that both logistics performance and supply chain management strategy positively impact marketing performance, which in turn positively impacts financial performance. Neither supply chain management strategy nor logistics performance was found to directly impact financial performance."

Green Logistics Practices - Logistics has basically three elements i.e. transportation, warehousing & packaging. Transportation comes on priority as it emits Greenhouse gases which are creating air pollution and global warming. 3PL is one of the initiatives to optimize transportation needs. Hertz and Alfredsson (2003) define a 3PL as "an external provider who manages, controls, and delivers logistics activities on behalf of a shipper". They take care of all transportation management from pick up material from supplier till reverse logistics after delivery of materials to plant. Similarly they take care of delivery of finish products till dealers end. As observed by Pagell *et al.* (2004), the Supply Chain has a pressure to ensure cost effectiveness as well as environmental balancing. To reduce the work load pressure on road transport it is important to use mix transport arrangement i.e use of railways and waterways alongwith roadways which will reduce the road overcrowding as well as it will be cost effective also. This will reduce environment imbalancing & will improve safety (Sheu *et al.*, 2005). As per

Karagülle (2012), the strengthening of intermodal transportation through green transport strategies may be an effective approach to eco friendly and safer freight transport. Janic (2007) describes in his study that logistics team has to maintain close loop contact with all supply chain team which includes 3PL service provider and customer & supplier for better performance. Min and Kim, (2012) mentioned in their study that green logistics was important to take care of environmental issues related to hazardous material movement & storage, packaging design to suit environment, inventory management and warehousing & to have sustainable transportation system so that pollution generation is reduced to bare minimum. Cagno et al.(2008) has studied for various green practices being followed presently and what given suggestions for further improvements which reduces pollution & takes care environment. Lee and Dong, (2009) has designed logistics networking system to improve green environment.

Reverse Logistics – Reversed logistics is important to optimize use of transportation by utilizing similar truck bringing the material for transportation of empties or other materials. This saves the cost as well as reduction in pollution level. Fleischmann, M. et.al (2001) focused on reverse logistics in their study. They compared the modified logistics system w.r.t. traditional method which is generally being used. They suggested holistic methods for reshaping logistics system. Reverse logistics is also used for recycling of waste & non usable products.

Motivation & Challenges – Whenever the process is challenged and new systems are made some pressure is build up in system. Simultaneously some motivation factors also comes in picture which moves the process ahead. It is always mixture of motivation & pressures which work concurrently. Similarly in implementing the green logistics various internal & external pressures are buildup. Xu et al. (2013), has classified this into five main categories i.e. having compliance to regulations set by government, to keep the existence in competitive world, the financial backbone which is most important to run an organization, have identified different pressures and classified them into five government policies and regulations, marketability of the product and competitiveness, external factors in the supply chain, financial factors, production and operational factors) based on their similarities. Sarkis (2003) & Lieb and Lieb (2010) also defined external pressures as mentioned above as well as the gap

in coordination and harmony between all supply chain team members which includes supply chain team, logistics team, suppliers and customers. Similarly there is internal pressure within organizations. Sarkis (2003) , Lieb and Lieb (2010), and Zailani et al. (2010) describes internal pressures as company's commitment towards environment, top management focus towards achievements, giving parallel focus to environment alongwith cost reduction and efficiency up. Besides there is lack of skill, no training facility to improve knowledge, investment restrictions i.e. releasing less fund against requirement and unwillingness to change the process. Govindan et al. (2013) have identified five main categories which are effecting as barriers which are “outsourcing (e.g., lack of government support to adopt environmental friendly policies, complexity of measuring/monitoring suppliers' environmental practices); technology (e.g., lack of technical expertise, lack of human resource, lack of effective environmental measures); knowledge (e.g., lack of environmental knowledge, perception of ‘out-of-responsibility’ zone, disbelief about environmental benefits); financial (e.g., financial constraints, non-availability of bank loans to encourage green products/processes, high investments and less return-on-investments); and involvement and support (e.g., lack of customer awareness and pressure about GSCM, lack of Corporate social responsibility, lack of top management involvement in adopting green practices”. These gives negative pressure in implementing green practices. But it gives motivation to team by involvement of top management, regular reviews & appreciations, good working environment as resultant of green practices, awards & recognitions from internal & external world.

