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A Study on Foreign Direct Investment of South Asian Association of Regional Countries (SAARC)

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Abstract

This paper examines the impact of factors determining foreign direct investment (FDI) inflow of South Asian countries using annual data sets from the period 2005-2017 and estimates overall trends and factors impacting FDI in South Asian countries. The study utilizes panel data analysis and examines the selected variable like GDP, export and import of goods and services, and exchange rate. The empirical results are robust in general for alternative variable determining FDI inflow. The policy inference of the study is that expanding the interest of economic integration around the globe and interdependence of FDI between member's countries is a vital feature for maintaining the sustainability of growth.

Key Words: FDI, South Asia, Panel data, Export and import of goods and service and official Exchange Rate.

1. Introduction

The world experienced a massive transformation process of globalization in terms of economic production and investment. The role of investment (FDI) in the process of transformation is very decisive. FDI has become a principle criterion of economic development in both developed and developing countries. FDI is defined as an 'investment involving a long-term relationship and reflecting a long-lasting interest and control by a resident entity of one country of an enterprise resident in a different economy'. FDI influences the income, prices, production, employment, development and economic growth and general welfare of the South Asian countries. The benefit of FDI can be in the form of knowledge and technology spillover, employment generation and enterprise development. FDI going in and out of these emerging and transition economies like Sri Lanka, Pakistan, India, Bhutan, Afghanistan, Nepal, Maldives and Bangladesh collectively known as South Asian

countries, which are of economic significance in the process of Global Transformation. It was seen that FDI inflow in south Asian countries was \$470billion in 2018.

In 2017, FDI flow witnessed a descending trend; global flows of foreign direct investment (FDI) fell by 14% in 2017 to an estimated \$1.52 trillion. As a result of higher expected FDI growth in developed countries, the regional distribution of FDI may tilt back towards the developing countries in the global inflow. FDI flow of developing economies reached to 46% of global inflow, developing Asia (33%) continues to be the region with highest FDI inflow significantly above European Union (21%) traditionally the region with the highest share of global FDI. FDI inflow was up also in the other major developing regions, Africa (3%) and Latin America and the Caribbean (10%). Although FDI to developed economies resumed its recovery path after the steep fall in 2012, it remained at a historically low share of the total global FDI flow (49%) and still 57% below its peak in 2007. Thus developed countries maintained their lead over developing countries. Developing economies and transition economies now constitute

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half of the top 20 economies ranked by FDI Inflow.

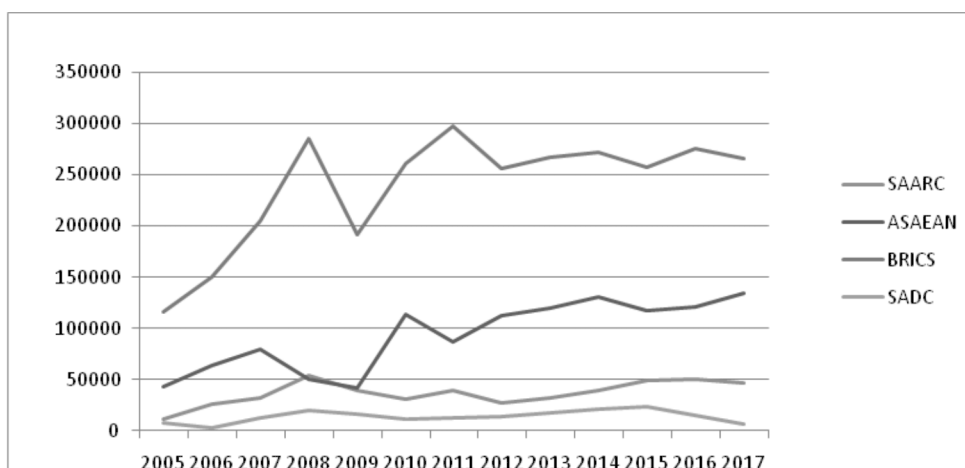
South Asia (Sri Lanka, Pakistan, India, Bhutan, Afghanistan, Nepal, Maldives and Bangladesh) are eight biggest economies **that are expected to remain the fastest-growing region in the world** with 6.9 percent in 2018 and it was anticipated that growth should

further strengthen to 7.1 percent on average in 2019-20 despite the brittleness in some emerging markets. “FDI recovery continues to be on a bumpy road” said UNCTAD Secretary-General Mukhisa Kituyi. It was seen that FDI in SAARC countries was continuously decreasing from the previous year as shown in below Table 1.

Table 1: FDI Inflow to selected regional and interregional groups (Amt. in million)

Regional Group	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
SADC	8255.7	3304.3	12561.2	19141	15966.49	11779.4	13193.05	14069.88	16877.27	20591.4	23101.14	14962.1	7229.9
SAARC	11292.9	26271.9	32576.8	54617	39495.73	31262.83	40049.95	27704.74	32547.62	39333.7	49129.9	50825.0	47028.2
ASAEAN	42738.1	63794.18	78584.7	49508	41386.31	112977.4	86012.2	111823.5	118913.5	129544.	117278.6	120607.	133764.2
BRICS	116116	149618	204915.7	285537	191836.8	261203.6	297438.5	256120.2	267372.1	271374.	257552.6	275600	265557.4

Source: UNCTADFDI-TNC-GVC information system, FDI/TNC Database (www.unctad.org/fdistatistics). Note : SAARC South Asia association of regional council, ASEAN Association of southeast Asian Nation, BRICS Brazil Russia, India, China, South Africa, SADC



Source: Predicted by Researcher

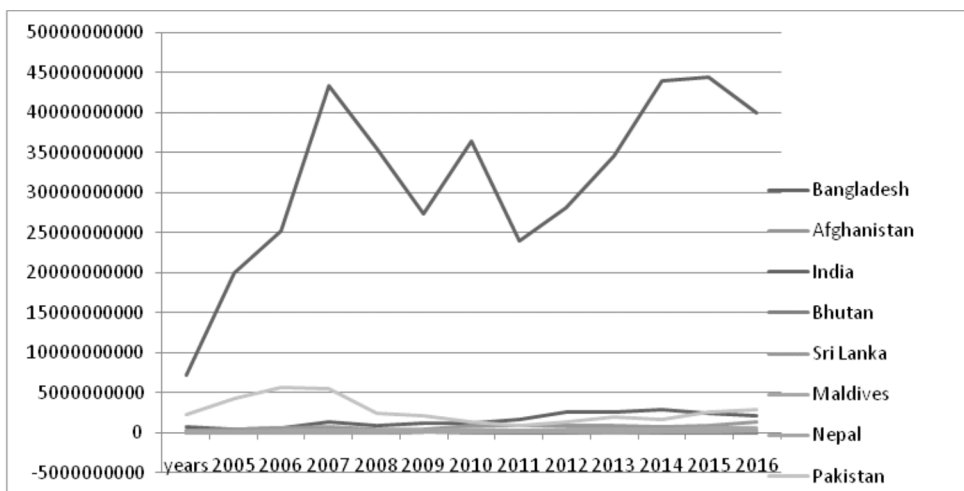
It was seen from the above trend that FDI Inflow in SAARC countries is 3%, ASAEAN is 9 %, BRICS is 18 % and SADC is 0.5%. It was seen from the above table that compounded annual growth rate was decreasing for SAARC by -0.67 because of instability in India due to demonetization and GST. And India is the largest recipient of FDI Inflow in South Asia as shown by the below trends after India, Pakistan is the largest recipient of FDI in SAARC.

2. Review of literature

Asmat Ali Refhat-un-Nisa Akib Ahmed and Amir

Amanullah (2015) “The present study attempts to investigate the growth and development of the scholarly literature published by the SAARC Nations. The study is based on the Data harvested from Scopus-one of the largest indexing and abstracting database in the fields of science, technology, medicine, social sciences and arts and humanities. Data congregated encompasses research publications published for the period, 1900- Dec 2013.”

Duran (1999) used panel data and time series technique to find out the drivers of FDI for the period



Source: Predicted by Researcher

of 1970-1995. The study indicated that the size, growth, domestic saving, country's solvency, trade openness and macroeconomic stability variable are catalyst of FDI. The UNCTAD (1999) advocated both positive and negative association between growth and FDI, depending upon the incorporation of various variable like infrastructure, market integration etc.

Dierk Herzer (2009) "Purpose – The purpose of this paper is to examine the impact of outward foreign direct investment (FDI) on economic growth. In this Two econometric approaches are used: cross-country regressions for a sample of 50 countries and time-series estimators for the USA and Both approaches tell the same story: outward FDI is positively associated with growth. This finding is robust to several model specifications, potential outliers, and different estimation techniques. In addition, Granger-causality tests for the USA indicate that causality is bidirectional, suggesting that increased outward FDI is both a cause and a consequence of increased domestic output. This paper, in contrast, deals with the effects of aggregate outward FDI on the economy as a whole.

The classical model for determinants Of FDI begins from the earlier research work of Dunning (1973, 1981) which provide a comprehensive analysis based on ownership, location and internationalization paradigm. Lucas (1993) examined the determinates of FDI inflow for select East and south Asian

economies during 1960 to 1987 by using a model based on traditional derived –factor of a multiple product monopolist. The study finds that FDI inflow are more elastic with respect to cost of capital than wages and also more elastic with respect to aggregate demand in export than domestic demand.

Balasubramanyan et al. (1996) found significant positive association between FDI and economic growth and suggest that the above relationship is more holistic in the export promotion policy in contracts to import substitution policy of the country.

Sing and Jung (1996) argued that political risk, business, condition and macroeconomics policies matter for FDI in developing countries.

The above studies indicate mixed result and mostly provided information about determinants related to FDI inflow in SAARC Countries. Thus the review helped in choosing the factors or alternative that may gauge empirical analysis of determinates of FDI in SAARC.

3. Data and methodology

This section describes the data used for empirical analysis. The data comprises of annual observation from 2015-2017 for eight emerging economies namely Sri Lanka, Pakistan, India, Bhutan, Afghanistan, Nepal, Maldives and Bangladesh collectively known as South Asian countries. The

dependent variable is FDI inflow in respective countries in current US \$ taken from world development indicator published by world bank (2017). It is denoted by FDI. The required data set

for the selected countries was obtained from “World Development Indicator (WDI)”. The variable used for measuring the financial development are described in Table 2.

Table 2: List of variable used in the Analysis

Variable	Definition	Reason for inclusion	Source
FDI	Foreign direct investment	Measuring Impact of FDI	WDI
GDP	Gross domestic product	Measure of market size	WDI
E&I	Export and import of goods and services	Measure of openness	WDI
Official ER	Official Exchange Rate	Measure of currency value	WDI

This study compliments the exiting literature by providing empirical analysis on South Asian countries only as the exiting studies contain large number of countries but do not have China and South Africa in their list which is the major recipient of FDI in the world. In this study the dependent variable is FDI, net inflow (BOP in current US \$ and independent variable is Export and import of goods and service, GDP per capita (current US\$), official exchange rate (LCU per US\$, period average / consumer price). Real effective Exchange rate is taken for the more accurate results.

Based on the above hypotheses posed, the estimation model is as follow:

$$LFDI = \alpha + \beta_1(LGDP) + \beta_2(LE\&I) + \beta_3(LOER) + \epsilon$$

Where,

LFDI : Log value of Foreign Direct Investment

LGDP :: Log value of Gross Domestic Product Per capita

LE & I :: Log value of Export and Import of goods and services

LOER: Log value of Official exchange rate

This study comprise analysis of eight emerging economies of the world know as South Asian countries

4. Panel Data Analysis

The panel data estimation is employed in the study to capture the dynamic behavior of the parameters

and to provide more efficient estimation and information of the parameters. Panel data technique is used because of its advantage over cross sectional and time series analysis in using all the information available, which are not detectable in pure cross sections or in pure time series. Battag and kao (2000), Hsiao (1958, 1986) and Baltagi (1995) argued panel data sets posses several major advantages. Panel data suggests individual heterogeneity to deducted the risk of producing biased result and revised a large number of data points to enhance the degree of freedom and variability and to be able to study the dynamic of adjustments. The panel data model includes three different methods.

- 1) Random effects
- 2) Fixed effect
- 3) Common constant method

The panel data estimation is employed in the study for the SAARC to capture dynamic behavior of the parameter and to provide more efficient estimation and information of the parameter. Here the Hausman test (1978). Prove that we have to use the random affect model for the analysis. Random affect model assist in controlling for unobserved heterogeneity when the heterogeneity is constant over time and not correlated with independent variables. This constant can be removed from the data through differencing, for example by taking a first difference which will remove any time invariant components of the model.

Table 3: Inter correlations Matrix

Variables	LFDI	LGDP	LE&I	LOER
LFDI	1			
LGDP	0.20* 0.012	1		
LE&I	0.46* 0.00	0.017 0.84	1	
LOER	0.03 0.66	-0.11 0.18	0.08 0.33	1

Note: Calculated by researcher and star (*) shows significance at the .05 level

5. Empirical Results

Present study analysis technique to estimate the dynamic behavior of determinants of FDI inflow in SAARC beforeproceeding to estimated with panel data analysis, correlation analysis has been carried out. Correlation matrix indicates correlation of LFDI with LGDP to be (0.20) and with LE&I (0.46). Existence of high correlation was found among the independent variable as shown in above Inter-correlation matrix. The variable Official Exchange Rate was found to be least correlated with the variables. The existence of correlation among the independent

variable will lead to problem of multi -collinearity in the estimation, still we considered these variables because of the statistical nature of panel data estimation which take care of the collinearity problems. So, we have chosen Panel data analysis, and in panel data analysis we have used Random Affect method of Estimation because fixed effect model is rejected in the analysis based on Hausman specification test. Further, highest value of Hausman test rejects the validity of fixed effect test. The estimates through panel data analysis through Random Affect Method are show in Table 4.

Table 4: Panel Data estimates through Random Affect Method

LFDI	Coefficient	St.Error	t-value	p-value	Sig.
LGDP	1.535	0.795	1.93	0.053	**
LE&I	1.337	0.486	2.75	0.006	**
LOER	0.012	0.077	0.16	0.877	
Mean dependent var	18.329		SD dependent var	6.769	
Overall r-squared	0.256		Number of obs	144.000	
Chi-square	14.866		Prob > chi2	0.002	
R-squared within	0.038		R-squared between	0.708	

Note: The panel data estimation result based on Random effect and p value is less than equal to 0.05 which is indicated by the ** (stars) in the above table.

The empirical result (in Table 4) achieved from random estimate show that regression model with dependent variable LFDI fits well with independents determinant variables as value of adjusted R-Squared is significant between(0.70). Highest value of R squared also

indicates that the explanatory variable included in the equation can explain most of the variation in the dependent variable between the nation. The coefficient of the Gross domestic product at per capita and Export and imports of goods and services are statistically

significant at 5 percent level which shows that determinants are potential determinants of FDI inflow, where the Exchange rate is not significant which indicate that this determinants might not be important determinants in this case. The positive value of the coefficient indicates perfect synchronization of determinants variable with FDI inflow whereas negative sign shows that they affect FDI inflow in reverse manner i.e. decreasing value of the determinants. The coefficient of LGDP and LE&I show that foreign investor are highly sensitive to the market growth as 1 percent increase in the variable leads to 1.53 percent and 1.33 percent increase in FDI respectively. Whereas coefficient of Official Exchange rate indicates that 1 percent increase in leads to 0.012 percent increase in FDI which is very nominal in nature.

6. Conclusion:

As stated earlier the motive of the study is to examine the factors that determine the FDI inflow to the SAARC countries. Economic integration provides development and security to the respective countries and world at large. It can be concluded from the analysis that financial system that is growth of the GDP plays a very significant role in mobilizing FDI inflow in to the nation. The study made an attempt to recognize the factor determinants the FDI inflow in SARRC countries from 2000-2017 for which determinants include GDP, Export and import and Foreign exchange rates. The study found the GDP and Export and Imports are potential determinants of the FDI inflow. The challenges for the SARRC countries isto maintain its GDP growth so that FDI inflow shouldcontinue and follow the upward trend. Moreover the governments of the respective countries

have to optimize their economic conditions to attract more FDI.

7. Policy Implication

GDP and Exports and Imports are crucial factors in engaging FDI, which may help to make appropriate policies for improving the performance of domestic economy. In addition, the business facilitating dimension in the form of treaties and investment promotion agencies may be supported by good political environments, corporate governance, efficient economic policies and sound infrastructure measure to exploit the benefits from FDI.

8. Limitation

The study analyzes the impact of determinants of FDI Inflow in the eight economies of the SAARC as a whole unit but it does not analyze how the selected determinants variable influence the FDI inflow on each country on individual basis. There are other important determinants which are not covered under this study like Gross capital formation, labourcost, work force, market capitalization, inflation etc. Labour cost are import determinants in the India, Pakistan, Nepal.

9. Scope For Further Research

The research can be further extended to analyze how profit remittance homes countries by direct investors contributes to current account deficit (CAD). It can be constructed from the above study that as a policy implication FDI can cause worsening of balance of payment position by causing current Account Deficit (CAD) in long run. Another area of further research can be sect oral analysis to enhance the understanding of the industry specific FDI flow and its determinants to analyze whether FDI stock and output are reinforcing manufacturing sectors along the primary sectors or not.

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Talent Development: Existing Status, Constraints, Scope and Suggested Strategies

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Abstract

Although talent development is increasingly needed in organizations, there is skepticism about its notion in blueprint and reality. This paper probes and extends better understanding into the disparity on the dissimilarities of the notion, meanings and approach to talent development. It also examines the range of tools available to organizations for development. Gaining inferences from a series of research papers, it revealed that talent development is an important constituent of the complete mechanism of talent management. The study underlined why talent development has proved crucial to the success of an organization, whether in prosperity or adversity. The restrictions faced by organizations in the implementation of TD strategy have also been discussed. Though the study is exclusively qualitative in its essence; it highlights avenues for future studies. This study will help training professionals in dealing with certain problems and challenges that lead to the management and development of talent at work.

Key Words: Talent, Talent development, Talent management, Talent development tool

1. Introduction

Human capital is regarded vital for an organization in order to gain edge over its competitors (Price, 2004); an indispensable entity that is available for a premium for organizations and becoming scarce resource (Kim and McLean 2012; Pruiss 2011; Lockwood 2006) every passing day. It is illustrated in Talent Shortage Survey conducted by ManpowerGroup in 2018 that reported shortage of talent for the key leadership roles in 67% of the large organizations across the world. These talent 'gaps', 'crunch' or 'shortage' have hindered the business advancement (Collings and Mellahi 2009) by impacting on its operating costs, bottom-line

profitability, competitiveness, service, quality, brand and investment in the longer-term.

Moreover, the issue of the shortage of talent is almost global. Michaels *et al.*, (2001) found that organizations around the world have little choice but to strive for the same group of talented people with the similar tools, tactics, and perspectives employed by many other organizations. This has led to certain unfair and illegal practices like poaching of talents. In an era of internationalization, where talent and intellectualism are preferred as the principal medium of exchange, developing talent has become pre-requisite for making a fortune because it is the talented people who will make your customers choose your brand and support your business.

The notion of developing talent is not new; there has always been a need for talented employees since eternity. But, the crunch for talented employees has only hit the business sector today because of the paradigmshift of human resource. Norma D'Annunzio-Green (2008) revealed that since mobility

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is no longer a concern for “Generation Y” employees due to their propensity towards changing their jobs regularly, talent retention has turned out to be a serious problem for the HR managers. These employees focus more on employability as opposed to employment, thereby exerting pressure on organizations to impart them continuous professional advancement opportunities. Furthermore, a remarkable development during the past years is that employees not anymore dedicate or confide their employment to one employer. They embrace a proactive approach, looking for organizations with the best professional advancement criterion (Mirvis and Hall, 1994; Sullivan, 1999; Roehling *et al.*, 2000; Tanskey and Cohen, 2001). This has led to a worldwide battle amongst corporations for developing and encompassing appropriate talent development mechanisms into their frameworks.

Human resource managers, the world over, have realized that talent development has turned out crucial for business growth (Cook and Macaulay 2009; Kim and McLean 2012). In developing strategies to this end, they burn the candle at both ends and for a little while the development of talent has assumed a significant role for organizational advancement.