THIRD PARTY LOGISTICS (3PL) CASE STUDY

The present case study is done for leading ISO 9001 & ISO 14000 certified company based in Uttarakhand. This is an automobile (vehicle manufacturing) company with 2000 (approx.) employees which are getting its parts and components supply from local ancillary units and well as other parts of India. It has got one of the largest market share in pan India its products segment. A study was conducted to observe the impact of green initiatives in transportation system by implementing the third party logistics (3PL). Transportation chosen because it is one of the major source which emits pollution & impacting global warming.

The company under present study has taken initiatives to made improvements in all area of logistics i.e. transportation, warehousing & packaging to improve environment. The case study is made in one of the initiatives of green transportation i.e. consolidation of transportation by introducing 3PL (3rd party logistics) service provider. This has resulted the reduction in overall trucks requirement which in turn had saving in transportation cost as well as reduction in pollution level. Following are the major observations.

Earlier Practice – Earlier suppliers from various locations were sending materials to that organization. Suppliers were having their own trucks and supplying the materials based on their economic truck load quantity. This concept was push type i.e. material was pushed by supplier based on their manufacturing outcome. This has resulted the over stocking at their end as well as lot of traffic congestion happened because approx. 300 trucks were entering/day to that organization.

Innovative Practice – The company introduced a 3PL service provider and started a milk run concept. This service provider is controlled by them. Under this practice, the service provider sends his trucks at supplier's location and make collection of material based on their requirement. 3PL service provider has grouped 4-6 suppliers in one cluster based on nearby locations & volume of material to be procured. So he deployed the trucks based on number of clusters made for collecting the material.

In this procedure their SCM team generates the time wise pickup requirement based on sequence of production and communicate this requirement to supplier & to 3PL service provider. The representative of 3PL give pick up schedule to his truck drivers who go to supplier end for pickup of material. In this contract 3PL service provider is responsible for timely bringing the material with quantity verification. The penalty clause are imposed in case of failures i.e. in case supplier fails timely supply at their end which causes production loss. Similarly in case there is any discrepancy observed in invoice quantity v/s physical stock at their end, 3PL will be responsible and will be penalized. It means 3PL is responsible to check material as per invoice quantity before leaving there factory. 3PL is also responsible in case some damages happen due to mishandling during transit. But in case supplier is not ready with the material at pickup time then 3PL is not held responsible. In this situation suppliers gets

penalty to drop the material at their end at his own cost. Supplier is also being penalized in case there is production loss due to material shortage because of his preparation delay. With implementation of there was reduction of approx. 30% trips.

Benefit of this Practice- This practice has win-win situation. The new practice has reduced the requirement of trucks, therefore, the cost has gone down as well and at the same time pollution level has also reduced. The major impacts have been summarized in the following paragraphs.

- i) **Inventory Reduction:** The concept of material procurement shifted from push to pull system i.e. earlier supplier used to send material its own as per their manufacturing capability but now picking of material from supplier's end by 3 PL as per consumption pattern resulted reduction in inventory. So earlier OEM used to keep high inventory which reduced to Hourly on JIT philosophy. There is a reduction of inventory approx. 50% for the parts procured by 3PL service provider.
- ii) **Space Savings:** By the reduction in inventory and staking the parts vertically need of space is reduced drastically. Since space is one of the costlier affair now a days, lot of saving has happened.
- iii) **Transportation Reduction:** There is a reduction in IBL (inbound logistics) trucks substantially because of consolidation of overall requirement. Earlier supplier's used their trucks for dispatching the materials which is done by OEM now through 3PL by picking up from their location. In some cases supplier brings full truck load with unwanted material resulting overstocking and sometime partially filled un-utilization of trucks capacity impacting inwarding of more number of trucks. After implementation of 3PL there was reduction in 30 % of trucks requirement which was approx. 100 trips /day. Average running per trip of a truck is approx. 50 kms so per day reduction in 5000 kms run of trucks. This has given direct savings in transportation cost.
- iv) **Turnaround Time (TAT):** The implementation of 3PL has impacted the reduction in inwarding of trucks, which resulted de-congestion inside the plant and vehicle got free flow movement .Due to this there was faster unloading of vehicles which ultimately reduced in turnaround time of

trucks. So earlier average trip per truck was 2 per day which was improved to 3 trips/day with the same truck.