All such elements bring forth talent development - as a subject field, at the top of the priority list. However, there are relatively scant and fragmented scholarly papers that centralize quintessentially on talent development (Garavan *et al.*, 2012). It is with this objective that this study was proposed. Studies and researches relevant to the topic were systematically reviewed to further examine this domain.

Analysis of literature indicated that several researchers and academicians have described talent development with an array of ideas and thoughts that identify gaps for a great deal of uncertainty and lack of transparency about what organizations characterize as talent, its applicability and the overall objectives of talent development and thus pose a danger to its implementation. We expect that through the empirical observations accrued from the numerous papers and articles we will clarify the challenges encountered in the development of talent and the difficulties faced by

the organization and its manpower in the direction of a framework based on talent. The paper also critically examines the range of TD interventions available to organizations.

2. Objective of the Study

The prime concern of the present study is to review the prominent and relevant literature of past researches pertaining to talent development so as to probe the notion, meanings and approach to talent development and highlight the constraints confronted by organizations and the employees in the direction of a framework based on talent. The study also examines the range of development tools available to organizations. The aim of the study is also to offer a base for identifying opportunities so as to provide better guidance for further research into this domain.

3. Research Methodology

This study is qualitative in nature. Research papers published in the period between 1987 to 2016 are taken into account. Secondary data has been accessed from review of literature as well as from various journals and articles. The articles have been accessed from online databases i.e. scholar.google.co.in, National HRD network, emeraldinsight.com, elsevier.com, sciencedirect.com, researchgate.net, academia.edu and data available in books are collected in order to carry out an in-depth analysis.

4. What is “Talent”?

Collings and Mellahi (2009) claimed that talent contributes significantly to the overall organizational accomplishment. But what is “talent”? A discourse on talent development would be impaired in the absence of an interpretation of the term “talent”. Talent in broad terms relates to the aptitudes, abilities or the art that a person acquires in a certain profession or domain.

Howe *et al.*, (1998), Tansley (2011) and CIPD (2007) revealed that the word ‘talent’ has been used since ancient times; and also stated that it has different understandings and perceptions, all of which depend heavily on situations, persons, and organizations. This is consistent with researches of Iles *et al.*, (2010) who pointed that talent connotes varied meanings to diverse

persons, organizations, establishments, etc. However, (Williams, 2000; Michaels *et al.*, 2001; Tansley, 2011; and Gallardo-Gallardo *et al.*, 2013) stressed that a distinct knowledge of the meanings, descriptions and notion of the term 'talent' is critical for the progress of establishments.

Principally, talent is often understood from either an **objective** perspective (*characteristics of people as talents*) or a **subjective** perspective (*people as talents*). Some researchers hold an objective perspective of talent, which portrays the characteristics of being talented instead of talented people. Aptitudes (Thijssen & van der Heijden, 2003), proficiencies (Thijssen & van der Heijden, 2003; Ulrich, 2007; Lehmann, 2009; Siikaniemi, 2012) and organizational abilities (Claussen *et al.*, 2014) are few of the key attributes expressing talents from an objective perspective. Michaels *et al.*, (2001) portrayed talent as entirety of an individual's skillsets, his inherent powers, abilities, level of knowledge, understanding, expertise, caliber, rationality, demeanor, behavior, personality and zeal. Talent was defined by Gagne (2000) as supreme expertise of organized and consistently cultured qualities or expertise. On the other hand, some of other interpretations with subjective perspective relate to great-performance workers (McDonnell *et al.*, 2010), highly-promising workers (McDonnell *et al.*, 2010), persons who can produce substantial contribution to the present as well as prospective achievement of the organization (Stewart & Harte, 2010; Morton 2004), individuals who can fulfill present as well as future leadership criteria (Rhodes *et al.*, 2008), and managers as a whole (Sheehan, 2012). Zikmund (2000) described talent as all those individuals who can accelerate organizational effectiveness either by means of their instant endeavour or eventually by displaying the highest degrees of excellence.

5. Defining the Scope of Talent Development

Organizations have been continuously emphasizing that they wish to manage and develop talent. However, researches have shown that the notion of talent development is conceived diversely in various organizations with varying degrees. Few academicians consider it as interchangeable with HRM and the issues

of what talent denotes and in what way organizations need to manage them are yet a matter of discussion (Collings and Mellahi 2009).

There is unexpectedly scant printed papers and articles that focus on global talent development problems and defines the dimensions and outlines the peripheries of the notion (Cohn *et al.*, 2005; Garavan *et al.*, 2009; Younger and Cleemann, 2010; Cook, 2010). It is recognized, nevertheless, that talent development (TD) is a key element of global talent management (Barlow, 2006; Novations, 2009; Cappelli, 2009; Scullion and Collings, 2011; CIPD, 2011; Garavan *et al.*, 2012).

In HRM and HRD publications, talent management (TM) is more than ever being mentioned about (Berger and Berger, 2003; Stahl *et al.*, 2007; Cappelli, 2009; Burbach and Royle, 2010; Collings *et al.*, 2011). It is a prominent, even "imperative" subject across the globe (Barlow, 2006; Birschel, 2006; Jenkins, 2006; Berry, 2007; Powell and Lubitsh, 2007). Dessler (2009) viewed TD as a crucial constituent of talent management, which is a bunch of organizational methods and practices (McDonnell *et al.*, 2010; CIPD, 2011) that describes how organizations lure, choose, engage, train and handle employees in an optimized and planned manner (Scullion and Collings, 2011). These two notions are also frequently related to, and occasionally used mutually (Lewis and Heckman 2006) with, career development (Collings *et al.*, 2009), which features a continuing range of training and associated exercises that determine the success and fulfillment of an individual's profession (Dessler, 2009).

According to Evans *et al.*, (2002) talent development aims at evolving leaders through processes such as 360-degree feedback, networking, coaching, training, job assignments, action learning, mentoring and challenging employees. Davis *et al.*, (2007) defined TD as the manner of transforming an organization, its workforce, its various stakeholders, and set of persons within it, by way of meticulously organized and impromptu training, with an objective to have an edge for the organization. Mehdiabadi *et al.*, (2016) defined TD as an all-inclusive system comprising of a

set of principles, tasks, and procedures focused at enhancing the interested and competent employees for the mutuality of individuals, host organizations, and community at large.

According to Garavan *et al.*, (2012) talent development emphasizes on the planning, selecting and execution of development techniques for the talented individuals to make sure that the organization has the present as well as forecasted inventory of talent to achieve business goals and the development tasks are in sync with the talent management programs of the organization.

Thunnissen *et al.*, (2013) stressed that talent development coupled with talent attraction and engagement are considered as the three principal techniques or processes in TM. Pruis (2011) stressed that talent development is a long term, holistic and comprehensive process that keeps the organization stable, progressive and creative. Therefore, Neal and Sonsino (2012) concluded that the existence of the organization counts on their creativity in practices, procedures, products and leadership. Ketter (2010) recommends that as organizations strive in new marketplace with limited resources, talent development remains a requisite for them.

Stahl *et al.*, (2012) asserted that “one of the major issues being faced by the corporates worldwide is to create and maintain a strong pool of talent” and one definite way of creating talent pipeline is in the form of talent development. Govaert *et al.*, (2010) in his study revealed that organizations need to implement talent development systems if they intend to retain their employees. He also stressed that organizations should allow staff members to learn new things and practice what they are well-versed in. Gandz (2006) revealed that talent development practices are usually carried out by establishments to make sure that there is no talent deficit, to assure envisioned progression instead of substitution, and to brand the organization like a talent magnet in the corporate world.

Inclusive versus Exclusive approach toward Talent Development

The inference of inconsistencies in interpretation of talent implies that it can mean whatsoever firms and

establishments would like it to imply (Gallardo-Gallardo *et al.*, 2013) and consequently, this perception of talent decides which set of worker sought to be developed. Few establishments, for example, will involve all grades of employee in their definition of talent, whereas others will concentrate on handpicked ones only.

Iles *et al.*, (2010) have pointed out disagreement regarding what talent may comprise of for the purpose of developing the talent of any individual. Consequently, two approaches to talent development were identified: an exclusive approach which centralizes on crucial tasks, profiles and trains them to perform these responsibilities and an inclusive approach that centralizes on developing all budding staffs; this eventually leads to maximum advantages for the establishments (Pruis 2011).

Talent can be seen as being exclusive to some great-performance workers or as a characteristic that every workers exhibits in a certain degree and that can be cultured and evolved by way of different mechanisms (Lewis and Heckman, 2006; Collings and Mellahi, 2009). Downs & Swailes (2013) asserts that approaches pertaining to talent are usually an exclusive process concentrating on a small fraction of workers in an establishment termed as key players or stars; regardless of the truth that “talent persists at every level of employees, development processes in establishment concentrate mostly on top executive and administrative positions”

Berger and Berger (2003) advocates inclusive approach and believe that every individual has one talent or the other that can be determined and unleashed. Nevertheless, they recommend that an establishment that facilitates talent management effectively classifies workers and emphasize development investments in key, great-performance and highly-promising employees. Baum (2008) stressed that management should apprehend talent from inclusive perspective, to ensure that all employees are considered based on their ability to assume additional duties and assignments and be elevated within their department and in the broader sense organization.

The scientific data advocates a blend of approaches in establishments. A CIPD (2011) survey concluded that several establishments have opted for an exclusive approach which concentrates on grooming top executives only. There has been a great deal of emphasis on huge potential, future stars, prospective managers and go-getter. The exclusive approach implemented by Somerfield Ltd (Cook and Macaulay 2009) assisted the organization in creating a bench strength of budding leaders.

Cook and Macaulay (2009) revealed that a more inclusive approach was implemented by Electrolux Ltd, wherein every staff member is regarded as talented. They recommend that not merely the high promising workers need to be focused upon. Mere concentration on handful employees who are selected, groomed, compensated and taken to next level can result in discouragement and inefficiency of rest of them and they may not get an opportunity to be promoted to leadership positions. Although the McKinsey Consulting Group in the beginning strongly favoured an exclusive technique to developing, currently they recommend an inclusive technique which aims to develop not only "A players" but "B players" as well (Ernst & Young, 2010). Yet, comparatively lesser number of organizations implements inclusive technique. A survey conducted in Public Personnel Management (Reilly, 2008) clearly indicates that inclusive techniques are prevalent in state owned enterprises. Bersin (2010) views this inclusive approach as a kind of talent segmentation but with credit that entire staff members contribute in the organization. Christensen *et al.*, (2010) stated that this kind of approach is in accordance with an innovative perspective. Such approach implies that every employee must be viewed talented in view of his capability for innovative thinking.

To surpass the drawbacks of these approaches, Van der Sluis and Van De Bunt – Kokhuis (2009) advocated the mixed approach that facilitates organizations to derive the benefits of these two models. Ford *et al.*, (2010) further reveals that a mixed approach to development would eventually be most appropriate when it comes to equity, impartiality and staff encouragement.

There is significant discussion about the pros and cons of exclusive and inclusive approaches; but, it is important to realize the manner in which both techniques affect organizational profitability and the commitment of staffs that are ignored in an exclusive technique.

Modus operandi - Make versus Buy approach toward talent development

Brewster *et al.*, (2007) revealed that due to unfair and illegal acts like poaching of talents, establishments have lost some of their talented staffs to their rivals and have been left with an option to either *train or attract* other staffs in order to thrive as well as survive. However, there is no clarity whether organizations should concentrate more on hiring and recruitment or developing of talented employees (Briscoe and Hall 1999). *Make or buy* approach has been an object of continuing discussion among management scholar in the literary works (Cappelli, 2008; Cappelli & Keller, 2014). Pfeffer (2001), as one of the patrons of 'make' approach, cautions that sheer consideration to hire and engage and overlooking the development of talent might weaken the establishment in the long run. Furthermore, according to Garavan *et al.*, (2012), concentrating on procuring talents from the outside is less fruitful in the longer term; on the contrary, establishments must practice the policy of developing talented employees internally, with a view that staff members have sector and business-related know-how and expertise (Lepak and Snell, 1999) so that he remains in competition. Consequently, for the purpose of realizing their mission and goals, establishments have to aim at staff development.

6. Talent Development Tools

Organizations rely on a set of tools for the talent development. The particular technique for organizations is based on strategic goal, learning requirements, availableness of resources, etc. Based on McCauley *et al.*, (2010), the kinds of programs utilized to develop talent by organizations may be classified into these distinct groups: developmental assignments, feedback processes, developmental relationships, formal programs and self-development activities.

Developmental Relationships

Bonding and relationships are considered an extremely strong determinant of growth and advancement as these are a great basis of evaluation, obstacles, support and guidance (McCauley and Douglas, 2004; Rock and Garavan, 2006). As stated by Higgins and Kram (2001), developmental relationships are treated as a bonding in which one person cares about the progression of the career of another person. Novations (2009) and CIPD (2011) specified that these are undertaken extensively for developing strong promising talented people. Lombardo and Case (2008) concluded that the techniques in these activities entailed a frequent interaction among definite designer-driven learning actions, learner-driven actions, communication among themselves and learner action and reasoning handling. These activities vary from those which are evolved instinctively in the work station and in different facets of human activity (such as mentors and role models) to such which are deliberately oriented to encourage and promote learning (such as professional coaches and social identity networks). One more extremely prominent technique premised on relationships is the community of practice (Wenger, McDermott, and Snyder, 2002; Saint-Onge and Wallace, 2003). They include a set of people, usually from a particular establishment, having similarity in acumen and tasks however engaged in multiple divisions or territories. These people get together for knowledge sharing, to discuss ideal procedures, enrich one another and guide each other since they are confronted with similar kinds of problems.

Developmental Assignments

Pushing employees vertically above in the organization has remained a general approach of exposing them to new problems and difficulties, however the more intentional use of lateral movements and temporary tasks is more commonly an important aspect of employee development practices (McCauley, 2006; Yost and Plunkett, 2009). Job rotations, secondments, project assignments/stretch assignments and job moves (multinational assignments and nation-wide transfers) enable employees to learning through experience – by

handling day-to-day issues and challenges. Evans *et al.*, (2011) revealed that such orientations give employees the chance to discover varied organizational, societal, cross-cultural and work practice scenarios. As a matter of fact, studies have time and again revealed that challenges lead to on-the-job learning (McCauley *et al.*, 1994; DeRue and Wellman, 2009; Dragoniet *et al.*, 2009), which leaders regard as a main source of knowledge (Morrison *et al.*, 1987; McCall *et al.*, 1988).

Action learning team is probably one of the highly organized types of developmental assignments. It is a series of development mechanisms wherein crucial real-life issues pertaining to an organization is addressed. Three types of goals are aimed at: delivering quantifiable business outcomes, conveying learning unique to a specific background, and developing broader management competencies and proficiencies (Palus&Horth, 2004). Meaningful action learning may stretch from implicit, simple learning at job to orientated and substantial-impact learning activities to revolutions of individuals and establishments (Marsick, 2002).

Feedback Processes

While feedback instinctively takes place in the course of human dialogue in organizations, but sincere response regarding one's conduct, abilities, and influence on other people is uncommon and irregular in most of the establishments. For managers to obtain constant, premium-class response, employee advancement mechanisms must incorporate formal feedback practices.

Coleman (1987) defined assessment center as “a series of testing techniques aimed at allowing applicants to display, in normal circumstances, the competencies and capabilities that are crucial to be successful in a particular task”. The results of the assessment center process can be used for employee selection or development.

360-degree feedback employs a meticulously framed tool (questionnaire) and gathers views in an organized manner regarding an individual's performance from a broad set of persons (colleagues, subordinates, clients and other stakeholders). Chappelow (2004) lately

concluded that probably the most noteworthy drift in the domain of employee development in the last two decades might have been the universality and acceptance of 360-degree feedback. People termed it as the most remarkable management innovations in the last 20 years (London & Beatty, 1993; Atwater & Waldman, 1998). This mechanism gives better results if it begins with managers at the *top* of the hierarchy and flows downward all through the organizational structure.

Formal Programs

This technique involves participation to business events, executive education and formal education. Examining its goals, Rothwell and Kazanas (2003) put forward a demarcation between employee education that concentrates on transforming people to assist them groom for job progression *vertically* (up the chain of command) or *horizontally* (across a range of specialized skill) and staff training that is a short-period, transformation endeavor aimed at enhancing productivity at an individual level.

Self-Development Activities

Organizations may provide a plethora of self-activated programs to develop leaders. Books, articles, newspaper, magazines, manuals, journals, reports, publications and online materials act as a primary source of learning and awareness for employee members. Distinguished personalities, eminent speakers, guest lectures, seminar, conference and workshops give an opportunity to experts, wizards and veterans who can share ideas and keep abreast with the recent technological advancements and developments in the industry. Attending seminars, conventions and trade shows also provides orientation to contemporary ideas and concepts and latest developments, as well as networking with like-minded people who are continuous source of learning and guidance. Events that encourage and energize knowledge sharing and dialogue beyond management levels – fireside chats, town hall meetings, staff meetings, conclaves, etc. – can well be considered as an important component of the employee advancement mechanism as these expose employees

to various aspects, strengthen institutional core values, and promote open-mindedness, positiveness and transparency. These flexible chunks of learning are less-time taking, are accessible whenever learning is required, and available in abundance.

7. Conclusions

On the basis of this review of the domain of talent development, a number of tentative inferences can be concluded. Talent development is a considerably under-developed and less-researched topic. It is consistently regarded as an important constituent of talent management process, which in turn is put forward as one of the top most challenges encountered by the organizations these days. Though talent is limited and economic downturn has compelled few organizations to put talent development to the offstage, yet it is requisite for every organization. For talent development to be effectual there is no universally-accepted approach. However, the broad array of development tools needs to be considered to determine its suitability.

From our point of view there is scope in the talent development concept. A universally accepted definition of talent development and its scope need to be further researched. There can be no convincing manner of distinguishing talent, so talented individuals might be unnoticed, or those selected may not have the competence they initially appeared to have. Furthermore, there is one area about which there is no unanimity, and this concerns who all employees of the organization should be taken into consideration for the talent development program. There is proof that the new approaches to talent development are emerging: an earlier focus on exclusive models that intended to identify and develop top management talent (A players) is giving way to a realization that A players need to be part of productive and talented teams, and these teams, consisting of 'B players', can be found at all levels of the organization, and indeed in supplying or partner organizations. Inclusive approaches may therefore dominate in the second decade of the 21st century, much as exclusive approaches did in the first decade. The inclusive, as opposed to exclusive approach

must be implemented. This assures optimum use of talented people and positions organization in gaining an edge over the others. The paper raises a

number of critical issues regarding which employee needs to be developed, to what extent and in which manner.

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Review of Ownership Based Blockchain Frameworks in Government Applications

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Abstract

Blockchain Based Applications are becoming increasingly popular in the Government Sector due to increased needs of Trust and Transparency. Due to its Decentralized architecture, strong encryption algorithms and immutable timestamping it is being used in diverse applications including Health Care, Education, Voting and Smart Governance. Blockchain has many variants based on Ownership, Consensus Protocols and Tokenization Strategy. This paper analyses Blockchain Taxonomy based on Ownership and Access rights. It then reviews a multitude of Blockchain based Government applications based on their Ownership characteristics and needs for anonymity and Read as well as Write privileges. Based on the classification framework, the final objective is to create and verify the Blockchain Framework Mapping based on the Applications Business and Security requirements.

Key Words: Blockchain, Government, Permissioned, Public, Trust

1. Introduction

According to the Pew research centre Public trust in the government is at a historic low, where only 17% of the Americans say that they can trust the government. Blockchain with its key traits of decentralization, immutability and Cryptographic security helps to bring transparency and auditability to applications, which is a key factor for Trust enhancement by the public. Due to an increasing interest by Business and IT Firms, Blockchain has multiple variants to adapt to a vast variety of applications. This paper approaches Blockchain Applications for Government through the lens of Trust and Ownership. Blockchain is currently in use in

Government Applications for multiple use cases including Land Reforms, Defence, Payments and Registries. The objective of this paper is to create a Blockchain Taxonomy with the goal of helping future Government Applications make optimized decisions on the right choice of Blockchain Framework based on Functional Needs. The methodology used to create this Framework starts with creating a Blockchain Framework based on Business, Technology and Trust Requirements. This is followed by an Evaluation of Application Use Cases in Government based on varying Trust and Business Requirements. This is followed by a thematic evaluation of the Use Cases to create a Taxonomy for Mapping the Optimized Blockchain Framework based on Application Requirements for Government Sector. This framework is finally verified by applying to existing Government Use Cases.