- v) **Safe Working:** Due reduction in congestion, it has improved the safety of employees as well. There was reduction in rate of accidents which earlier used to happen due to congestion inside the plant.
- vii) **Smooth Flow of Production:** The new practices has lead to smooth production flow now, earlier there were some production stoppage due to shortage of material on account of transit delay by supplier's vehicle, which has been reduced. Earlier suppliers were using unprofessional transport providers which were having unstructured approach. But now 3PL service provider who are professional in nature maintaining their vehicle very well. This has reduced down time of vehicle not available. Besides the workload of supply chain engineers has also reduced which was being spent in chasing of vehicles. The control of supplier is shifted from suppliers to OEM because 3PL is implemented by OEM, which gives better results.
- viii) **Reduction in Pollution:** By the reducing the needs for trucking operations (reducing the running of trucks (9 ton weight) by 5000 KM/day in 303 operating days per year). , there is reduction in CO₂ by 2180 ton/annum approx. which ultimately reduces pollution. The calculation is made with the help of a formula given by Mr. Jason Mathers (Mathers, 2015) GHG emission (ton) = Distance run (KM)* Weight (ton)* Emission factor (161.8 gms /ton-km run)/10,000,00.

CONCLUSION

The study has been made to understand logistics, its need in current scenario & impact on environment. The study also done of the green logistics preferences by automobile industries and initiation taken by government to minimize the pollution level which impacts on environment. The literature review is done through earlier researches made & related journals to identify the areas of green logistics. A case study is also done in one of the leading automobile industry to identify the innovative practice followed, its tangible & intangible benefits, their motivation level and difficulty observed in implementation of green logistics practices. Similar practices can be made in different companies operating in the automobile industry. Further study also can be made to

understand the linkage of green logistics with supply chain as well as overall performance of the organization.

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Human Resource Development Practices and Employee Performance: Study of Indian Automobile Industry

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ABSTRACT

Human resource plays a vital role in highly skilled and knowledge intensive industries like automobile industry. The growth and development of an organization greatly depends upon its human resource than the other resources and to achieve success it is necessary that right person must be placed at right job and his potential must be enhanced through multiple and continuous training since development and delivery of quality products and services depend upon quality of human resource. Talented and learned human resource is the need of highly competitive, dynamic and technical industries, needed continuous and multiple-skill training. Thus, to attain such human resource, industries should emphasize on developing and nurturing a strategy based human resource development practices. Results of this study could provide human resource professionals with useful and valuable information to formulate strategies to decide what human resource practices should be effectively implemented in their organizations that maximizes employee's performance. This study investigated the impact of HRD Practices namely compensation, performance appraisal, training and development, job definition, career planning, employee participation, selection on employee performance of selected Indian automobile industries.

Keywords: HRD Practices, Employee Performance, Compensation, Performance Appraisal, Training and Development, Employee Participation.

INTRODUCTION

Indian Automobile industry is the one of the industrial sector that has shown tremendous growth after 90's. The \$93 billion automotive industry contributes 7.1% to India's GDP and almost 49% to the nation's manufacturing GDP (FY 2015-16) and it is likely to grow up to 12% (FY 2016-17). The industry employs 29 million people, directly and indirectly, and contributes to 13% of excise revenue for the Government. With this pace of growth & contribution it's necessary for them to meet the market requirements and the global demands which entail for efficient and challenging human capital.

Automobile industries in achieving their overall objective faces certain issues like global competition, product development, cost containment, problems related to HR department and its challenges. The major problem faced is employee retention which arises due lack of growth and development of the present employee on both personal and professional front, low pay package, lack of benefits or poor work environment. To overcome the problem a well developed HR

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department is crucial with its well framed HR policies.

Human Resource Development (HRD) plays a significant role in developing an efficient and skilled workforce so that the organization as well as employees can accomplish their objectives. It provides opportunities to the employees in terms of training, performance management, performance appraisal, succession planning etc that leads to overall organizational development.