2. Theoretical Background

Blockchain Functional Pillars

The key Blockchain characteristics important for a Government application are:

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- **Immutability:** once information is recorded, it cannot be altered.
- **Decentralization:** Multiple participants have access to information and hence there is no single owner of information
- **No Intermediary:** decisions are made by consensus and not controlled by a single party. Based on the type of Blockchain selected, the consensus can be owned by a central authority or can be public
- **Transparency:** all information can be accessible by all participants
- **Transaction Speeds:** Blockchains offer low to medium Transaction Speeds, varying based on the

type of Blockchain Framework selected

Blockchain Schematic View

The Blockchain protocol created by Satoshi Nakamoto[19] is an append-only ledger with very restricted update or delete capability. Instead of storing individual transactions, it stores blocks of transactions which are cryptographically chained together. Blockchain which was started by Satoshi for a Finance as its applications is now rapidly spreading to other sectors. Due to its promise of True Decentralization and removal of the Middle Man, Blockchain is a killer application for the Government Sector, and as described in [8], Blockchain’s goal is to enable Digital Autonomous Government (DAG).

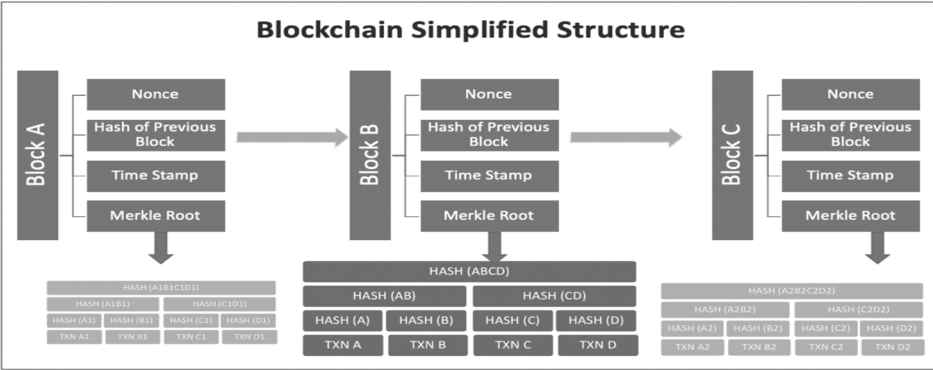


Figure 1: Blockchain Schematic

Blockchain as a Trust Enabler

At its core, Blockchain is a Decentralized Asset Managed Platform. Its unique characteristic is that it enables parties who do not have existing Trust Relationship to

exchange Assets, which could vary from Physical Assets, Currency or Digital assets in a secure environment. The below diagram depicts Data Exchange Mechanics in Trusted versus Non Trusted Organizations:

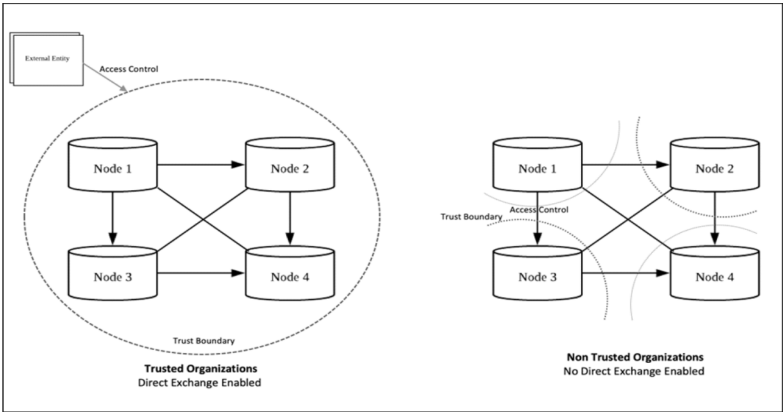


Figure 2: Data Exchange in Trusted and Non-Trusted Organizations

Blockchain technology is ideal for creating trust in information and scenarios where heterogeneous stakeholders are involved. Unlike traditional, centralised databases, where a single entity is generally responsible for collecting, securing and sharing information, blockchain platforms are based on decentralised, shared databases that are updated and verified by the community of users. Using Smart Contract Business Logic can be automated in the Blockchain for verification by Public Administrators, leading to substantial cost and time savings.

3. Data Integrity and Reliability

According to Oz Nathan et al. in “Decentralizing Privacy: Using Blockchain to Protect Personal Data”[23] centralized organizations including Public Sector gather large quantities of personal and sensitive information. The individuals have limited control over the data and how it is used.[5]. In continuation, Nathan et al. continue to create Blockchain based frameworks where the Users have full control of their data and do not need to trust third parties with their information. As mentioned by Ahmed Alketbi et.al in[2] a key advantages of the Blockchain is that it is resistant to outages due to its Decentralized architecture.

4. User Privacy

Also as mentioned in[17], Blockchain is expected to increase the reliability of information through use of consensus mechanisms which ensure that information exchange happens only upon getting consent from all relevant parties. As mentioned in[2] the Blockchain promises data integrity and prevention of the unauthorized change of data by the use cryptography. Security is maintained through decentralized Ledgers which are controlled by a consortium and not Individual Owners. Blockchain is very good at creating trusted audit trails of information, making it simple to create platforms to track when and where data was entered.

5. Decentralized Access Control

Paradoxically, blockchain also make it relatively easy to keep data both private and easily shareable. Depending on how a system is designed, administrators can develop complex permission schemes to control who has access to what kinds of information, what can be shared by whom, and so on. In contrast to databases, Blockchain enables such capabilities among large, diverse groups without relying on or having to trust a single authority to do the job. In the paper [23] Nathan et. have created a novel Blockchain based Framework where access-control policies would be securely stored on a blockchain and only the authorized users are allowed to change it.

Known Challenges of Blockchain with Government

Domain	Challenge	Reference
GDPR Compliance	Right to Forget & Data Portability	GDPR applies to Personal Data including data which has been Pseudo Anonymized. It is applicable for 3rd party entities which own Subscriber Data known as “Data Controllers”. GDPR enforces that all private data be pseudo anonymized and only minimal data be shared with 3rd Parties. One of the key components of this is the “Right To Be Forgotten” i.e. when the individual removes his consent from the organization, it should be immediately deleted from the system. However, the key attribute of Blockchain is immutability which opposes the Right to Forget.
Verification of Source Data	Lack of Trusted Information	<ul style="list-style-type: none"> 78% of the land is unregistered in Ghana[9] In Haiti, a large earthquake in 2010 destroyed all the municipal buildings that stored documents[6] In India, millions of rural families lack legal ownership of the land they work on.

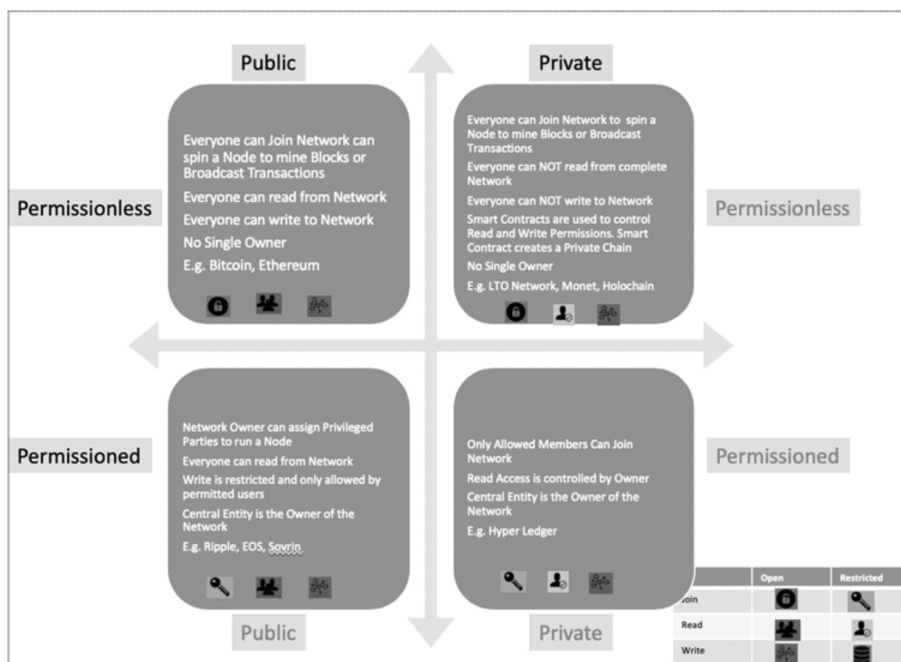


Figure 3: Ownership Based Blockchain Quadrant

Ownership Based Blockchain Frameworks

The below diagram depicts the Blockchain Quadrant based on Ownership and highlights key characteristics for each:

Permissionless Blockchains

Permissionless Blockchains have Public Ownership and are open and transparent. As mentioned in [14] if anyone can join the Blockchain, it is called Permissionless and such networks are highly censorship resistant. However, they are relatively slower compared to Permissioned Blockchains.

Public Permissionless Blockchain

These are publicly accessible to everybody. Any participant can record transactions, take part in the validation of the blocks or read data in the Blockchain. Consensus is reached through protocols like Proof of Work or Proof of Stake where any of the participants can start a node and start recording transactions. Bitcoin and Ethereum are the most common examples of Public Permissionless Blockchains. However, these have limitations on number of Transactions supported

per second[15]. All Users have access for Read and Write in the public Permissionless Blockchain.

Private Permissionless Blockchain

In these there is no restriction on which participant can take part in the Consensus Mechanism. However there is restriction on who can read and write the content in the Blockchain.

Permissioned blockchains

Permissioned Blockchains typically have Private Membership, are trusted and overcome the Performance problem of Permissionless Blockchains. Governance is closed and the network of nodes is permissioned and new nodes can only join with permission from the validator nodes as mentioned in [15]

Public Permissioned Blockchain

Public Permissioned have rules that determine who can take part in the validation process and start nodes. Whitelisted nodes can participate in the Consensus Mechanism. This is normally used by Public institutions like Government Agencies, Corporates or Educational Institutes. The owner creates Validator Nodes that define the Governance

rules for the Blockchain including parties that can create new nodes or write to the Blockchain. However, read access is available to all making the Blockchain publicly accessible as mentioned in [15].

Private Permissioned Blockchain

These Blockchains are controlled by a unique group of one or many owners who decide participants in the Consensus Mechanism. Only a select group of whitelisted users can read or write to these Blockchains as is suggested in [11]. These are typically a network of partners that are connected through Business

Operations and benefit by sharing data in an immutable database. As mentioned in [15], if public verifiability of the records is not required then Private Permissioned Blockchain should be considered. As described in [3], Hyperledger the most popular Permissioned Blockchain can scale up to 3500 TPS.

Blockchain Framework Based on Ownership

Based on the above analysis, the below matrix captures a framework to capture the Blockchain characteristics based on Application Business requirements:

Blockchain Framework	Owner	Transaction Volumes	Access Control for Consensus	Participants have existing Relationship	Shared Write Access	Anonymity Requirement	Business Rule Complexity	Security	Time for Contract Closure
Permissionless Public	No Single Owner	Low	All	Not Required	All	Visible to All	Low	Very High	High
Permissionless Private	Consortium	Low to Medium	All	Good to Have	Can Control Write Access based on User Roles	Permissioned Access to Read Data	Medium	Depends on the Validating Entities	Low to Medium
Permissioned Private	Consortium	Medium to High	Restricted	Required	Can Control Write Access based on User Roles	Permissioned Access to Read Data	High	Depends on the Validating Entities	Low
Permissioned Public	Consortium	Low to Medium	Restricted	Required	Can Control Write Access based on User Roles	Visible to All	Medium	Very High	Medium

Land Registries <ul style="list-style-type: none"> •Migrate Public Records to Blockchain •Allow Land Transactions using Blockchain 	Education <ul style="list-style-type: none"> •Keep Student Records in Blockchain •Allow sharing of Education Records with authorized parties 	Health Care <ul style="list-style-type: none"> •Maintain Health Care record •Allow Sharing of Health Care Records
Voting <ul style="list-style-type: none"> •Voter Card Generation •Enable Voting through Blockchain 	E-Residency <ul style="list-style-type: none"> •Track residency records on Blockchain •Allow foreigners to apply for Residency online 	Smart Governance <ul style="list-style-type: none"> •Bill Payments •License Renewals •Tax Collection

Figure 4: Blockchain Use Cases in Government

6. Government Use Cases for Blockchain

The Government provides three categories of functions to its citizens namely: Civil Service, Legislative and an Enabler of Economy for managing and regulating assets for its citizens. In all the three functions of the Government, Proof Of Concept Blockchain projects have been implemented in various countries to verify

for the feasibility of Blockchain to help bring decentralization, increase transparency and help reduce the time to implement.

The below matrix, provides a summary of some of the key implementations which have been done globally, tangible benefits achieved and also the Blockchain framework which has been used to enable the same:

Strategy	Country	Implementation Use Case	Technology Used
Land Registries	Georgia[20]	<p>Land Registration process in Georgia cost varied from 50-200\$ and a Minimum of 1 Days.</p> <p>The average price of Registration is expected to come down to 5-10 cents per Registry after the pilot launch.</p> <p>Georgia had maintained a verified account of land titles in its NAPR database, which was crucial for the success of a Blockchain project.</p> <p>Bitfury did not attempt to build a brand new Blockchain based land registry. It only created a time stamping layer on top of the existing digital land records of NAPR.</p> <p>As part of the proposed Phase 2, Georgian citizens will be able to access their property information on the NAPR website and put it up for sale. The network nodes verify that the buyer has sufficient funds and that the seller owns the property before the transaction is concluded.</p>	A pilot project was developed in collaboration with the Bitfury Group, the National Agency of the Public Registry (NAPR), and the Blockchain Trust Accelerator[12]
	Brazil	Bitcoin Blockchain to Mirror Land records. Hash records of the original records is kept to ensure that they become tamper proof.	Public Blockchain[20]
	Estonia	Blockchain technology is used to regulate changes in data about real estate in the e-Land register or statements documented in the e-Court system including author, time stamp and modus of change.	Distributed Ledger Technology[12]
	Sweden	Land Records are stored in Post Chain which is a Database that acts as a manager for the Blockchain.	Private Permissioned Blockchain[13]

Strategy	Country	Implementation Use Case	Technology Used
	Amravati, India	According to consulting firm McKinsey due to distortion created by large-scale corruption and inefficiency in India's land markets has shaved 1.3% off the country's GDP every year, Earlier, farmers had to pay a document writer up to 70USD or more to prepare registration papers. Blockchain is now facilitating automated documents at zero cost. Not to reduce transaction time, QR Code marked documents are transferred directly to the registrar's office at the time of appointment.	Private Blockchain which has a total of 58 attributes such as names, mobile numbers, boundaries with latitude and longitude coordinates, Aadhaar numbers, neighbouring plots, roads etc. are linked to each property and recorded in the Blockchain.
E-Residency	Estonia	Estonia has E-Residency for foreign nationals also enabled on Blockchain called ID-Kaarts[21]	As mentioned in [21], Estonia uses 2048 Bit Encryption to guarantee privacy for its citizens. Document Hashes are stored in the Blockchain which are protected by KSI Keys.
Smart Governance	Dubai	Visa Applications, Payments of Bills, License Renewal. Plans to save 1.5 Billion\$ every year by the use of Blockchain	As mention in [2] Dubai Government plans to use IoT integrated with Blockchain for Smart Cities
Voting	West Virginia	Voatz, a Private Blockchain for enabling Voting in a Decentralized Manner	Private Blockchain with 8 Verified Nodes. As mentioned in [10], Voatzcan accept 10 different official documents.
	Voting-Estonia	Digital Voting using Unique Voter Cards	Estonian KSI Blockchain technology protects Estonian e-services such as the e-Health Record, e-Prescription database, e-Law and e-Court systems, e-Police data, e-Banking, e-Business Register and e-Land Registry as mentioned in [5]

Strategy	Country	Implementation Use Case	Technology Used
Health Records	Estonia	Govt Health Records are online and Access Controlled. The Estonian e-Health Record uses electronic health cards for user identification to ensure data integrity and mitigate internal threats to the data. This has been built on Guard Time System[13]. Estonians can log into their records using their identities and get access to audit log of View histories in there transactions.	Private Permissioned Blockchain

7. Blockchain Application Framework for Government Use Cases

Based on varying Business needs described in the above matrix, the Blockchain Framework Needs for an Organization vary. As mentioned in [4], clustering Blockchain analysis based on

similar attributes helps in cluster analysis. The below matrix establishes to define “Blockchain Needs” for an Organization based on their Business Process Requirements. Some of the dimensions required in blockchain framework are:-

Use Case	Owner		Transaction Volumes			Anonymity Requirements			Shared Write Access		Business Rule Complexity			Time for Contract Closure		
	No Single Owner	Consortium	Low	Medium	High	Pseudo Anonymous	Anonymous	Public Visible	All Participant	Only Privileged Users	Low	Medium	High	< 1 Minute	< 10 Minute	< 1 Hour
Education		X	X					X		X		X				X
Health Information Exchange		X		X			X			X			X		X	
Land Registries	X		X			X			X				X			X
E-Residency	X			X				X		X	X					X
Voting	X				X		X		X		X			X		
Smart Government	X				X		X			X			X			X

(a) **Owner:** Can be owned by None or by a Consortium based on the Regulatory and Privacy requirements of the Application.

(b) **Transaction Volumes in TPS:** Refers to the theoretical maximum amount of Transactions Per Second that a Consensus Protocol can achieve as mentioned in Comparative Analysis of Blockchain Algorithms[18]. As described by Thurimella et. Al in [22] a key factor going down for Public Blockchains is the ability to support higher Volumes of Transactions.

(c) **Anonymity Requirements:** Based on Business

Requirements, data in the Blockchain can either be available for read to all Users or to a select group of users based on Access Rights. As mentioned in Global Benchmarking Study[7], Transactions data need to have a certain level of privacy; on the contrary, in public blockchains, by design all transactions should be visible to every participant.

(d) **Need for Shared Write Access:** Based on the Business requirements, some or all Users will have Write Access. In the consortium, it is possible that Read Access is granted to all members, but Write Access is granted only to limited Super Users.

(e) Business Rules Complexity: As described by Thurimella et. Al in [22], since in a Permissioned Blockchain, the participants have given permission upfront it is much easier to build innovative applications. In Permissionless Blockchains, since the Nodes are run by multiple owners, to make any change in the Business Rules implemented by Smart Contracts, it needs to be accepted by majority of Node Owners before the Business Change can be implemented in the complete Blockchain. As mentioned in [1] it is difficult to enforce laws in a Permissionless blockchain on individuals without impacting the whole blockchain Infrastructure.

(f) Time for Contract Closure: As mentioned in Global Benchmarking Study[7] it is mandatory for enterprise applications that once transactions are confirmed they cannot be reversed. In Public Blockchains, settlement finality is only probabilistic since an alternate long chain can reverse the current transactions.

8. Framework Verification through Case Study

In order to verify, the mapping Framework for Business Requirements based on ownership and the Blockchain Framework, we shall apply real world Use Cases where Blockchain Frameworks were used to solve Business problems globally by Government.

Voting – Moscow’s Active Citizen Program

In December 2017, the city of Moscow’s Active Citizen program used Blockchain for voting and making the results auditable by public as described in [10] Nir Kshetri et al. After the voting was complete, the results

were listed on a ledger containing all the previous results. In one Use case the participants were asked to choose if temporary accommodation should be provided in case the residential building in which they live is demolished. The popular polls were reported to have participation of up to 220,000. The platform peaked at approximately 1000 transactions per minute. It was public Blockchain access to all citizens, however citizens had to download node software for getting permission to join. As mentioned by Talib et al in [2] voting can be done in Blockchain for complex discussions to maintain democracy.

Land registry – Ubiquity in Brazil

As highlighted by Victoria L. Lemieux in [12] in April 2017 Ubiquity announced a pilot project to create a blockchain based registry to lower costs and improve transparency.

This was developed on Bitcoin for transaction recording as a Public Permissionless Blockchain. It used “Colored” Coins to tokenize the land and has a Web based front end to capture information. Multi Sig wallets were used when multiple parties need to be involved in case of Transaction Sale and Purchase.

Health records – Estonia Health Guard program

As mentioned by Matthias Mettler[16], In 2011 Estonia started a platform for storing Health Care information on Blockchain by doing a partnership with Guard Time. The log files which store data processing

	Moscow’s Active Citizen Program for Voting	Estonia Health Records using Guard Time	Brazil Land Registry by Ubiquity
Owner	Consortium	Consortium	No Single Owner
Transaction Volumes	Medium	Medium	Low
Anonymity Requirements	High	High	No
Need for Shared Write	Yes	User Role Based Access Control for Write	Yes
Business Rule Complexity	Medium	High	Low
Time For Contract Closure	< 10 Minutes	< 1 Minute	< 1 Hour
Blockchain Framework	Public Permissioned	Private Permissioned	Public Permissionless

activities for Health Care are maintained in the blockchain. All users have secure authentication using either their ID Card or the Mobile Number. It is used to perform digital timestamp of the records and stored securely through cryptographic hashing. As mentioned in [5], the digital hash of the document is stored in the Permissioned Blockchain using KSI technology.

9. Summary

The literature review focusses on an objective

assessment of the potential use cases of Blockchain in Government, the categorization of the Use Cases based on the functionality, and then a subjective framework that helps identify the best Blockchain framework to be applied based on the application Use Case. The applicability of the same has been verified through real world scenarios. There can be further research done on the same to extend the Blockchain categorization based on Consensus Protocols underlying the Blockchain technology.

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A Study on the Impact of Demographic Factors on Group Performance of Neighbourhood Groups

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Abstract

This paper analyses the impact of demographic factors on the Neighbourhood Group (NHG) performance of Kudumbashree in Trivandrum, Kerala. The results showed that there is significant difference between that performances of the groups as the demographic factors differ. Analysis were done on the survey data collected from NHG. The paper also throws light on the aspects of homogeneity parameters which might have to be relooked while constituting the groups. Key factors like education and age are some very important aspects which can be used effectively to constitute the group. The authorities also can look at focal points which if intervened can considerably improve the performance. The purpose of joining the group also can be looked upon while considering the homogeneity. Paper focuses on demographics as the homogeneity is often overlooked and taken for granted in group formation which needs to be inquired.

Key Words: NHG, Performance, Demographic, Homogeneity, Improve, Formation

1. Introduction

Self Help Group was first started as a concept by National Bank of Agriculture and Rural Development (NABARD) in 1986 on an experimental basis and it was implemented in 1991. SHGs were started with a view to contribute to the alleviation of poverty. SHG-Bank linkage programme was launched in 1992. SHGs were conceived to enable the access to finance for the poor who cannot otherwise borrow from banks because of lack of collaterals. SHGs were initially formed to grow and sustain as independent financial institutions (Tapadhan Roy, Kaushik Sen, 2015). But its popularity and acceptance lead to Government offering subsidies to the groups.

SHGs are formed by women and is also act as a tool to support and empower the poor women in the society. SHGs as compared to other Models such as

JLG (Joint Liability Group), has got broader objectives to fulfill. Beyond the narrow confines of financial objectives SHGs (S K Sharma, M. Mehta, 2014) SHGs focus is on building the capacity of the members and empowerment of women in the family and the society. Because of this it requires a federating structure entrenched in the society unlike the JLG.

SHG's performance should be understood more deeply as there are evidences from various studies which suggest that the SHGs have not met its goals in women empowerment and well being looking from the perspective of status change this is studied by (Rahman, 1998) that 60% of loans are used by their husbands. (Ranjula Swain, 2007) opines that the meaning of empowerment is rather complex to explain and in stricter sense women are not

1.2 SHGs Role and Functioning

SHGs are primarily formed for the empowerment of marginalized in the society. They are informal associations formed for reaping the economic and social benefits through solidarity and mutual support. Kudumbasree also follows the concept of SHGs for bringing prosperity to poor women in Kerala. Even

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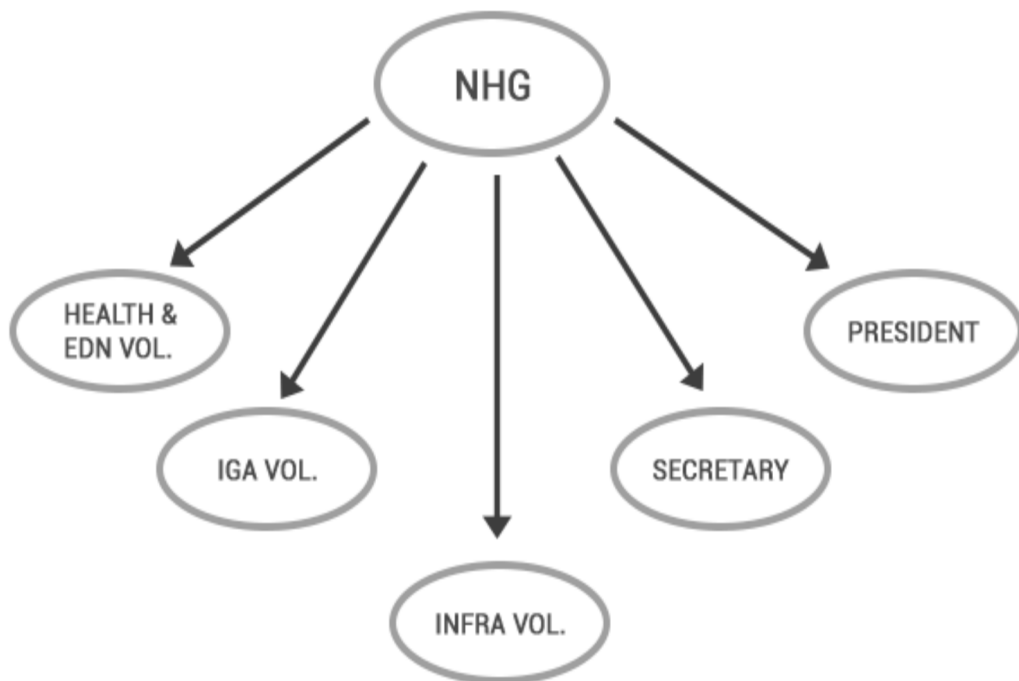
though Kudumbashree intends to instill and develop entrepreneurial spirit in poor woman who then can drive the prosperity in their family. SHGs are democratic in its functioning and is built on mutual trust and support. Here women from similar financial background come together to solve their issues which primarily arises out of financial reasons (Planning Commission Report, 2008).

Kudumbasree has a federal structure which has got three tiers with Neighbourhood Group at the bottom and ADS in the second tier an CDS at the top. (Panchayath level) (Jacob John, 2009) Kudumbasree is also characterized by the involvement of local

government hence the planning is done locally and supporting interventions are made more effectively. SHGs enables the rural poor in creating linkages with the formal credit institutions which otherwise wouldn't have been possible because of lack of collaterals and lack of steady income flow.

1.3 The Three-Tier Framework

The 3 tier framework of Kudumbashree CBO structure is shown below. The 3 levels of the structure are the Neighborhood Groups (NHG), Area Development Societies (ADS) and Community Development Societies (CDS).



Source: www.kudumbashree.com

1. President
2. Secretary
3. Income generation activities volunteer (IGA)
4. Community Health-Education Volunteer
5. Infrastructure Volunteer (INFRA VOL)

The second tier is the Area Development Society, which is formed at ward level by federating all the

NHGs in the ward. The activities of the ADS are decided by the representatives of the women elected from various NHGs. The Area Development Society consists of:

General Body - consisting of all Presidents, Secretaries & 3 sectoral volunteers of the federated NHGs.

Executive Committee - The Executive Committee of the Area Development Society consists of 7 members

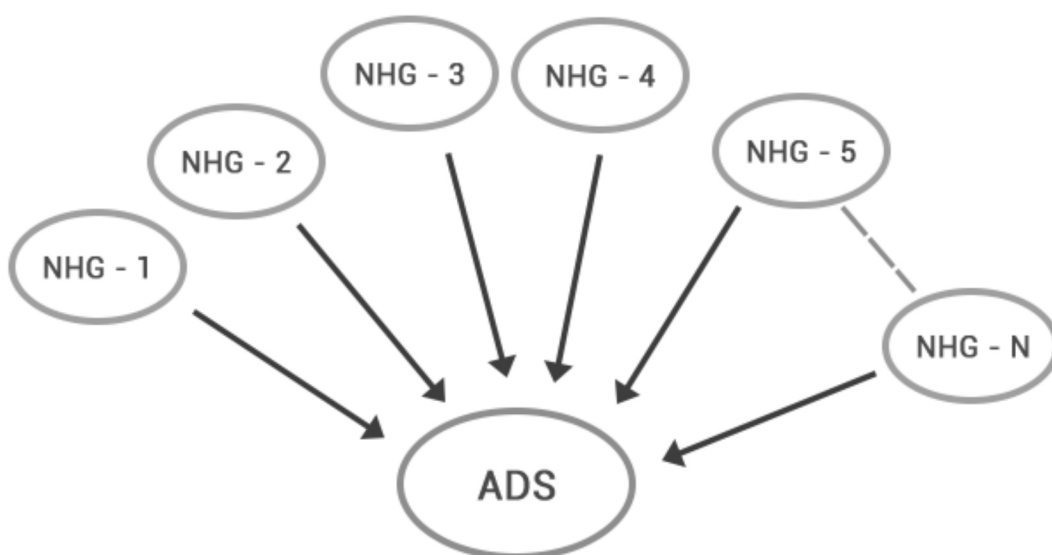
elected by the ADS general body which include a Chairperson, Vice Chairperson and Secretary.

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Source: www.kudumbashree.com

Community Development Society (CDS)

At the Panchayat / Municipal level a Community Development Society (CDS), a registered body under the Travancore-Cochin Literacy Scientific and Charitable Societies Act is formed by federating various ADSs in the Panchayat. The CDS has 2 distinct bodies – The General Body and The Executive Committee.

General Body

CDS General Body is comprised of all ADS Governing Body members.

Executive Committee

The size of the CDS Executive committee shall be equivalent to the number of ADS including special ADS. The CDS Executive shall have the following office bearers.

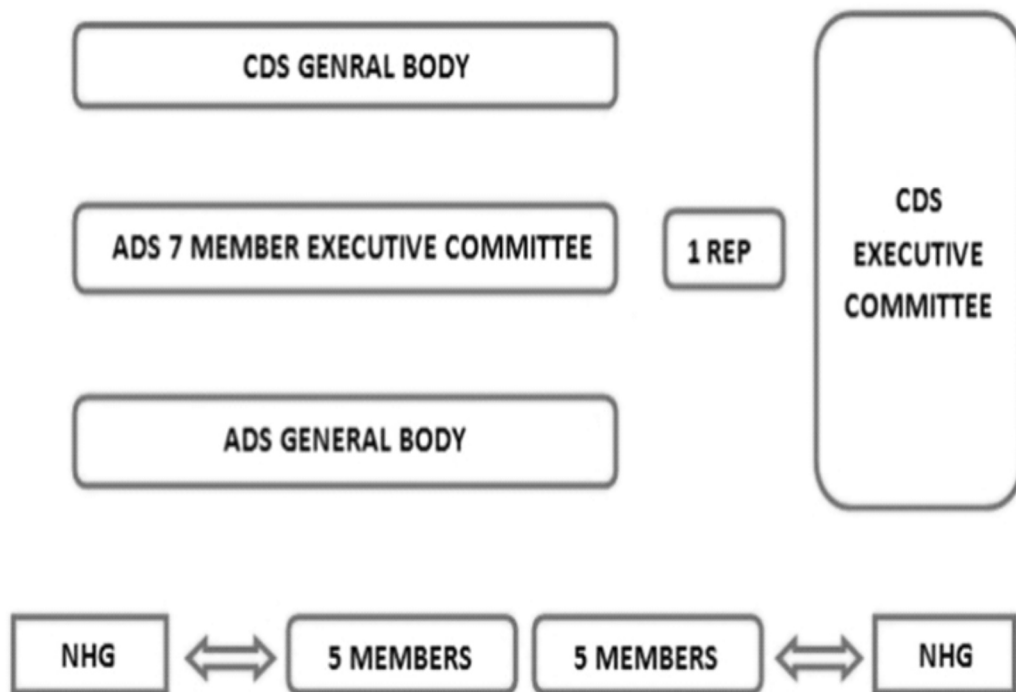
2. Review of Literature

Review of existing studies has been done to arrive at building a conceptual framework. The literature available even though is scant specifically in the context of Neighborhood Groups (NHGs) in Kerala, it helps in understanding the factors that affect the group performance. The factors identified through the review of literature are multi-dimensional in nature and hence has given a new dimension to the study. Relevance of the variables are studied empirically and through qualitative survey prior to the building of model.

The variables are extracted from various studies based on their correlation and relevance to NHG performance. Literature is reviewed and presented in the following heads

2.1 Definition and meaning of concepts

2.2. Demographic characters and its impact of performance



Source: www.kudumbashree.org

2.1 SHG performance

SHGs are formed with the objective of eradication of poverty in the society through the empowerment of women. This is so much so as a country the women should be brought to the forefront. Performance of the SHGs are closely connected to the alleviation of poverty and improvement of financial and social status. Therefore it is very important that the SHG performance be measured comprehensively. Unfortunately, most of the studies held are focused on the financial parameters and leave the organizational and social parameters which leads to narrow and incomplete assessment of the group performance.

In a study conducted by (S.C Bharamappanavara et al., 2015), it is concluded that Organizational and socio economic factors influences the SHG performance. Study concluded that there is positive correlation between overall group performance and organizational parameters like attendance, transparency, trust, decision making with consensus etc.

2.2 Demographic variables and group performance

Manimekalai and Rajeshwari (2001) showed in their studies that SHGs have improved their performance when they were provided loans and the groups have also developed belongingness and attained skills which lead to increased performance.

In a study conducted in Karnataka (Nagaraj, N; et al, 2009) it is inferred that education plays an important role in group performance. But here the case is such that the area of study is conducted in Hatenhalli which has a literacy rate of only 21%. In our study the area under study has a literacy rate of more than 95% and hence the validity of the result may not be significant.

In a study conducted in Bihar (Meena et al., 2011) there is a positive correlation between education and training to the attitude of group members. Education and training seem to have lead to an increased performance of SHGs.

Singh Y K et al. (2007) A study conducted by in Moradabad showed that age is negatively correlated with group cohesiveness and performance while education is positively correlated to group performance.

Khaki, A R and Sanghmi, M(2012), In an empirical assessment done the purpose of borrowing by SHGs is predominantly found to be for family related needs. This has been validated and found true in most of the studies with exceptions.

Anshuman Sahoo(2013) in his paper presents that younger and older women are less interested in joining the groups as compared to the women in the age group of 30-45 years. This is mostly true in the case of Kudumbasree also.

J.M Saraswathi et al (2014) in her descriptive study conducted in Northern and Southern part of Karnataka suggested that the purpose of SHG members joining the group, for financial security and for their children's education. It is also found that almost 50% of the women participate in income generating activities and 5% joined to avoid boredom.

Lina Joy, Prema A and S.Krishnan (2008) in their study concluded that experience has more effect than age on group performance..

S.M Feroze, A.K Chauhan, R. Malhotra in their studies concluded that homogeneity and peer pressure lead to increased repayment performance and hence better group performance. The paper further discusses that the homogeneity in demographic variables and organizational variables lead to better information sharing and lesser information asymmetry thus leading to better group performance.

3. Problem Definition

Neighbourhood Groups when constructed it is seen that the group members are in general homogenous in many aspects. But many studies across continents have shown that the demographic factors has an impact on the performance of the group. Kudumbashree in spite of its success seems to have plateaued and there seems to have a lack of direction going forward. These

demographic aspects are vital while constructing the group which often are not considered with enough importance.

4. Objectives of the study

This study analyses the correlation between Demographics and Group Performance.

1. To analyze the demographic variables of NHGs of Kudumbashree
2. To study the correlation between the demographic variables and group performance

5. Research Methodology and Data Analysis

Primary data is collected through questionnaire survey among NHGs in selected Panchayaths. Secondary data is collected from Kudumbashree and from District panchayath offices in Trivandrum. Samples were collected from both rural and urban NHGs. Study is descriptive in nature. Focus group interviews were conducted at Krishibhavans mostly co-ordinated by the agriculture officers at respective panchayaths. Total sample size is 487 which is collected from rural and urban NHGs. (Neighbourhood Groups).

Questionnaire is prepared and tested and a survey has been done using the same. Sampling method used is stratified sampling. The demographic variables considered for the study are Caste, Social status, Number of members, Age, Purpose of Joining, Education etc. These are grouped into categories.

Descriptive and quantitative analysis has been conducted. Tests used to prove the hypotheses are t-test, anova, post-hoc multiple comparisons and mean plots to understand the differences between and within the groups.

5.1 Hypotheses

Hypotheses are derived from the objectives and are tested to arrive at the conclusions. The null hypotheses are

1. There is no significant association between Education and Performance
2. There is no significant association between Caste and Group Performance

3. There is no significant association between Social Status and Group Performance.
4. There is no significant association between Age and Group Performance

Hypotheses is tested using one way Anova and Post-

hoc tests are used. Tukey's HSD is used along with Anova for multiple comparisons and helps in finding if there are significant differences between pairs. Further to this Homogenous subsets and Mean plot are shown for confirmation.

5.2 Results and Analysis

Hypothesis 1

H0: There is no significant association between Education and Performance

One way

Descriptives

MEAN_GP

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Primary education	97	2.1856	.43025	.04369	2.0989	2.2723	1.33	2.67
High school passed	337	3.5346	.65069	.03545	3.4649	3.6043	1.17	4.50
Collegiate education	53	3.8962	.92579	.12717	3.6410	4.1514	2.67	4.83
Total	487	3.3053	.86359	.03913	3.2284	3.3822	1.17	4.83

Source: Primary Data

Table 1 shows that the Group Performance of groups have increased with the increase in education. The three categories Primary, High School and Collegiate

education has a mean of 2.18, 3.53, 3.89 and 3.30 respectively.

Table 2
ANOVA
MEAN_GP

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	157.848	2	78.924	186.700	.000
Within Groups	204.602	484	.423		
Total	362.450	486			

Source: Survey Data

The ANOVA table suggests that the significance value is less than .05 and hence there is significant difference between the performance of groups when education

status of group members changes. [$F(2,484) = 186.7$, $p < .05\%$]. Null hypothesis is rejected. Hence it is inferred that

Multiple Comparisons
Dependent Variable: Mean GP
Tukey HSD
Table 3

(I) Edu_Status	(J) Edu_Status	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Primary education	High school passed	-1.34905*	.07492	.000	-1.5252	-1.1729
	Collegiate education	-1.71066*	.11106	.000	-1.9718	-1.4496
High school passed	Primary education	1.34905*	.07492	.000	1.1729	1.5252
	Collegiate education	-.36161*	.09608	.001	-.5875	-.1357
Collegiate education	Primary education	1.71066*	.11106	.000	1.4496	1.9718
	High school passed	.36161*	.09608	.001	.1357	.5875

*. The mean difference is significant at the 0.05 level.