Organizations can become dynamic and grow through the efforts and competencies of their human resources. HRD thus plays an important role in framing such practices that can help the employees in motivating and keeping their morale high. Such practices further have a positive impact on the employee's performance. Hence in the present age of cut throat competition the survival and growth of an industry needs well developed and efficient human resource with varied skills.

LITERATURE REVIEW

There are number of HRD practices that could be tested in connection with employee performance. Karami, et al., (2017) proposed five sub-constructs for HRM namely; HR strategy, employee retention, employee assessment, employee management, and HR developments. All the constructs were extracted based on the literature review and found most suitable for the Saudi aluminum industry. A self-administered questionnaire was developed and a random sampling method was used to select the samples for this study. All the questions were tested for reliability, validity and unidimensionality through confirmatory factor analysis. Finally, SEM analysis was carried out to test the proposed model for HRM contributed to the development of new framework on the relationship between HRM and TM that increases organisational performance in the UAE aluminum industry perspective. Sarker (2017) measured the effect of human resource practices on the employee performance in banking sector of Bangladesh. A sample survey on convenience sampling based data set about 328 different levels of employees from the banks in different locations of Bangladesh were selected. A structured questionnaire was used to collect primary data related to some HR issues namely- institutional Commitment and motivation, Employee relations, Compensation, Physical Work Environment, Training & Development, Promotion, Job Satisfaction (independent variables) and the

employee performance (dependent variable) of the designed banks. The study revealed that all the HRD Practices except compensation and training & development have significant impact on the employee performance in the banking industry of Bangladesh. The findings of study provided a clear guidance to the banking practitioners/policy makers to take further steps in achieving the organizational goal through the employee performance. Hassan (2016) conducted a study to determine the impact of HRD Practices on employee's performance in the Textile industry of Pakistan. The sample size of 68 employees was considered to check the association between HRD Practices and employee's performance. It was found from the results that HRD Practices (Compensation, Career Planning, Performance Appraisal, Training, and Employee Involvement) impact on employee's performance positively.

Al_Qudah et al., (2014) investigated the effect of HRD Practices (recruitment and selection, compensation) on employee performance in Malaysian Skills Institute. The results indicated that recruitment and selection and compensation significantly correlated with the employee performance in Malaysian Skills Institute. Khatibi et al., (2012) investigated the impact of HRD Practices (Compensation, Evaluation, and Promotion) on perceived employee performance in a sample of 9 hospitals in Iran. The results showed that compensation impact employee performance significantly. Patnaik, et al., (2012) conducted a study to examine the impact of three important HRD Practices, namely, selective hiring, compensation and promotion practices on perceived performance of 294 teachers in Indian universities. It was found from the results that HRD Practices positively impact on perceived performance of teachers and compensation practices, in particular, are found to be of the highest importance. Riaz et al., (2012) conducted a study to establish the relationship between Employee's Performance and HRD Practices in the developing countries like Pakistan and found the positive association between promotion and compensation with employee performance but employee performance are not significantly associated with performance evaluation. Pakistani hospitals need to change some compensation for the improvement of hospital employee's performance. Gyensare and Asare (2012) conducted a study to examine the impact of three HRD Practices (compensation, performance evaluation and promotion) on perceived performance of

psychiatry nurses in the mental hospitals in Ghana. The sample size was 130, Pearson correlation and multiple regression analyses were used. It was found from the results that compensation impact perceived employee performance positively. It was also revealed a positive relationship exist among performance evaluation, promotion, and employee perceived performance. Zaitouni et al., (2011) investigated the impact of HRD Practices on the affective, continuance, and normative organizational commitment among employees in the banking sector in Kuwait. The full-time, and part-time employees (managers and non-managers) of five large private banks in Kuwait were included as sample. Both Exploratory Factor Analysis (EFA) and hierarchical regression analyses were used to draw the relationship between these variables. The results showed that fifty percent of the variables confirmed previous studies and the remaining fifty percent did not support these studies due to factors such as culture and values. Tanveer et al., (2011) evaluated the impact and links between HRD Practices and employee's performance of the textile sector of Pakistan. This was achieved by developing and testing the model based on HRD Practices (recruitment and selection, training and performance appraisal) as independent variables on the employee's performance as a dependent variable. Research findings proved a significant relationship exist between human resource practices and employees performance. Aleem et al., (2011) examined the relationship between HRD Practices (compensation, performance appraisal, employee relations, job security, promotion, employee participation, and pension fund) and perceived employee performance in the health sector of Pakistan. Furthermore, satisfaction with HRD Practices was a moderating variable between employee performance and HRD Practices. Data were collected from 220 employees (top, middle and lower level) of autonomous medical institutions of Pakistan (Punjab) through questionnaires. The results indicated that the compensation, employee relations, job security, promotion, and pension impact performance of health sector employees positively except employee participation and performance appraisal. Baloch et al., (2010) measured the impact of HRD Practices (compensation, promotion and performance evaluation) on perceived employee performance of Bankers in NWFP, Pakistan. The results indicate that compensation, promotion practice; performance evaluation practices and perceived employee performance exist. Multiple Regressions showed that 57% percent of the variance in