Post hoc comparisons using Tukey HSD tests revealed that mean score of members of category 1 (Primary Education) $M=2.18$, $S.D=.43$ is different than High School category ($M=3.53$, $S.D=.65$). Members with

High School Education also showed significant difference in their performance with ($M=3.89$, $S.D=.92$)

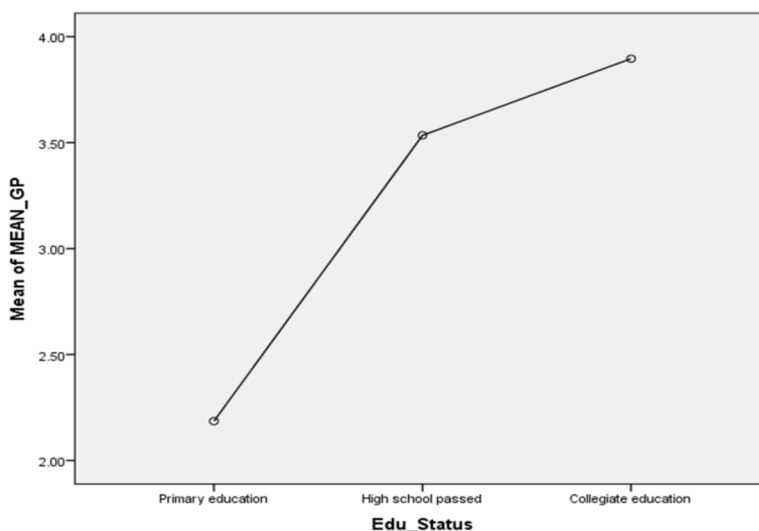
MEAN_GP
Tukey HSD^{a,b}
Table 4

Edu_Status	N	Subset for alpha = 0.05		
		1	2	3
Primary education	97	2.1856	3.5346	3.8962
High school passed	337			
Collegiate education	53	1.000	1.000	1.000
Sig.				

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 93.328.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.



H0: There is significant association between Caste and Group Performance.

Descriptives

**Table 5: Caste and Group Performance
MEAN_GP**

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Mini- mum	Maxi- mum
					Lower Bound	Upper Bound		
SC/ST	87	2.0019	.46693	.05006	1.9024	2.1014	1.17	2.50
OBC	241	4.0214	.40268	.02594	3.9703	4.0725	3.33	4.83
Gen	159	2.9329	.26790	.02125	2.8910	2.9749	2.50	3.33
Total	487	3.3053	.86359	.03913	3.2284	3.3822	1.17	4.83

Source: Survey Data

The descriptive table below provides some useful statistics including mean, standard deviation and 95% confidence intervals for the dependent variable (Group Performance) for each separate groups (SC/ST, OBC,

Gen) as well as for all group combined. Group Performance of OBC is seen to be highest followed by Gen and SC/ST.

**ANOVA
Table 6
MEAN_GP**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	293.443	2	146.722	1029.078	.000
Within Groups	69.007	484	.143		
Total	362.450	486			

This is the table that shows the output of the ANOVA analysis and whether there is a statistically significant difference between group means. We can see that the significance value is 0.000 (i.e., $p = .000$), which is below 0.05. and, therefore, there is a statistically significant association between the Member's performance and social status/caste. This is great to know, but we do not know which of the specific groups differed. Hence, we use find this out in the **Multiple Comparisons** table which contains the results of the Tukey post hoc test.

Post Hoc Tests

From the results so far, we know that there are statistically significant differences between the groups as a whole. The table below, **Multiple Comparisons**, shows which groups differed from each other. The Tukey post hoc test is generally the preferred test for conducting post hoc tests on a one-way ANOVA, but there are many others. We can see from the table below that there is a there is no significance in the Group Performances between the SC/ST, OBC and Gen.

Dependent Variable: MEAN_GP

Tukey HSD

Table 7

(I) Caste	(J) Caste	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
SC/ST	OBC	-2.01952*	.04723	.000	-2.1306	-1.9085
	Gen	-.93100*	.05035	.000	-1.0494	-.8126
OBC	SC/ST	2.01952*	.04723	.000	1.9085	2.1306
	Gen	1.08852*	.03858	.000	.9978	1.1792
Gen	SC/ST	.93100*	.05035	.000	.8126	1.0494
	OBC	-1.08852*	.03858	.000	-1.1792	-.9978

*. The mean difference is significant at the 0.05 level.

There was a statistically significant difference between groups as determined by one-way ANOVA ($F(2,484) = 1029.078$, $p = .000$). A Tukey post hoc test revealed that the performance of SC/ST ($2.019 \pm .466$, $p = .000$) as compared to Gen ($2.93 \pm .268$) is found to be significant. Group Performance of OBC ($4.02 \pm$

$.402$, $p = .000$) and when compared to Gen and SC/ST also seem to be. When we compare OBC to SC/ST and Gen the Group Performance is seem to be significantly different and hence null hypothesis is rejected.

Homogenous Subsets

Tukey HSD^{a,b}

Table 8

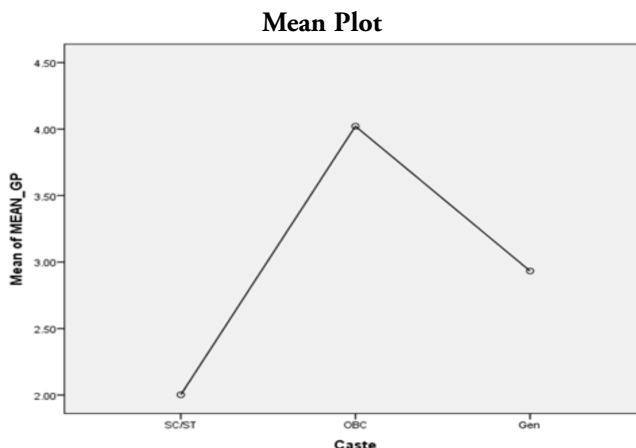
Caste	N	Subset for alpha = 0.05		
		1	2	3
SC/ST	87	2.0019	2.9329	4.0214
Gen	159			
OBC	241	1.000	1.000	1.000
Sig.				

Source: Survey Data

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 136.781.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.



H0: There is no significant association between Social Status and Group Performance

T-Test

Group Statistics

Mean Group Performance

Table 9: Social status & Group Performance

	Social Status	N	Mean	Std. Deviation	Std. Error Mean
MEAN_GP	APL	126	2.1865	.47824	.04261
	BPL	361	3.6958	.58002	.03053

Source: Survey Data

From the results it can be found that the means of BPL(Below Poverty Line)and APL(Above Poverty Line) are 3.7 and 2.19 respectively and SDs are .48 and .58. There is significant difference between the group

performances of APL(M=2.19, SD= .49) and BPL (M= 3.7,SD = .59) conditions $t(485) = 26.254$. This shows that there is significant association between social status and group performance. Hence null hypothesis is rejected.

Independent Samples Test

Table: 10

		Levene's Test for Equality of Variances		t-test for Equality of Means						
				t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		F	Sig.						Lower	Upper
MEAN_GP	Equal variances assumed	7.660	.006	-26.254	485	.000	-1.50924	.05749	-1.62220	-1.39629
	Equal variances not assumed			-28.795	262.291	.000	-1.50924	.05241	-1.61245	-1.40604

Source: Survey Data

Independent sample t-test is conducted to compare the Group Performances of APL and BPL category. There is significant difference between the group performances of APL($M=2.19$, $SD=.49$) and BPL ($M= 3.7$, $SD = .59$) conditions $t(485) = 26.254$. These

results suggests that Group Performance of APL and BPL differ significantly.

H0: There is no association between Age and Group Performance

Descriptives
Table 11: Age and Group Performance
MEAN_GP

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
<30	74	1.9144	.45266	.05262	1.8095	2.0193	1.17	2.50
30 - 50	267	3.9538	.43470	.02660	3.9014	4.0062	3.17	4.83
>50	146	2.8242	.23471	.01942	2.7858	2.8626	2.50	3.17
Total	487	3.3053	.86359	.03913	3.2284	3.3822	1.17	4.83

Source: Survey Data

The descriptive table above provides some useful statistics including mean, standard deviation 95% confidence intervals for the dependent variable (Group Performance) for each separate age categories(<30,

30-50,>50) as well as for all group combined. This shows that most of the groups have members in the age category of 30-50 and group members in <30 categories are the lowest.

One way Anova
Mean GP
Table:12

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	289.240	2	144.620	956.109	.000
Within Groups	73.209	484	.151		
Total	362.450	486			

Source: Survey Data

The table above shows that the group performance are significantly different. It can be seen that the significance value is less than .05. There was significant

effect of age on group performances for the three conditions [$F(2,484) = 956.109$, $p < .05\%$]. Hence H_0 is rejected.

Post Hoc Tests
Multiple Comparisons
Tukey HSD
Dependent Variable: MEAN_GP
Table 13

(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
<30	30 - 50	-2.03939*	.05109	.000	-2.1595	-1.9193
	>50	-.90979*	.05550	.000	-1.0403	-.7793
30 - 50	<30	2.03939*	.05109	.000	1.9193	2.1595
	>50	1.12961*	.04003	.000	1.0355	1.2237
>50	<30	.90979*	.05550	.000	.7793	1.0403
	30 - 50	-1.12961*	.04003	.000	-1.2237	-1.0355

Source: Survey Data

*. The mean difference is significant at the 0.05 level.

As we have found a statistically significant result we need to do post hoc tests. Tukey post hoc tests are used to compare each of the conditions to every other condition. A Tukey post hoc test revealed that the age group <30 ($1.914 \pm .45$ min, $p < .05$) is significantly different from 30-50 ($3.95 \pm .43$ min, $p < .05$) and >50 ($2.82 \pm .23$ min, $P < .05$). A comparison of

30-50 ($3.95 \pm .43$ min, $p < .05$) also is found to be significantly different when compared to <30 ($1.914 \pm .45$ min, $p < .05$) and >50 ($2.82 \pm .23$ min, $P < .05$). The third pair wise comparison of >50 ($2.82 \pm .23$ min, $P < .05$) is found to be significantly different from the other two groups.

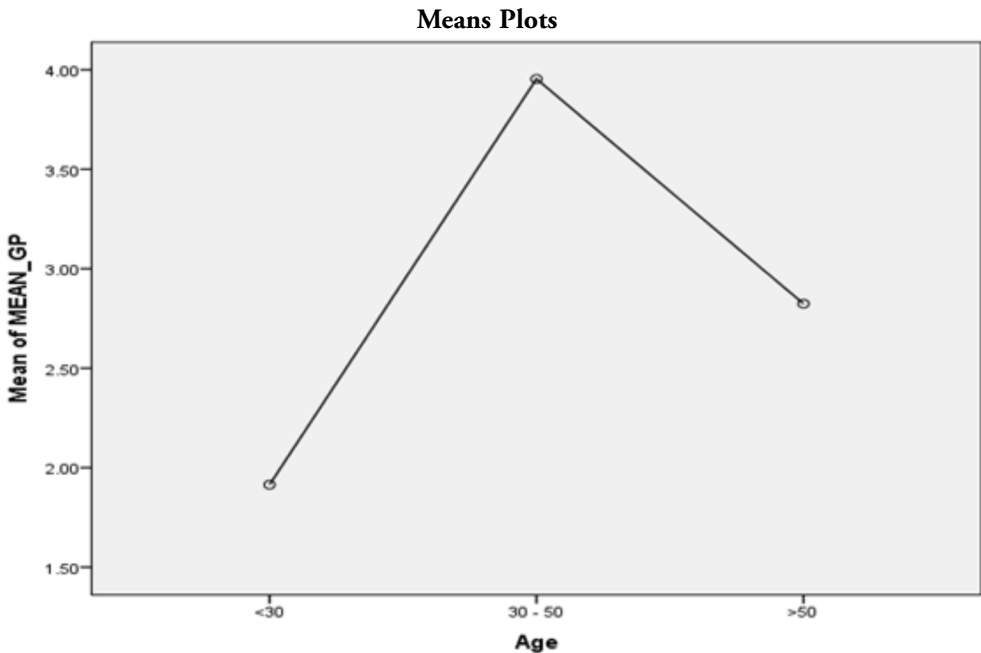
Homogeneous Subsets
Tukey HSD^{a,b}
Table: 14

Age	N	Subset for alpha = 0.05		
		1	2	3
<30	74	1.9144		
>50	146		2.8242	
30 - 50	267			3.9538
Sig.		1.000	1.000	1.000

Source: Survey Data.

Means for groups in homogeneous subsets are displayed.

- a. Uses Harmonic Mean Sample Size = 124.439.
- b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.



6. Findings and Conclusion

Study reveals that demographic factors have significant influence on the performance of the group. The

demographic factors identified in the study are Group size, Social Status, Education, Purpose of Joining the Group and Nature of Job. All of these are found to

have significant impact on group performance. Group Performance can be improved if changes are made in the demographic factors. Better education is positively linked to Group Performance and groups consisting of members with better education shows better mean performance. Caste and age are also seem to show correlations to Group Performance. The results suggests that there are factors which if intervened by the authorities significantly contributes positively to Group Performance. Among such factors, education with emphasis on skill enhancement and a good orientation to members on income generation with respect to opportunities available can be two prime

areas of focus which can yield positive results in group performance. The study revealed that the group while homogeneity is critical it is found that homogeneity doesn't help if the group members are all less educated. In such cases a mix of members in terms of education can be included. It is also observed that many a time caste becomes a criterion for group formation which should not be the case as socially backward castes need some handholding which can be done from the members of other castes who are better off. Thus right interventions in terms of skill training and group constitution can positively impact the performance.

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Innovation and Sustainability: The Story of Indian QSR Foodbox

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Dr. Rashmi Rai**

Abstract

Sustainopreneurship is a neologism created by merging the words sustainability and entrepreneurship. Today as the world is moving towards the fourth industrial revolution it has now become imperative for businesses to come up with new ideas which can sustain in future. The economy also values such people who can turn our day to day concerns into business opportunities. So was the intent of Mr Satish Chamyvelumani, Founder of Foodbox: "The idea was to serve people with food from their favourite brands while on the move."

In recent years, there have been great strides in the field of food technology. One such stride was made by Satish Chamyvelumani, who is a pioneer in a complete "Indian" Quick Service Restaurant sector. The global market research organization CRISIL states that the Indian QSR is largely dominated by international players (>65%). The reason lies in their western menu which has high shelf life, is compatible with the cold storage set-up, prepared with few ingredients and goes well with quick to serve menu. The present case is about an out and out Indian player in QSR sector- Foodbox now known as Frshly. It not only defies the set pattern of international brands but also keeps itself ahead of them by opting innovation in food retail. It has made a significant entry through its speed, hygiene, packaging and above all the Indian-ness of its menu in this format, which until now is first of its kind. There is also a contrast in the target segment, where the international brands go for casual dining category; it takes care of the utility segment-the working class which requires it as a second option to home-made food in form of lunch/dinner.

It is also not an app based model which we generally find in food tech business rather it is more on the ground model. The innovation comes in the form of the dispenser which dishes out food within 90 seconds fresh and hot!

Key Words: QSR, Innovation, Automated Food Dispenser, World Class Packaging, Multiple Restaurants and Sustainability.

Foodbox is nothing short of a revolution in the food industry. Foodbox founder, Satish Chamyvelumani had a vision- he wanted good wholesome food to be made available to people on the move, at convenient locations.

"We see ourselves as facilitators for restaurant chains

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while solving an age-old problem of travelling families" – **Satish Chamyvelumani (R), CEO.**

"We have an online monitoring system that sends alerts when stocks are low and keeps a watch on when food is packed" – **Rajasekaran Mathuram (M), CTO.**

"We offer customers the comfort that airline passengers have, of choosing from the menu and getting hot meals at their seats" – **Ramesh Narayanan (L), CFO.**

1. Introduction

What seems to be a scene out of a sci-fi has come true for commuters at Chennai's Koyambedu bus stand, simply by entering few commands on the touch screen,

swiping the ATM card, the food arrives on a conveyor belt in just 90 seconds. It surprises many at the busy bus stand at Chennai. The machine contends with several eateries at the terminus and roadside food vendors to win over the customer's palate.

2. Quick Service Restaurant (QSR)

The concept of fast food culture started from North America where people have very busy and fast life style. In our country two types of format dominate the fast food market QSR and street food.

QSR as the name suggests marked not only by speed but also low cost and uniformity. It is also defined by pre-prepared and ready to serve food without too many interventions at the order time and standardized systems and processes. The branded QSRs open many outlets to make the overheads affordable. In India the fast food market is around two decades old and it started with McDonalds and has largely been dominated by international giants like Mc Donalds, KFC, Dominos and Pizza Hut. The menu popular amongst all is varieties of burger, Pizza and Chow Mein. It is interesting to note that the international QSRs are more famous for their non-veg varieties whereas the Indian QSRs like Haldiram's, Bikanerwalas and Sagar Ratnas are popular for their vegetarian menus.

India being a young and developing country has embraced urbanization of living style very fast. This young population is the main consumer of the QSR. The quick service outlets have thrived in India because of the nuclear family systems, women working and having financial independence, expanding middle class, urbanization, youth spending due to peer pressure and better logistics. All this contributing to make the market of QSR worth of 8,500 crores and with the current compounded annual growth rate of 25 % (Assocham) it is likely to touch 25,000 crores by 2020.

The above mentioned statistics reflect the growing demand of quick service restaurants and fast food chains in the country. Also to be noticed is the fact that despite economic slowdown this sector has clearly escaped the trend. Food being a basic necessity it will always be a priority.

CRISIL reports that the rise in the expense on dining out specially in tier 2 cities is also boosted by the increase usage of smart phone food apps, growth in incomes resulting in increase in disposable incomes, changing lifestyle and eating patterns, increased consumer awareness to maintain the life style status and, importantly, greater accessibility of QSR outlets.

3. Foodbox

The makers of Atchayam Foodbox, as the machine is called, claim that it is a first of its kind concept in the food and retail industry world and that it's not just a vending machine.

"This is like an ATM where you withdraw cash by yourself," says Satish Chamy Velumani, the founder and CEO. "Some people call it's a vending machine but it's a lot more than that, it's an 'intelligent restaurant'."

The problem sows the seed of the new idea. As child when Satish used to travel long distances he enjoyed the trip but worry about the food, its availability and hygiene. The problem led him to ponder about the ways he could enjoy fast and hygienic food while travelling, from trusted sources. This thought was put through extensive research to get converted into Foodbox.

Foodbox, an automated eatery point which serves everything from light tiffin to complete meal combo packs from leading restaurants. It serves simple yet important need to get quick hygienic food on the go without the risk of missing the train.

4. Facts

- Founded in May 2013, a first of its kind food-joint, by three Chennai based entrepreneurs, near Koyambedu bus depot in Chennai. It took them three years to create and develop this idea.
- Funding raised initially Rs 4 Crore.
- Restaurant Partners: Aasife Biriyan, Adyar Ananda Bhavan, Amaravathi, Karaikudi, Moti Mahal Deluxe and Mr. Chow's, A2B and Madras Coffee House.
- Employees around 20; Operational efficiency through minimal manpower required Standardized processes across stores.

- By 2015, Chamyvelumani set up six more across Bengaluru, Hyderabad and Chennai.

5. The Journey

The CEO, Satish Chamy Velumani - holds masters' degrees in science (majoring in engineering) and business administration (both from the US) - worked at 3M for about eleven years, before returning to India to establish Atchayam Business Solutions. When Satish C Velumani set out with his idea, he knew technology would form the backbone of the venture and counted on his engineering background and experience as project manager at 3M to help. But that's when he discovered that the technology he sought didn't exist. The next three years were spent in developing the technology and giving concrete shape to the concept. Besides him, the core team of Atchayam's Foodbox (which was conceptualized in late 2010) comprises Ramesh Narayanan, co-founder and chief financial officer, and Rajsekar Mathuram, CTO (Chief Technology Officer). The position of CTO is justified by the fact that the whole concept revolves around the robust use of technology.

The CFO is a chartered accountant and has been running a business process outsourcing (BPO) firm in Chennai for a decade, and the CTO, who holds a masters' degree in science (majoring in computer science) and worked at Verizon (a global leader in delivering innovation in communications, information and entertainment) in India and the United States for over twelve years before joining Atchayam.

Ramesh Narayan, co-founder and CFO, Atchayam Foodbox says, "Investment was in R and D. We are still researching on the techniques. Total investment is Rs 5 crore. We are planning on multiple versions of it. It's just a beginning. Encouraged with the response from its first Food Box, Atchayam founders are now planning units at Chennai central station and the airport. The longer-term plan is to go national and so, the next time you're traveling in Chennai, you now know where to grab a bite."