perceived employees' performance can be accounted for compensation, performance evaluation and promotion. Marwat et al., (2010) explored the relationship between HRD Practices including selection, training, career planning, compensation, performance appraisal, job definition and employee participation and perceived employee performance in telecom sector in Pakistan. It was found that all the tested variables were positively correlated but compensation and training were highly correlated. Shahzad et al., (2008) conducted a study among university teachers in Pakistan. The results of the study indicate that compensation, promotion were positively related to employee perceived performance while performance evaluation was not significantly correlated with perceived employee performance.

Teseema & Soeters (2006) studied eight HRD Practices and their relationship with perceived employee performance. These eight practices include recruitment and selection practices, placement practices, training practices, compensation practices, employee performance evaluation practices, promotion practices, grievance procedure and pension or social security. Singh, A. K. (2005) attempted to identify the relationship between HRD Practices (planning, recruitment, and selection) and the philosophy of management of the Indian business organizations. The sample for the study consisted of 95 respondents from two private sector organizations and 119 respondents from two public sector organizations. The findings of the study indicate that the variables of HRD Practices were highly but negatively related to the philosophy of management in the private sector organizations.

It is seen from the above literature reviews that most of the studies are showing correlation between HRD Practices and employee performance in academics and other sectors in other countries too, limited to manufacturing sectors in Indian context. Therefore, the present study is an attempt to test the impact of HRD Practices on employee performance in developing countries like India particularly for Automobile Companies.

OBJECTIVES

1. To study the employee performance level of selected Indian Automobile Industry
2. To determine the relationship between HRD Practices and employee performance.

HYPOTHESIS

- H_{o1} : HRD Practices are negatively correlated with the employee performance.
- H_{o2} : Selection is positively correlated to employee performance.
- H_{o3} : Training and Development impacts employee performance positively.
- H_{o4} : Performance appraisal is positively correlated to employee performance.
- H_{o5} : Career planning is positively correlated to employee performance.
- H_{o6} : Compensation is positively correlated to employee performance.
- H_{o7} : Employee participation is positively correlated to employee performance.
- H_{o8} : Job definition is positively correlated to employee performance.

RESEARCH METHODOLOGY

In order to study the objectives and hypothesis framed for the study, descriptive research design was used. The population of the study includes employees of the selected automobile industries of India. Keeping in view the objectives of the study and certain limitations, non-probabilistic sampling technique (convenience sampling technique) was adopted to select the sample. The sample size for the study was 100 employees employed in automobile industries located in Delhi-NCR in India. Organizational citizenship behavior (Argentero et al., 2008) and Qureshi M Tahir (2006) questionnaires for employee performance and HRD Practices were used to collect the data. Initially, questionnaires distributed to 150 employees of the automobile industries, out of which 128 questionnaires returned by the employees. 28 questionnaires were rejected due to incompleteness. Finally, 100 questionnaires were used for the study.

DATA ANALYSIS

The data were gathered, tabulated and analyzed using the statistical analysis software. The Statistical Package for Social Sciences (SPSS) version 21 was used to perform Mean, Standard deviation, Correlation analysis, Regression analysis.

It is observed from the **Table No- 1 (see appendix)** that Performance Appraisal (PA) has highest mean followed by Job Definition and Selection. Rest of the variables means value ranging

between 3.78 and 3.94 for HRD Practices whereas highest mean of Civic Virtue of Organizational Citizenship Behavior is 4.07 followed by Conscientiousness and Altruism.