Velmurugan T. is the Chief Sales & Marketing Officer, who joined in 2014. He is Post graduate diploma from IIM (A) and has been on Senior business

development positions with Lenovo, Group M, Cavin Kare and CRI pumps.

6. The Organization Structure and Design and Operational Efficiency

The organization is flat and doesn't have much of a hierarchy. It has the CFO, CTO, CSMO (Chief Sales and Marketing Officer) and Operations manager reporting to CEO along with an HR executive and an Engineer. Managers and executives in each function report into their respective chiefs.

As a CEO of this organization, Satish C. Velumanicreates leaders at every single level. To achieve this, they have adopted a matrix organization where every individual with potential is given a program leadership responsibility. Regardless of the hierarchy, everyone reports in to the program manager as they work on that program. They have several programs running at the same time. So, a leader automatically becomes a follower (in another program) and vice-versa. This completely eliminates hierarchy and improves efficiency it also helps the organization to drive ahead at a much higher speed than their competitors. The small but strong team helps the organization to be focused on the future plans to expand.

7. The Location

The location of outlets and partner restaurants is a key part of the Foodbox business model. While the first was set up at the DLF IT Park, the second is at Koyambedu, Chennai's busiest bus terminal. The founders were clear in their parameters for finding strategic locations. The locations of both the joints are near to the sourcing restaurants and also have high footfall.

The company uses the "Real-Win-Worth analysis" (extensively used by companies like 3M on over 1500 projects bringing profit and success, See Exhibit-1) to determine the feasibility of location and launch.

"The customer response has been very good. It works well for us because we are increasing our sales without additional investments," says KT Srinivasa Raja, MD, Adyar Ananda Bhavan. "As the awareness about

Foodbox increases, Atchayam should be able to scale operations significantly, bringing down costs even lower in the next couple of years.”

At the Atchayam Food Box at DLF IT Park and Koyambeduomni bus stand, customers can walk in and leave with the food in less than five minutes.

To enable people to use food box at public places like bus stand or railway station, they also have an option where people can pay money to the staff at the counter, who in turn provide them with a Foodbox card that they can swipe to get the food. The entire box can hold 225 food packs at one time. Sales at Koyambedu is currently 70-80 packs per day and at DLF IT Park it's anywhere between 200 and 300.

8. The Intelligent Restaurant

The Koyambedu joint is a bright, air-conditioned nook in the not-so-salubrious environs near the bus terminus, and overlooks the grim wholesale vegetable market. Tucked into a small kiosk at the entrance of Hotel Chennai Deluxe, the 'Food Box' is a large, automated vending machine that issues set meals sourced from restaurants across the city. A hulking red-and-yellow contraption, it takes up almost a fourth of the space. Payment can be by card or cash. Barcodes match the order to the right tray inside the food box, and then begins the fun.

It's a concept wherein food is brought from a number of eateries. It cuts down the time spent waiting for an order to arrive. Moreover it is affordable. And most importantly, it keeps in mind the health of the consumers too - on board is a team of nutritionists that strives to make each meal nutritious, without compromising on the taste.

After extensive research and planning Food Box came into reality and the outcome was an intelligent food dispenser. Not only does the dispenser keep the food fresh, the meal is served piping hot like in any of the favorite restaurants. The system is also designed to never serve food that is approaching the end of its shelf life- ensuring that the food at Foodbox is always fresh.

9. Mechanism

Customers queue up like they do in front of an ATM

machine and choose their preferred restaurant along with their choice of pre-determined food combinations. And within 90 seconds, piping hot food in neat packaging slides out of the dispenser, removing human intervention in the entire food packaging and delivery process. It gives convenience to customers. The packing and delivery is also automated and it's compact and convenient. Consumers can stand in the queue to receive their order and go upstairs where they can dine.”

When a customer chooses the meal from the touch screen and pays for it, the combo number is sent to a computer that directs a robotic arm to match it with the barcode on the right food tray from cold storage. It then travels on an automated conveyor belt where a device pierces holes on the cover of the tray, after which it goes into a microwave and comes out on the same belt piping hot. On receiving an order, the combo number is sent to a computer that directs a robotic arm to pick the right box from cold storage. A conveyor belt takes it to the microwave oven and then to the dispenser. At a time it handles two orders.

The outlet has two screens that clearly explain the process of ordering in three steps. Step 1: Select the food from the menu displayed on the screen. 2: Pay the bill using any credit or debit card or by cash to the staff behind the screens, who use the food-box card and swipes it. A printed bill with an order code comes out. 3: Take the bill and watch the screen for the order number and then get the food coming out on the conveyer belt. All it takes is 90 seconds.”We did a six-month due diligence on food testing. The food still remains good for eight hours but we have programmed the machine early as we are very conscious about the quality,” says Velumani.

“My first question was – does the technology for an automated restaurant even exist,” says Satish. As it turns out it didn't and the toughest, fiddliest part of their job was putting it all together. “And now we have India's first fully automated, multi-brand, food retail-facilitator,” he says, with a dramatic sweep of his hand.

At meal times, the food items are prepared and packed by the partnering restaurants. The supply chain picks up the food and delivers it to the outlets ahead of every

meal. The meals are then stored in a climate-controlled, automated system which heats the food just before serving. It is the coolest part of the establishment. There are rows upon rows of slots, 250 of them, stacked with trays here. The dishes like curd rice are issued in a separate container as it can't be heated. The automated system allows constant replenishment of food, based on stock and demand thereby minimizing wastage. The online monitoring system sends alerts when stocks are low and keeps a watch on when the food is packed. Though the food trays come with an eight-hour expiry, it automatically stops selling any food item that is beyond six hours to ensure quality. Till the lid is opened, no can touch the food after being sent off from the restaurants. Everything is automated. The meals are packed in 100% virgin polypropylene, food-grade packaging materials at the

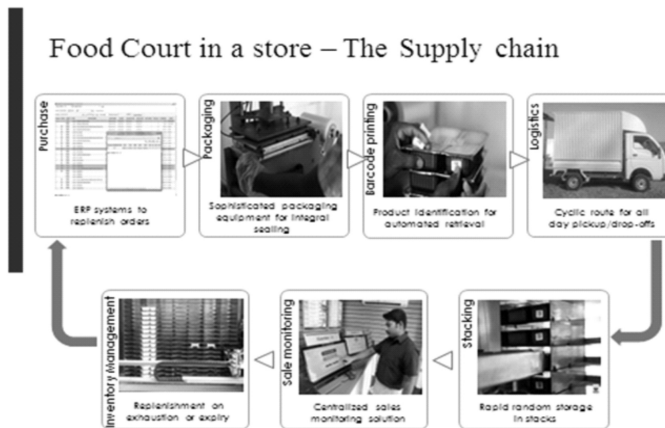
partnering restaurants.

Un-bought food goes back to the restaurants; they bear the food cost while Atchayam is responsible for transport and packaging. Other expenses include rental for the location and the cost of the machine. Its revenue: a share on every sold meal. The average ticket size of a meal is Rs 130, of which Atchayam gets Rs 40 as facilitation fee.

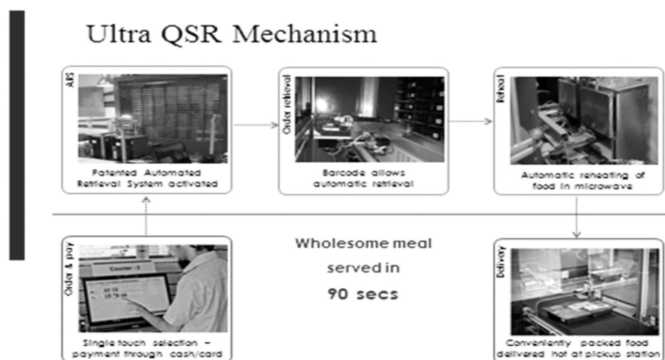
Thetravelers also order by phone or online, and meals are delivered to them at their seat in the bus. For the moment, however, novelty outweighs utility at the Food Box. Most customers prefer to eat at the spot.

The Foodbox was designed at Synetics Automation, Coimbatore, but the software was put together by the company's CTO, Rajasekaran Mathuram.

How This Mechanism Works:



Source: email exchange with Foodbox



Source: email exchange with Foodbox

10. Funds

Now, Atchayam is working on reducing the cost of its equipment, which will help it achieve break even faster. Currently, store break-even at the operating level takes six to 12 months, depending on location and size. While the first machine cost the firm nearly Rs 35 Lakh to set up because of the learning (technology) and subsequent corrections, it has since come down to Rs 14-15 Lakh. The aim is to lower the cost further to Rs 10 Lakh in the next year. Chamyvelumani has also applied for a patent for the technology, both in India and overseas.

Foodbox started with Rs 4 crore from funding through family and friends and a private investor in the US. Now, it is looking for its next round of funding not only pan-India through tie-up with local restaurants but also in Singapore and West Asia. That means reaching out to more cities and restaurants across border also. "We see ourselves as facilitators for restaurant chains while solving an age-old problem of travelling families," Satish Chamy Velumani says.

For expansion, the Company takes the help of venture capitalists and angel investors to raise funds.

Restaurants like the model because it increases sales without too much investment. "Their packaging technology is superior. Also, we have restrictions in terms of having outlets in places such as railway stations and bus stands. This box can be set up easily," says KT Srinivasa Raja, managing director of Adyar Ananda Bhavan. "For us, it saves the cost on establishing retail outlets. Once they reach the scale, I see a big scope for their service." Therefore, it's a win-win-win situation for partnering restaurants, customers and Foodbox.

What is exciting and revolutionary about Atchayam's Foodbox? The sustainability Factor:

- Foodbox is a retail facilitator. It feeds people local dishes on the move. Fresh and fast is the unique selling proposition (USP). Thereby, saving the most important resource, time.
- Automated Food Dispenser.
- Takeaway Friendly world class packaging assuring fresh and hygienic food made from 100% virgin food grade material.

- Multiple Restaurants at one place. Order from multiple restaurants & pick up at one point.
- It empowers and creates an ecosystem for the restaurants for a wider out-reach to its consumers and tap new markets.
- With the help of IoT (Internet of things) it makes a User-Friendly Ordering Station for better services.
- Ultra Quick Service - The food delivery mechanism is not just intelligent-it's really fast. 90 seconds is the average time taken to serve a meal!
- Easy to use.
- Indian dishes in erstwhile westernized fast food market.
- The model of this concept is sustainable not only in terms of packaging and maintaining the quality but also it provides a unique economic model which requires minimal investment and benefits its partners to get higher revenues. It gives its consumers an open transparent platform to assess the best food and compare it against their own set of parameters. Thus, giving the consumers a free choice.

11. Future Plans: The Journey of Foodbox to Frshly

The company with its plan to go international has also changed its name from FoodBox to Frshly. As the name Foodbox denotes frozen food in international market. So Frshly is the new name adopted by the founders for Foodbox.

At present there are 15 outlets of Frshly in Chennai and Bengaluru with expansion plans to move towards Delhi, Mumbai and Pune corporate and IT parks and food courts in shopping malls as possible locations to set up outlets.

The company is looking to install such automated delivery mechanism devices at airports, bus depots and railway stations and is in talks with the concerned authorities.

Atchayam has already tied up with the second largest online ticketing portal for buses in India -Ticket Goose, where customers can order food online and have it

delivered to their seats. The same comfort that an airline passenger gets, choosing from the menu and getting a hot meal at their seats. The firm is also in talks with the railways to set up its next Foodbox at Chennai Central. “We are also looking to take the machine to trade shows and exhibitions,” says Chamyyelumani.

The company is eying about 500+ stores in the next 5 years. Foodbox is the best alternate for a place where a food court is not practical.

12. Conclusion

The largest band like Dominos having over 750 outlets in over 150 cities works on casual dining and delivery model. Its menu is restricted and dominated by different variety of pizzas. The second largest player Subway also has casual dining model but the ordering process is very lengthy; sandwiches made to order with 30 different options for a single sub! Faaso's which is the biggest Indian fast food player has 64 outlets across India but it only dishes out wraps and not the complete Indian meal. Travel Khana which falls in the category of travel food has an online ordering portal for food delivery by restaurants only in trains is restricted by minimum order quantity ranging from Rs. 150 to Rs. 500 depending on the restaurant/city.

Therefore, the concept of aggregation for fresh food and delivery through fully automated outlets is something that has never been done before. The customer gets his favorite restaurants' food all under one roof, for about the same price. The restaurants can reach more customers (outlets) without incurring any additional fixed cost. So this is a true gain for all (including the business).

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The model allows setting up a national or even global chain by collaborating with local vendors (in each region).

The model works on collaboration basis and being innovative, it has no competitors also. So the competition comes from other food options available at each locality. However, the choices (multiple restaurants under one roof) and convenience (best in class packaging, super fast delivery, and fully automated delivery for consistency and improved hygiene) are our biggest advantages over others.

It also gets a competitive edge over other QSR players that by the fact that the international players have found it relatively difficult to adapt Indian food into an assembly line production model. They are at ease to offer foreign cuisine which can be served quickly, and is more amenable to the cold storage format and a centralized kitchen.

13. Exhibit 1

The R-W-W (“real, win, worth it”) screen allows companies to evaluate the risks and potential of individual projects by answering questions in three broad topic areas: “Is it real?” explores the nature of the potential market and looks at the feasibility of building the product. “Can we win?” considers whether the innovation and the company can be competitive. “Is it worth doing?” examines the profit potential and whether developing the innovation makes strategic sense.

Source: “Is It Real? Can We Win? Is It Worth Doing? Managing Risk and Reward in an Innovation Portfolio” George S. Day. Harvard Business Review, December 2007.

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Competency Models for Training & Development: A Review

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Abstract

Business and industry have been using and applying different competency models for developing job profile, recruitment & selection process, training & development programs, training needs analysis, learning & development programs, performance appraisal, succession planning and viz. a viz. Competency-based approaches and models are becoming an answer to the organization's expectations in all fields (public and private) to increase the products' quality and employees' capacity. Competency models are based on the idea that there is a productive relationship between employee competency and their deliverables.

Dubois and Rothwell define competencies as, "characteristics that individuals possess and use in appropriate and consistent ways to achieve desired performance. These characteristics include knowledge, skills & traits, social motives, thought patterns, mindsets, self image and ways of thinking." Many researchers have shown growing interest in the development and nurturing of competency models to enhance organizational output. A competency model "is a descriptive tool that identifies the competencies needed to operate in a specific role within a job, occupation or organization etc."

In the present scenario, it has become highly critical for organizations to lay emphasis on the aspect of developing competency model to identify key competencies which are required for any business to thrive. The objective of this research paper is to review the competency models and link it to the training and development models in practice.

Key Words: Competency Model, Training, Skills, Human Resource, ETA

1. Introduction

The evolution of competency models over a period of time has highlighted that the employees' workplace is flooded with a multitude of complexities. The significance of competency management became

widely accredited with the works of McClelland (1973) which advocated the measurement of competencies. He recommended that though intelligence influences performance, personal characteristics, such as individual's motivation and self-image differentiate successful from unsuccessful performance. Furthermore, Parry defines competency as "a cluster of related knowledge, skills and attitudes that affect a role, which correlates with its performance on the job and can be measured against accepted standards and can be improved via training and development."

Several organizations are embracing and implementing suitable competency models to empower its workforce in order to enhance its competitive advantage,

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innovation and effectiveness. Competency models serve a number of purposes such as a guiding tool to hire, train and create a highly effective tool of human resource. They also facilitate cohesive work environment and create a productive work place. In the context of this research article, it should be noted that the term competence model, refers to the sets of competencies and characteristics forming the competency model. Moreover, it is “a standardized description of specific activities and competencies within a context (considering both the people and work performance perspective) that are necessary to function as a professional in a particular field.

2. Review of Literature

Thomas N. *Garavan*, David *McGuire* (2001) supported that exploration on skills ought to be embraced inside a situation that takes into account contemplating representatives as complete people. Charles Woodruffe, (1993) concluded that competencies can be applied for effectiveness at workplaces and found nine important competencies for managers. In the late 1970s, the American Management Association commissioned a consultancy firm, McBer& Company (now a part of Hay Group), to study competencies. McBer& Company identified the characteristics that differentiate superior managers from average ones, and referred to these as competencies (David R. *Moore*, Mei I *Cheng*, Andrew R.J. *Dainty*, (2002). Mansfield (1996) analysed three sources of data that host competency frameworks: focus groups or resource panels with subject matter experts (SMEs), generic competency dictionaries, and interviews over a critical event with superior performers. Goleman (1999) highlighted the role of emotional competence. Burgoyne (1993) saw capabilities from a practical point of view in that how authoritative objectives can be achieved by improving the exhibition of individuals in the most ideal way.

Spencer and Spencer (1993) built up the activity skill evaluation strategy that constrained associations to change their accentuation from customary sets of expectations to building up a competency model by assessing the primary individual attributes related with normal to-phenomenal employment execution.

Abraham, Karns, Shaw, and Mena (2001) reviewed US firms based on capabilities they thought about valuable for effective administrators and assessed whether firms utilized those skills in evaluating their directors.

Boyatzis (1982) planned his administrative competency model by examining more than 2,000 directors and discovered in excess of 100 potential administrative abilities. Hollenbeck, McCall, and Silzer (2006) expressed that the competency model can't be viewed as a solution for effective initiative, however a push to catch pioneers' involvement, learning's, and information.

Brophy and Kiely (2002) referenced that McClelland was told by the US Foreign Service to examine new techniques for research that can gauge human execution and diminish the predisposition of customary knowledge and fitness testing, and this prompted the idea of estimating capabilities. It was fought by Brophy and Kiely (2002) that when a competency-based methodology is utilized, accentuation is set on practices basic for occupation execution. It was declared by Albanese (1989) that a solitary arrangement of abilities can't totally catch all parts of an administrative job.

Dubois (1993) proposed a five-advance key frameworks model for competency demonstrating, covering viewpoints, for example, “prerequisites investigation, competency-based instruction planning, structure foundation based exercises, making of a competency-based outline plan where learning happens in an efficient way, arranging and formation of a competency-based learning condition and evaluation exercises.”

Zingheim, Ledford, and Schuster (1996) associated capabilities and competency-structures with competency-based compensation. Le Deist and Winterton (2005) sketched out that competency systems are likewise being connected in different fields of HRM for adjusting hierarchical objectives and specialists' gifts. Spencer and Spencer (1993) exhibited the “Icy mass Model” that separated key qualities and resultant practices and execution in an occupation profile into five classes: abilities, learning, thought processes, attributes, and mental self portrait.

Shippmann et al. (2000) prescribed that given work profiles and authoritative conditions, a lot of seven to nine capabilities are commonly required for a particular employment. Lucia and Lepsinger (1999) hypothesized capabilities as a detailed instrument to distinguish learning, aptitudes, and capacities (KSAs) and practices required to be successful inside an association.

3. Competency Models for Training and Development in Organizations

Many organizations make widespread use of competencies. Managers, Learning and Development professionals, and other employees use competency management, dictionaries, measurement and assessment, and competency-based development. Many organizations base their HR policy, and often also their HR development, assessment and throughput cycles, on competencies.

The success of this approach is based on the assumption

that there is a clear connection between personal competencies, managed individual development, and the organization’s performance. However, this connection now appears to be tenuous or nonexistent. The various Competence Models are:

3.1 Employment & Training Administration Model (ETA Model)

The components of the competency models created by ETA and enterprises are predictable with the writing that depicts competency models. Rothwell (2002) clarifies that there are center abilities that are expected everything being equal. This would incorporate learning, aptitudes and capacities (usually alluded to as KSAs), just as delicate abilities or practices (Lucia & Lepsinger, 1999; and Rodriguez, Patel, Bright, Gregory, & Gowing, 2002). The center abilities or aptitudes are comparable crosswise over occupations and are expected of numerous occupations.

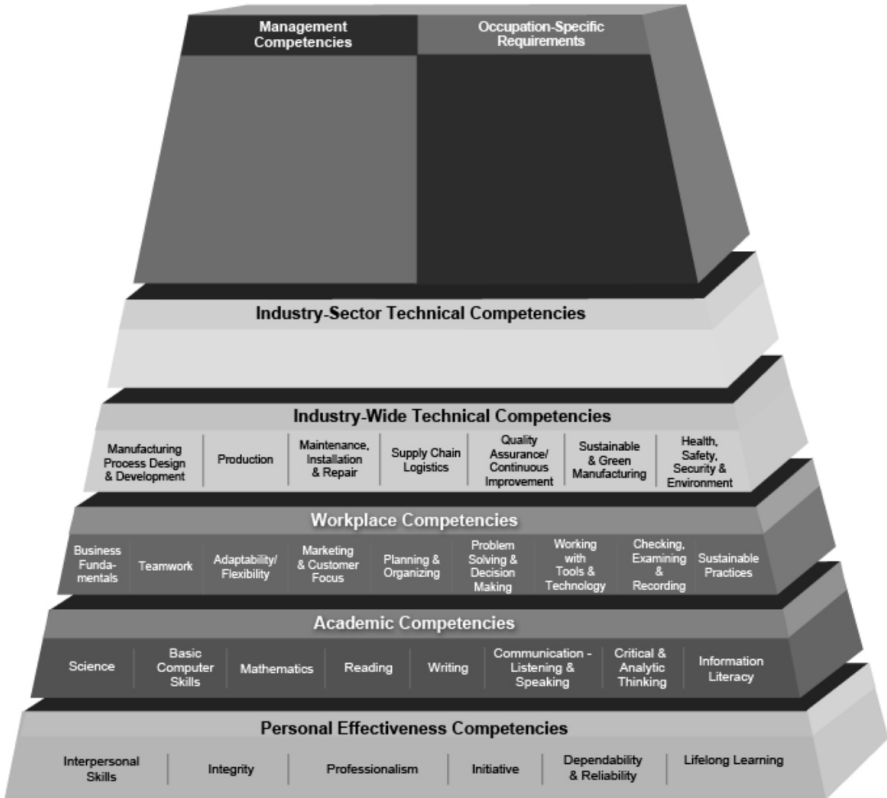


Figure-1: ETA Competency Model Clearinghouse’s General Competency Model Framework

Roth (2002) orders the center abilities further portraying essential and moderate skills. Exhibit of the center skills delineates a person's word related or proficient capability (Spencer and Spencer, 1993). The central skills may incorporate perusing, composing, calculation, tuning in, addressing, talking, intellectual, singular duty and confidence, assets (time, cash, individuals, and data), relational, and data and innovative. The larger amount skills (McClelland, 1973; and Rothwell, 2002) might incorporate frameworks thinking, individual authority or eagerness to learn, mental displaying, shared visioning, group learning, self-information, shortand long haul memory, topic learning, pleasure in learning and work, adaptability, tirelessness and certainty, feeling of direness, genuineness, offering appreciation to other, and activity. In a significant part of the ongoing writing on competency models, there are works related or useful abilities with supporting social skills (Delamare Le Deist &Winterton, 2005). These models have competency areas separated into competency gatherings and further sub-ordered into sub-abilities. As one proceeds to the following dimensions in the chain of command, the skills become additionally engaged and explicit to the business, employment or occupation, and position. Specialized skills can be found in the level(s) over the middle of the road dimension of the competency model.

- Recognizes clients' and colleagues' implicit expectations.
- Is able to adapt to the organizational culture.
- Anticipates formal and informal communication within the organization.
- Shows empathy in communication with clients, colleagues and others'.

Despite their shortcomings, competency models do have a function in individual professional development, and in defining the knowledge required to do the job (Campion, 2011; Stevens, 2012).

3.2 Competency Models for Learning and Development

Competency models depict the information, aptitudes, and frames of mind required to carry out a

responsibility. The following two examples indicate how they apply to Learning and Development.

3.2.1 Association for Talent Development (ATD Model)

The best-known example is the ATD competency model (ATD, 2014), formerly American society for Training & Development consisting of generic competencies, and the following job-specific ones:

- Managing learning programs
- Integrated talent management
- Coaching
- Knowledge management
- Change management
- Performance improvement
- Instructional plan
- Training sessions
- Learning innovation
- Learning sway assessment

Each section specifies *what* to do, but not *how* to do it. In the case of performance improvement, this includes identifying the client, carrying out performance, cause and system analysis, collecting data, and other tasks.

3.2.2 The Skills Journey

Shepherd (2017) introduces a skills-based development model for L&D professionals, and explains that a skill has physical, social and cognitive dimensions. There is a great deal of confusion between skills and competencies because their definitions overlap (Kamperman, 2009).

Shepherd's model consists of three domains, each defining four roles. The skills to be developed for each role are as follows:

- Interaction with stakeholders as architect, analyst, manager, and evaluator.
- Interaction with learners as instructor, facilitator, coach, and expert.
- Interaction with media as curator, producer, designer, and journalist.

Shepherd (2017) also defines each role in operational terms. For example, the content curator 'draws upon the wealth of information and people that could be valuable to their learners, and suggests where they should start.'

3.2.3 Development-Oriented Competency Models

The ATD competency model and the skills journey are two examples of development-oriented models that describe the *what*. What do you need to know and do in order to work as an L&D professional? This creates a common language and a shared body of knowledge for the profession, as well as legitimizing professional action.

Providing we take account of the drawbacks mentioned in the previous section, an L&D competency model serves a valuable function, and in terms of the practicality of working, a generic model is not enough.

There are various dimensions of capability for the different conduct descriptors incorporated into a competency model. Dreyfus and Dreyfus (1980) depict dimensions of skill that incorporate tenderfoot, experienced novice, professional, educated specialist, master, virtuoso, and maestro. From the amateur that is centered around principles and restricted or resolute in their conduct to the person who is eager to defy guidelines to give imaginative and creative answers for business issues. An adjustment of this model, by Benner (1984), portrays dimensions of execution as pursues:

- 1) Untalented or not significant;
- 2) Beginner;
- 3) Student;
- 4) Skilled;
- 5) Capable; and
- 6) Master.

3.3 Applications of Competency Models

Since the 1990s, capabilities have turned into the code words for the HR and key administration practices of enrolling, choosing, putting, driving, and preparing workers and assessing representative execution.

Competency models additionally have been utilized to arrange employments in both the private and open divisions. When taking part in progression arranging, competency models are utilized by business to get ready and advance skilful occupant specialists to empty places of administration. At the point when a competency model has been produced for each situation inside an association, the HR, preparing, the board and representative are working as one to meet the objectives of the association. Competency practices can carry a typical vocabulary and viewpoint to those working inside an association or framework. A consistency of desires is comprehended by every player on a hierarchical group or inside an expert system. This orderly structure is utilized to pass on the attractive practices and thinking as one grows exclusively and expertly, inside an association or crosswise over businesses. While a competency model may profit different periods of the HR experience or practice, in disengagement, the estimation of a competency model isn't completely figured out. To be utilized effectively in an association or other expert system, capabilities must be comprehensive or incorporated all through the majority of the HR rehearses.

Competency models are being utilized in different regions of HR the board to adjust the objectives of an association and abilities of its labourers. Note that a competency model portrays the characteristics expected of a specialist to be effective in a situation, in a group, and inside an association, however a skill model depicts what an individual labourer must perform reliably to accomplish or surpass the vital objectives of the association (Delamare Le Deist & Winterton, 2005; and Teodorescu, 2006). As it were, there are skills required in an occupation and these can be held by both normal and model representatives, however there are likewise capabilities held by just the excellent specialist (Dubois, 1993).

4. Preparing the Workforce Using Competency Models

Applicants and workers must consider capabilities expected of a place of intrigue and create and pass on the ideal information, aptitudes, capacities, and different qualities to effectively meet for, perform at,

and advance in a vocation inside an association. As indicated by Raven and Stephenson (2001), people must show general ability in the accompanying four zones:

1. Meaning capability – understanding the way of life of the association and acting in agreement;
2. Relation capability – making and keeping up associations with partners of the errands or association;
3. Learning fitness – recognizing answers for errands and thinking about encounters with the goal that what is found out improves the following undertaking finished; and
4. Change fitness – acting in new ways when the assignment or circumstance calls for it.

These abilities would be required and drilled by both the normal and model representative. By understanding the competency model for a position or association, the individual picks up a familiarity with the yields or items or administrations conveyed through the position and has a “goal for a learning procedure” Competency models can be utilized to control singular expert advancement, just as help instructors and coaches in creating educational plans that addresses the issues of managers

5. Challenges with Using Competency Models

Competency models have their place in HR practices and their utilization can be a technique for talking a comparative language among different crowds when examining work prerequisites. In any case, competency models are not the sole answer for each enlisting and determination choice or other administrative capacities (nor should they be the main device used in gathering instruction and preparing needs. Framing capabilities as a result can disregard the psychological and individual procedures that are used in creating and displaying aptitudes and using information. Regardless of the endeavours to survey the abilities related with individual qualities, attributes and inspiration, such skills are hard to characterize and in this way hard to evaluate. Such capabilities can't be straightforwardly

estimated in social terms, however more precisely there are practices related with these skills. In this manner, appraisals of such abilities are not objective; rather they depend on flawed or interpretable suspicions.

In the event that an association coordinates competency models all through their HR rehearses (i.e., preparing and advancement, choice, and execution and appraisal exercises), the competency model structures created to portray occupations or occupations and special open doors ought to be imparted to all chiefs and staff; worker investment being developed of a competency model can help with giving familiarity with the model just as make acknowledgment.

6. Conclusion

The estimation of competency models is that an entire individual appraisal or all encompassing methodology can be created to analyze the capabilities that an individual has may in any case need to gain as required by a given industry or occupation. The data would then be able to be utilized effectively by HR advancement (HRD) or workforce improvement experts in different applications with the workforce. With specific exemptions considered, competency models are a reasonable instrument that can be used to set up the present and future workforce and hold talented occupant specialists to meet the activity necessities and different needs of employers. ETA is plainly reliable with the writing as far as helping high development ventures with creating competency model structures and making interests in undertakings that utilization them. The workforce speculation framework and their accomplices are now utilizing competency models in an assortment of ways.

For the gaps in competency acquisition, further training and development can be offered and provided to aid in acquisition of the desired skill, knowledge, behaviour, trait, etc. Allowance for some less needed or desired competencies should be considered as well to perhaps enrich the talent pool. For occasions when these competencies are not developed, it is likely that inaction or an ineffective behaviour may prevent the worker from accomplishing job tasks and organizational goals.

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Financial Performance of Non Banking Financial Companies (NBFCs): A Critical Analysis

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Abstract

NBFCs play supplement the role of banking sector in meeting the increasing financial needs of the corporate sector, delivering credit to the unorganized sector and to small local borrowers. NBFCs have a more flexible structure than banks. NBFCs are classified as Asset Finance Company, Investment Finance Company and Loan Company. The aim of the study is to find out the relationship between earnings, profitability and liquidity of the ten selected NBFCs for a period of ten years from year 2007 to year 2016. Net profit ratio, Return on capital employed, Return on assets, Current ratio, Quick ratio, Cash earnings retention ratio, PBIT per share, earning per share, dividend per share, Karl Pearsons simple correlation analysis and multiple correlation and multiple regression have been used for analysis of data. As conclusion it can be said that financial performances of Bajaj Finance, Sundaram Finance are good and helpful for growth of companies and growth of shareholders wealth for the period of study.

Key Words: Asset finance company, Earnings, Investment finance company, Loan company, Profitability, Liquidity.

1. Introduction

Non banking financial companies (NBFCs) constitute as important segment of the financial system in India. The financial system of India comprises of financial institutions, financial instruments and financial markets that provide an effective payment and credit system and thereby facilitate channelizing of funds from savers to the investors of the economy. NBFCs are financial intermediaries engaged primarily in the business of accepting deposits and delivering credit. They play an important role in channelizing the limited financial resources to capital formation. NBFCs supplement the role of banking sector in meeting the increasing financial needs of the corporate sector, delivering credit to the unorganized sector and to small local borrowers. NBFCs have a more flexible structure than banks. As compared to banks, they can take quick decisions, assume greater risks, tailor make their services and changes according to the needs of the

clients. Their flexible structure helps in broadening the market by providing the saver and investor a bundle of services on a competitive basis.

A non banking financial company has been defined vide clause (b) of the section 45-1 of the chapter 11B of the Reserve Bank of India Act, 1934 as (i) a financial institution, which is a company ; ii) a non banking financial institution, which is a company and which has as its principal business the receiving of deposits under any scheme or arrangement or in any other manner or lending in any manner ; iii) such other non banking institutions or class of such institutions , as the bank may with the previous approval of the central government and by notification in the official gazette, specify.

NBFC has been defined under clause (xi) of paragraph 2(1) of Non Banking Financial Companies Acceptance of Public Deposits (Reserve Bank) Directions, 1998, as: 'non banking financial company' means only the non banking institution which is a loan company or an investment company or an equipment leasing company or a mutual benefit finance company.

NBFCs provide a range of services such as hire purchase

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finance, equipment lease finance, loans and investment. Due to the rapid growth of NBFCs and wide variety of services provided by them, there has been a gradual blurring of distinction between banks and NBFCs except that commercial banks have the exclusive privilege in the issuance of cheques.

In India the last decade has witnessed a phenomenal increase in the number of NBFCs. The number of such companies stood at 7063 in 1981, at 15358 in 1985 and it increased to 24009 by 1990 and to 55995 in 1995. With the amendment of the RBI Act in 1997, it is obligatory for NBFCs to apply for a certificate of registration (COR). The number of NBFC started to decline in 2005 the total number of NBFC has come down to 13261 and in 2014 the total number of NBFC has again increased to 36347.

2. Classification of NBFC:

Originally the registered with RBI were classified as:

- i) Equipment leasing company
- ii) Hire purchase company
- iii) Loan company
- iv) Investment company

However with effect from December 6, 2006 the above NBFCs registered with RBI have been reclassified as:

- i) Asset Finance Company
- ii) Investment Finance Company
- iii) Loan Company

An Asset Finance Company is a company which is a financial institution engaged in the principal business of financing of physical assets supporting productive/ economic activity, such as automobiles, tractors, lathe machine, generator sets, earth moving and material handling equipments, moving on power and general purpose industrial machines.

Bajaj Finance, Shriram Transport Finance Corporation, Mahindra & Mahindra Financial Services, Sundaram Finance and Cholamandalam Investment & Finance Company.

3. Literature Review:

Many researchers have studied working capital from different views and in different environments. The

following study was very interesting and useful for our research:

Saggar(1995) examined the financial performance of 10 leasing companies at disaggregate level and compared with other groups of NBFCs for a period of 1985-90. The study by Seema Saggar does not reflect the overall performance of NBFCs as it is based on selected 10 companies.

Islam(1999) made an attempt has been made through this study to explore the lease financing in Bangladesh to trace out the historical backgrounds of leasing in Bangladesh. Leasing is a contract between the owner of the equipment (lessor) and the user (lessee) that gives the lessee the right to use specific property, owned by the lessor, for a specific period of time in return for stipulated and generally periodic, cash payments (rents). It is an innovative and alternative way of financing our commercial and industrial undertakings. The business has become more and more popular day by day. The study encompasses the operation of lease financing followed by three leasing companies Industrial Development Leasing Company (IDLC), United Leasing Company Ltd (ULC), and Phoenix Leasing Company Ltd(PLC). The ownership and organizational structure of prominent leasing companies greatly contribute to the success of leasing business in Bangladesh. Leasing business will continue to grow in Bangladesh as a preferred means of acquiring equipment for its convenience and flexibility in financing.

Kantawala (2001) the present study attempts to examine the financial performance of different groups of NBFCs separately. The present study attempts to examine the relative financial performance of different groups of NBFCs for the period 1985-86 to 1994-95 in terms of profitability, leverage and liquidity. On the basis of the study, it can be concluded that there exists a significant difference in the profitability ratios, leverage ratios and liquidity ratios of various categories of NBFCs.

Raza, Farhan and Akram(2011) in their study compared the financial performance for the period 2006–2009 by using financial ratios and measures of

investment banks working in Pakistan. Financial ratios are divided into three main categories and measures including two indicators. Seven investment banks out of nine are selected for analysis for comparison purpose. They concluded that the performance of investment banks on the basis of efficiency ratio is different than on the basis of liquidity ratio, capital or leverage ratio and financial measures. Due to the unavailability of data of other two banks, the results are compiled from the data of seven banks. The findings were consistent with the analysis reported by the central bank of Pakistan (State Bank of Pakistan, SBP) in its report for financial sector analysis 2006-09.

Alam, Raza, Farhan and Akram(2011) intended to classify the leasing companies on the basis of financial ratios and to make horizontal and as well as vertical analysis among leasing companies for the period 2006-2009. Ten leasing companies out of ten companies are analyzed. That study concluded that ranking of leasing companies on the base of net investment in finance lease is different from the ranking based on return on assets (ROA), return on equity (ROE), return on revenues (ROR) and lease ratio (LR) and the ratios such as ROA, ROE, ROR and LR are negative in 2009 due to the net loss after tax.

Dalfard, Sohrabian, Montazeriand Alvani (2012) conducted the study related with the assessment of leasing companies' efficiency. This article applied data envelopment analysis (DEA) models for the efficiency assessment and ranking of leasing companies on the Tehran Stock Exchange (TSE). Total asset, P/E, and ROE are considered as inputs and EPS, current ratio, and sales growth are considered as outputs of each DMU. The results indicated that both the CCR and BCC models are not capable of ranking the five considered leasing companies. Due to the failure of the standard DEA models to rank the efficient set of leasing companies, a super efficiency DEA model, namely AP-DEA, is applied. The unique feature of this study is the use of a super efficiency DEA model to rank the leasing companies of the TSE.

Jamil, Iilahi and Kazmi(2014) compared the financial performance of top ten investment banks on the basis of credit rating in 2014 for the period of 2009 to 2013.

Financial ratios and financial measures were taken for the said purpose. Investment banks are the most important contributors in the economic development of a country. And they offer huge impact on capital and credit markets of the country. Financial measures were based upon two indicators total asset and total equity. Financial ratios included return on assets ratio (ROA), return on Equity ratio (ROE), Admin Expenses to Profit before Tax Ratio, Cash and Cash Equivalent to Total Assets Ratio, and capital ratio. This study concluded that ranking of banks differs as the financial ratios change.

4. Objectives of the study:

In the present study an attempt has been made to evaluate the close relationship between earnings and profitability and earnings and liquidity of the five non banking finance companies (NBFC) viz. Bajaj Finance, Shriram Transport Finance Corporation, Mahindra & Mahindra Financial Services, Sundaram Finance and Cholamandalam Investment & Finance Company. More specifically the following are the objectives of the study:-

- Find out relation between earning per share as a measure of earning and Net profit, Return on capital employed, Return on assets as measure of profitability.
- Find out relation between earning per share as a measure of earning and Current ratio, Quick ratio, Cash earnings retention ratio as measure of liquidity.

5. Research Methodology:

- **Selection of Data:** Five non banking finance company (NBFC) Bajaj Finance, Shriram Transport Finance Corporation, Mahindra & Mahindra Financial Services, Sundaram Finance and Cholamandalam Investment & Finance Company have been selected on the basis of their market capitalization more than Rs.15,000 crores and total assets amounting more than Rs.10,000 crores as on 01.07.2017.
- **Collection of Data:** This study is based on secondary data only. The secondary data have

been collected from www.moneycontrol.com and www.morningstar.in. Editing, classification and tabulation of the data collected from the above mentioned sources have been done as per the requirements of the study.

- **Analysis of Data:** For analyzing the data simple mathematical tool like ratios, percentages etc. and statistical techniques like measures of central tendency, measures of dispersion, Karl Pearson's simple correlation and multiple correlation and regression analysis have been used.