Similarly the Employees' Participation has highest standard deviation followed by Job Definition. Rest of the variables standard deviation value is ranging between 0.394 and 0.512 for HRD Practices whereas Altruism of Organizational Citizenship Behavior has highest standard deviation value followed by Conscientiousness and Civic Virtue.

Correlation Analysis

It is statistically measures the strength of linear association between the two sets of data. It determines the degree of relationship between variables. One very convenient and useful way of interpreting the value of coefficient of correlation between two variables is to use the square of coefficient of correlation, which is called coefficient of determination. The coefficient of determination thus equals r^2 . If the value of $r = 0.9$, r^2 will be 0.81 and this would mean that 81 percent of the variation in the dependent variable has been explained by the independent variable. Both the variables were standardized and Karl-Pearson's coefficient of correlation was carried out.

It is found from the analysis **Table No-2 (see appendix)** that there is significant relationship lies between HRD Practices and OCB. It appears from the table that HRD Practices and Organizational Citizenship Behavior have a positive and significant correlation at 1% level of significance. It is also observed from the analysis **Table No-3 (see appendix)** that there is significant relationship lies between the variables of HRD Practices and OCB. It appears from the table that the variables of HRD Practices and Organisational Citizenship Behaviour have a positive and significant correlation at 1% level of significance.

Regression Analysis

It is a procedure of functional relationship used for prediction. A simple regression analysis was carried out. Both the variables were standardized and 'F' ratio for analysis of variance (ANOVA) was also estimated. The student t' test was used to test the hypothesis of impact of independent variables on dependent variables.

The resulted regression model **Table No-4 (see appendix)** is the estimation of impact of HRD

Practices (HRDP) on Organisational Citizenship Behaviour (OCB). It is found that the R square is not so impressive (0.271). This indicates that the determination power of the regression equation is about 27.1 percent. This shows that HRD Practices explain 27.1 percent variation in Organisational Citizenship Behaviour for the selected Automobile Industries in Delhi-NCR. The rest of 72.9 percent of Organisational Citizenship Behaviour is unexplained in the model. The standard error of the estimates is 0.66923, which is less than one. The F-ratio (ANOVA) is 36.351 is statistically insignificant at 1% level of significance. Therefore, the model is acceptable, estimated by enter method.

It is observed from the analysis that the value of R square is very low which implies that independent variable i.e. HRD Practices in the model explaining 27.1 % variation in the dependent variable i.e. Organisational Citizenship Behaviour. It implies that other variables not included in the process are explaining 72.9% variation in dependent variable. R square is also known as the coefficient of determination. Its value lies between 0 and 100. The regression model obtained by enter method is good, supported by the value of adjusted R Square (0.263) which is found to be positive.

It is found from the ANOVA **Table No-5 (see appendix)** that value of F is 36.351 at $p < 0.01$, significant. It implies that the P value of the overall F-test is significant; regression model can predict the response variable better than the mean of the response. It also shows that the P value for the overall F-test is at significance level, can conclude that the R-squared value is significantly different from zero.

Regression Model: $OCB = 1.987E-16 + (0.538)HRDP$

It is found from the **Table No-6 (see appendix)** that the intercept is very small and statistically significant. This implies that there is no scope of autonomous Organisational Citizenship Behaviour. This also supports the value of R square in the model.

Therefore, it may be concluded that HRD Practices has positive but moderate impact on Organisational Citizenship Behaviour.

Hypothesis Testing

It is found from the analysis that hypothesis H_{01} is accepted i.e. HRD Practices and Organisational Citizenship Behaviour are positively and

significantly correlated. Also, the hypotheses H_{02} to H_{07} are accepted i.e. all the variables of HRD Practices and Organisational Citizenship Behaviour have positive and significant correlation.

CONCLUSION

Today as organizations operate in a dynamic environment it becomes necessary to enhance the competencies of their employees through adopting the HRD practice. The present study brings out positive relation between HRD practices and employee performance. The practices namely compensation, performance appraisal, career planning etc leads to employees development enhancing their skills, increased motivation and moral boosting resulting in increased overall performance of the organization.

This study provides additional information for the management the influences of HRD practices toward employee performance. The result of the study could also be a determinant towards making more reliable decisions on the planning process in HRD matters and implementation of associating program to increase management awareness and other employees' involvement.

LIMITATIONS AND FUTURE STUDY

There are also many limitations of this study which includes;

- First, the study is only limited to automotive industries of Delhi-NCR. So the results of this study can only be used for further research in automobile industry at Delhi-NCR level.
- Secondly the HRD Practices parameters discussed in this study are very short in numbers. These HRD Practices are taken from the research work already done by different researchers. Hence there are several other parameters practices which could be focused in future studies.

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Appendix

Table 1: Descriptive Statistics

Variables	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
AL	100	3	5	3.66	0.593	0.360	0.241
CV	100	3	5	4.07	0.425	-0.272	0.241
CS	100	3	5	3.98	0.471	-0.058	0.241
T	100	3	5	4.05	0.415	-0.090	0.241
PA	100	3	5	4.10	0.394	-0.285	0.241
CP	100	2	5	3.85	0.492	-1.077	0.241
EP	100	2	5	3.78	0.694	-0.208	0.241
JD	100	3	5	4.07	0.603	-0.134	0.241
C	100	3	5	3.94	0.512	-0.371	0.241
S	100	3	5	4.05	0.491	0.156	0.241

Table 2: Correlation Analysis (OCB and HRDP)

Variables		OCB	HRDP
OCB	Pearson Correlation	1	0.520**
	Sig. (2-tailed)		0.000
	N	100	100
HRDP	Pearson Correlation	0.520**	1
	Sig. (2-tailed)	0.000	
	N	100	100

**, Correlation is significant at the 0.01 level (2-tailed).

Table 3: Correlation Analysis (OCB and HRDP Parameters)

Variables		T	PA	CP	EP	JD	C	S
OCB	Cor	0.383**	0.386**	0.548**	0.177	0.390**	0.482**	0.378**
	Sig.(2-T)	0.000	0.000	0.000	0.079	0.000	0.000	0.000
	N	100	100	100	100	100	100	100
T	Cor	1	0.668**	0.566**	0.411**	0.435**	0.701**	0.684**
	Sig.(2-T)		0.000	0.000	0.000	0.000	0.000	0.000
	N	100	100	100	100	100	100	100
PA	Cor	0.668**	1	0.688**	0.422**	0.298**	0.645**	0.685**
	Sig.(2-T)	0.000		0.000	0.000	0.003	0.000	0.000
	N	100	100	100	100	100	100	100
CP	Cor	0.566**	0.688**	1	0.260**	0.309**	0.516**	0.534**
	Sig.(2-T)	0.000	0.000		0.009	0.002	0.000	0.000
	N	100	100	100	100	100	100	100
EP	Cor	0.411**	0.422**	0.260**	1	0.297**	0.341**	0.434**
	Sig.(2-T)	0.000	0.000	0.009		0.003	0.001	0.000
	N	100	100	100	100	100	100	100
JD	Cor	0.435**	0.298**	0.309**	0.297**	1	0.472**	0.324**
	Sig.(2-T)	0.000	0.003	0.002	0.003		0.000	0.001
	N	100	100	100	100	100	100	100
C	Cor	0.701**	0.645**	0.516**	0.341**	0.472**	1	0.719**
	Sig.(2-T)	0.000	0.000	0.000	0.001	0.000		0.000
	N	100	100	100	100	100	100	100
S	Cor	0.684**	0.685**	0.534**	0.434**	0.324**	0.719**	1
	Sig.(2-T)	0.000	0.000	0.000	0.000	0.001	0.000	
	N	100	100	100	100	100	100	100

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.520 ^a	0.271	0.263	0.66923	0.271	36.351	1	98	0.000

a. Predictors: (Constant), HRDP

Table 5: ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	16.280	1	16.280	36.351	0.000 ^a
	Residual	43.891	98	0.448		
	Total	60.172	99			

a. Predictors: (Constant), HRDP

b. Dependent Variable: OCB

Table 6: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.987E-16	0.067		0.000	1.000	-0.133	0.133
	HRDP	0.538	0.089	0.520	6.029	0.000	0.361	0.715

a. Dependent Variable: OCB

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