6. Limitations of the study:

- The study is limited for a period 10 years from March 2007 to March 2016.
- Five non banking finance company (NBFC) Bajaj Finance, Shriram Transport Finance Corporation, Mahindra & Mahindra Financial Services,

Sundaram Finance and Cholamandalam Investment & Finance Company have been selected on the basis of their market capitalization more than Rs.15,000 crores and total assets amounting more than Rs.10,000 crores as on 01.07.2017.

- The study has used limited numbers of mathematical and statistical parameters.

7. Analysis and Findings:

The following nine tables are showing the profitability ratios, liquidity ratios and earnings ratios of select non banking financial companies in India and table 10 and 11 are showing the correlation between earnings and profitability ratios and earnings and liquidity ratios. Table 12 and 13 are showing multiple correlation and regression earnings and profitability ratios and earnings and liquidity ratios.

Table-1: Net Profit (%) of select Non-banking financial companies in India

Year	Bajaj Finance	Shriram Transport Finance Corporation	Mahindra & Mahindra Financial Services	Sundaram Finance	Cholamandalam Investment & Finance Company
2007	13.49	13.50	16.02	15.90	7.61
2008	5.02	15.89	14.68	23.87	6.66
2009	5.72	16.58	15.71	13.92	3.83
2010	10.01	19.83	22.37	18.94	1.66
2011	17.73	22.89	23.57	21.54	5.23
2012	18.79	21.35	22.40	20.89	9.77
2013	19.11	20.74	22.88	19.87	12.00
2014	17.83	16.04	18.02	19.97	11.15
2015	16.68	14.33	15.02	20.14	11.79
2016	17.50	11.50	11.49	20.63	13.55
Average	14.27	17.68	18.46	19.97	8.40
S.D	5.72	3.73	4.46	2.66	4.18
C.V(%)	40.00	21.10	24.16	13.31	49.76

Source: calculated by author

Inference:

Table 1 showing net profit (%) of select Non-banking financial companies in India from year 2007 to 2016. The average net profit of Sundaram Finance (19.97%) was highest and average net profit of Cholamandalam Investment & Finance Company (8.40%) was lowest. But standard deviation and coefficient of variation of net profit was highest for Bajaj Finance (5.72, 40%).

Deviation of actual net profit from average net profit was highest for Bajaj Finance. Standard deviation and coefficient of variation of net profit was lowest for Sundaram Finance (2.66, 13.31%). It means the deviation of actual net profit from average net profit was very low for Sundaram Finance. And Sundaram Finance earns net profit at a stable rate during the period of study.

Table-2: Return on capital employed (%) of select Non-banking financial companies in India

Year	Bajaj Finance	Shriram Transport Finance Corporation	Mahindra & Mahindra Financial Services	Sundaram Finance	Cholamandalam Investment & Finance Company
2007	2.92	2.23	2.54	1.71	1.04
2008	1.20	2.75	2.94	3.11	1.38
2009	2.25	3.26	3.51	2.18	1.09
2010	3.07	4.08	4.42	2.55	0.34
2011	5.81	5.93	4.89	3.87	0.91
2012	4.78	5.26	4.88	4.86	1.99
2013	5.38	4.68	4.89	5.59	2.94
2014	4.89	3.80	3.92	5.39	2.96
2015	3.84	2.85	3.94	4.64	2.72
2016	3.82	2.65	2.76	5.66	3.74
Average	3.80	3.75	3.87	3.96	1.91
S.D	1.46	1.23	0.91	1.48	1.12
C.V(%)	38.42	32.80	23.51	37.37	58.64

Source: calculated by author

Inference:

Table 2 showing return on capital employed (%) of select Non-banking financial companies in India from year 2007 to 2016. The average return on capital employed of Sundaram Finance (3.96%) was highest and average return on capital employed of Cholamandalam Investment & Finance Company (1.91%) was lowest. But standard deviation of return on capital employed was highest for Sundaram Finance (1.48). Deviation of actual return on capital employed

from average return on capital employed was highest for Sundaram Finance. Standard deviation of return on capital employed was lowest for Mahindra & Mahindra Financial Services (0.91). It means the deviation of actual return on capital employed from average return on capital employed was very low for Mahindra & Mahindra Financial Services. Coefficient of variation of Mahindra & Mahindra Financial Services was lowest (23.51%) and coefficient of variation of Cholamandalam Investment & Finance Company was highest (58.64%).

Table-3: Return on Assets (%) of select Non-banking financial companies in India

Year	Bajaj Finance	Shriram Transport Finance Corporation	Mahindra & Mahindra Financial Services	Sundaram Finance	Cholamandalam Investment & Finance Company
2007	1.34	1.75	2.11	1.43	0.80
2008	0.53	2.13	2.52	2.74	0.90
2009	0.83	2.44	2.88	1.88	0.59
2010	1.85	3.23	3.76	2.16	0.22
2011	2.89	3.88	3.38	2.41	0.64
2012	3.14	3.51	3.34	2.74	1.28
2013	3.31	3.03	3.46	2.80	1.68
2014	2.92	2.56	2.80	2.87	1.68
2015	2.73	2.08	2.37	2.70	1.82
2016	2.75	1.73	1.69	2.74	2.03
Average	2.23	2.63	2.83	2.45	1.16
S.D	1.01	0.75	0.66	0.48	0.62
C.V(%)	45.29	28.52	23.32	19.59	53.00

Source: calculated by author

Inference:

Table 3 is showing the return on assets(%) of select non-banking financial companies in India from year 2007 to 2016. The average return on assets of Mahindra & Mahindra Financial Services (2.83%) was highest and average return on assets of Cholamandalam Investment & Finance Company (1.16%) was lowest. But standard deviation of return on assets was highest for Bajaj Finance(1.01). Deviation of actual return on

assets from average return on assets was highest for Bajaj Finance. Standard deviation of return on assets was lowest for Sundaram Finance (0.48). It means the deviation of actual return on assets from average return on assets was very low for Sundaram Finance. Coefficient of variation of Sundaram Finance was lowest (19.59%) and coefficient of variation of Cholamandalam Investment & Finance Company was highest (53.00%).

Table-4: Current Ratio of select Non-banking financial companies in India

Year	Bajaj Finance	Shriram Transport Finance Corporation	Mahindra & Mahindra Financial Services	Sundaram Finance	Cholamandalam Investment & Finance Company
2007	1.82	4.53	5.85	5.23	4.22
2008	1.62	4.41	6.79	7.65	2.81
2009	1.46	3.97	5.34	6.45	2.00
2010	2.30	4.44	6.41	5.91	2.62
2011	1.02	1.53	1.64	1.38	1.23
2012	1.37	1.61	1.51	1.09	0.94
2013	1.16	1.51	1.57	0.97	0.77
2014	1.04	1.63	1.18	1.04	0.81
2015	1.48	1.69	1.27	1.15	0.94
2016	1.57	0.99	1.26	0.84	0.69
Average	1.48	2.63	3.28	3.17	1.70
S.D	0.39	1.49	2.45	2.77	1.18
C.V(%)	26.35	56.65	74.70	87.38	69.41

Source: calculated by author

Inference:

Table 4 is showing current ratio of select Non-banking financial companies in India from year 2007 to 2016. The average current ratio of Mahindra & Mahindra Financial Services (3.28) was highest and average current ratio of Bajaj Finance (1.48) was lowest. But standard deviation and coefficient of variation of current ratio was highest for Sundaram Finance

(2.77,87.38%). Deviation of actual current ratio from average current ratio was highest for Sundaram Finance. Standard deviation and coefficient of variation of current ratio was lowest for Bajaj Finance (0.39,26.35%). It means the deviation of actual current ratio from average current ratio was very low for Bajaj Finance. The current ratio Bajaj Finance was very stable during the period of observation.

Table-5: Quick Ratio of select Non-banking financial companies in India

Year	Bajaj Finance	Shriram Transport Finance Corporation	Mahindra & Mahindra Financial Services	Sundaram Finance	Cholamandalam Investment & Finance Company
2007	0.41	4.51	5.85	4.92	4.22
2008	0.33	4.41	6.79	7.28	2.81
2009	0.64	3.97	5.34	6.12	2.00
2010	2.30	4.44	6.41	5.73	2.62
2011	1.02	1.53	1.64	1.38	1.23
2012	1.37	1.61	1.51	1.09	0.94
2013	1.16	1.51	1.57	0.97	0.77
2014	1.04	1.63	1.18	1.04	0.81
2015	1.48	1.69	1.27	1.15	0.94
2016	1.57	0.99	1.26	0.84	0.69
Average	1.13	2.63	3.28	3.05	1.70
S.D	0.59	1.49	2.45	2.61	1.18
C.V(%)	52.21	56.65	74.70	85.57	69.41

Source: calculated by author

Inference:

Table 5 is showing quick ratio of select Non-banking financial companies in India from year 2007 to 2016. The average quick ratio of Mahindra & Mahindra Financial Services (3.28) was highest and average quick ratio of Bajaj Finance (1.13) was lowest. But standard deviation and coefficient of variation of quick ratio was highest for Sundaram Finance (2.61,85.57%).

Deviation of actual quick ratio from average quick ratio was highest for Sundaram Finance. Standard deviation and coefficient of variation of quick ratio was lowest for Bajaj Finance (0.59, 52.21%). It means the deviation of actual quick ratio from average quick ratio was very low for Bajaj Finance. The quick ratio Bajaj Finance was very stable during the period of observation.

Table-6: Cash Earning Retention Ratio of select Non-banking financial companies in India

Year	Bajaj Finance	Shriram Transport Finance Corporation	Mahindra & Mahindra Financial Services	Sundaram Finance	Cholamandalam Investment & Finance Company
2007	79.08	73.31	75.49	76.11	58.56
2008	85.62	75.89	76.53	82.84	72.38
2009	81.47	84.27	76.13	80.85	100.00
2010	77.38	84.78	79.39	79.55	78.43
2011	85.73	88.17	78.29	77.78	74.69
2012	88.15	88.43	77.24	79.63	82.84
2013	87.69	88.47	77.38	79.67	85.49
2014	89.28	87.73	76.29	79.23	87.08
2015	90.33	82.26	73.95	78.62	89.18
2016	89.47	81.32	68.12	78.24	88.09
Average	85.42	83.46	75.88	79.25	81.67
S.D	4.57	5.36	3.11	1.80	11.35
C.V(%)	5.33	6.42	4.10	2.27	13.90

Source: calculated by author

Inference:

Table 6 is showing cash earnings retention ratio of select Non-banking financial companies in India from year 2007 to 2016. The average cash earnings retention ratio of Bajaj Finance (85.42) was highest and average cash earnings retention ratio of Mahindra & Mahindra Financial Services (75.88) was lowest. But standard deviation and coefficient of variation of cash earnings retention ratio was highest for Cholamandalam Investment & Finance Company (11.35, 13.90%).

Deviation of actual cash earnings retention ratio from average cash earnings retention ratio was highest for Cholamandalam Investment & Finance Company. Standard deviation and coefficient of variation of cash earnings retention ratio was lowest for Sundaram Finance (1.80, 2.27%). It means the deviation of actual cash earnings retention ratio from average cash earnings retention ratio was very low for Sundaram Finance. The cash earnings retention ratio of Sundaram Finance was very stable during the period of observation.

Table-7: Profit before tax per share of select Non-banking financial companies in India

Year	Bajaj Finance	Shriram Transport Finance Corporation	Mahindra & Mahindra Financial Services	Sundaram Finance	Cholamandalam Investment & Finance Company
2007	20.08	15.70	24.13	51.64	12.44
2008	7.73	29.82	28.54	109.05	42.39
2009	13.21	45.23	34.02	39.55	2.57
2010	35.34	58.73	54.24	58.23	4.71
2011	100.91	81.74	68.56	77.31	8.39
2012	145.75	83.11	90.10	92.19	21.88
2013	175.09	88.86	22.72	53.35	31.49
2014	219.33	80.56	23.88	58.20	38.41
2015	271.39	81.20	22.22	58.61	45.72
2016	366.87	78.51	18.39	61.50	55.74
Average	135.57	64.35	38.68	65.96	26.37
S.D	123.16	25.73	24.20	20.89	18.97
C.V(%)	90.80	39.98	62.56	31.67	71.94

Source: calculated by author

Inference:

Table 7 is showing profit before tax per share of select Non-banking financial companies in India from year 2007 to 2016. The average profit before tax per share of Bajaj Finance (135.57) was highest and average profit before tax per share of Mahindra & Mahindra Financial Services (38.68) was lowest. But standard deviation and coefficient of variation of profit before tax per share was highest for Bajaj Finance (123.16, 90.80%).

Deviation of actual profit before tax per share from average profit before tax per share was highest for Bajaj Finance. Standard deviation and coefficient of variation of profit before tax per share was lowest for Sundaram Finance (20.89, 31.67%). It means the deviation of actual profit before tax per share from average profit before tax per share was very low for Sundaram Finance. The profit before tax per share of Sundaram Finance was very stable during the period of observation.

Table-8: Earnings per share (EPS) of select Non-banking financial companies in India

Year	Bajaj Finance	Shriram Transport Finance Corporation	Mahindra & Mahindra Financial Services	Sundaram Finance	Cholamandalam Investment & Finance Company
2007	13.48	10.34	15.82	36.17	8.16
2008	5.62	19.19	18.58	76.52	11.36
2009	9.27	30.09	22.41	27.13	6.43
2010	24.43	38.71	35.71	40.82	2.32
2011	67.47	54.49	47.85	53.15	5.67
2012	110.84	55.59	60.46	63.99	14.39
2013	135.69	59.98	16.59	36.91	22.89
2014	144.79	55.72	15.75	39.83	25.43
2015	179.94	54.56	14.75	40.88	30.09
2016	242.30	51.93	11.92	42.96	37.50
Average	93.38	43.06	25.98	45.84	16.42
S.D	82.32	17.55	16.50	14.69	11.86
C.V(%)	88.16	40.76	63.51	32.05	72.23

Source: calculated by author

Inference:

Table 8 is showing earnings per share of select Non-banking financial companies in India from year 2007 to 2016. The average earnings per share of Bajaj Finance (93.38) was highest and average earnings per share of Cholamandalam Investment & Finance Company (16.42) was lowest. But standard deviation and coefficient of variation of earnings per share was highest for Bajaj Finance (82.32, 88.16%). Deviation

of actual earnings per share from average earnings per share was highest for Bajaj Finance. Standard deviation and coefficient of variation of earnings per share was lowest for Sundaram Finance (14.69, 32.05%). It means the deviation of actual earnings per share from average earnings per share was very low for Sundaram Finance. The earnings per share of Sundaram Finance was very stable during the period of observation.

Table-9: Dividend per share (DPS) of select Non-banking financial companies in India

Year	Bajaj Finance	Shriram Transport Finance Corporation	Mahindra & Mahindra Financial Services	Sundaram Finance	Cholamandalam Investment & Finance Company
2007	3.00	3.00	4.00	10.50	4.00
2008	1.00	5.00	4.50	15.00	4.00
2009	2.00	5.00	5.50	6.50	0.00
2010	6.00	6.00	7.50	10.00	1.00
2011	10.00	6.50	10.00	14.00	1.50
2012	12.00	6.50	14.00	15.50	2.50
2013	15.00	7.00	3.60	9.00	3.50
2014	16.00	7.00	3.80	10.00	3.50
2015	18.00	10.00	4.00	10.50	3.50
2016	25.00	10.00	4.00	11.00	4.50
Average	10.80	6.60	6.09	11.20	2.80
S.D	7.87	2.16	3.45	2.82	1.49
C.V (%)	72.87	32.73	56.65	25.18	53.21

Source: calculated by author

Inference:

Table 9 is showing dividend per share of select Non-banking financial companies in India from year 2007 to 2016. The average dividend per share of Sundaram Finance (11.20) was highest and average dividend per share of Cholamandalam Investment & Finance Company (2.80) was lowest. But standard deviation and coefficient of variation of dividend per share was highest for Bajaj Finance (7.87,

72.87%). Deviation of actual dividend per share from average dividend per share was highest for Bajaj Finance. Coefficient of variation of dividend per share was lowest for Sundaram Finance (25.18%). It means the deviation of actual dividend per share from average dividend per share was very low for Sundaram Finance. The dividend per share Sundaram Finance was very stable during the period of observation.

Table-10: Pearson's simple correlation analysis of Profitability ratios and EPS

	Correlation coefficient between EPS and NET PROFIT	Correlation coefficient between EPS and Return on capital employed	Correlation coefficient between EPS and Return on assets
Bajaj Finance	0.74 [t=0.01]	0.53[t=0.01]	0.75[t=0.01]
Shriram Transport Finance Corporation	0.38[t=0.00]	0.61[t=4.16]*	0.49[t=3.97]*
Mahindra & Mahindra Financial Services	0.71[t=0.11]	0.66[t=0.00]	0.65[t=0.00]
Sundaram Finance	0.81[t=9.41]*	0.10[t=8.04]*	0.44[t=5.60]*
Cholamandalam Investment & Finance Company	0.93[t=0.01]	0.97[t=0.00]	0.97[t=0.00]
Figures in bracket show [t] values ***Significant at 10% level ** Significant at 5% level * Significant at 1% level			
Table values of t with (n-2) i.e 8 degrees of freedom at 10%, 5% ,1% levels are 1.86, 2.306 and 3.355 respectively			

Source: calculated by author

Inference:

Table 10 is showing Pearson's simple correlation analysis of earning per share and profitability ratios (net profit, return on capital employed and return on assets). Shriram Transport Finance Corporation, the Correlation coefficient between EPS and Return on capital employed and Correlation coefficient between

EPS and Return on assets are statistically significant at 1% level and in Sundaram Finance Correlation coefficient between EPS and net profit Correlation coefficient between EPS and Return on capital employed and Correlation coefficient between EPS and Return on assets are statistically significant at 1% level of significance.

Table-11: Pearson's simple correlation analysis of Liquidity ratios and EPS

	Correlation coefficient between EPS and CURRENT RATIO	Correlation coefficient between EPS and QUICK RATIO	Correlation coefficient between EPS and CASH EARNING RETENTION RATIO
Bajaj Finance	-0.38[t=0.01]	0.43[t=0.01]	0.81[t=0.76]
Shriram Transport Finance Corporation	-0.90[t=8.25]*	-0.90[t=8.23]*	0.85[t=5.01]*
Mahindra & Mahindra Financial Services	-0.10[t=0.00]	-0.10[t=0.00]	0.53[t=2.45]**
Sundaram Finance	0.11[t=7.03]*	0.11[t=6.80]*	0.45[t=3.45]*
Cholamandalam Investment & Finance Company	-0.64[t=0.01]	-0.64[t=0.01]	0.40[t=5.70]*
Figures in bracket show [t] values ***Significant at 10% level ** Significant at 5% level * Significant at 1% level			
Table values of t with (n-2) i.e 8 degrees of freedom at 10%, 5%, 1% levels are 1.86, 2.306 and 3.355 respectively			

Source: calculated by author

Inference:

Table 11 is showing Pearson's simple correlation analysis of earning per share and liquidity ratios (current ratios, quick ratio and cash earnings retention ratio). In Shriram Transport Finance Corporation Correlation coefficients between eps and current ratio, quick ratio and cash earning retention ratio are statistically significant at 1% level. In Mahindra & Mahindra financial services the correlation coefficient between EPS and cash earning retention ratio is statistically significant at 5% level. In sundaram finance Correlation coefficients between eps and current ratio, quick ratio and cash earnings retention ratio are statistically significant at 1% level.

Table 12 is showing the multiple correlations and multiple regression of earnings on Net profit, Return on capital employed, Return on assets. The computed multiple correlation co-efficient is tested with the help of 'F' test and computed multiple regression coefficient is tested help of 'T' test. In this analysis, net profit, return on capital employed, return on assets are selected as independent variables and the EPS has been selected as dependent variable. Regression equation is $EPS = \hat{a}_0 + \hat{a}_1 \cdot \text{Net profit} + \hat{a}_2 \cdot \text{Return on capital employed} + \hat{a}_3 \cdot \text{Return on assets}$. In Bajaj Finance, Sundaram Finance and Cholamandalam Investment & Finance Company the multiple correlation co-efficient net profit, return on capital employed, return on assets and

the EPS is statistically significant at 5% level. Regression between EPS and return on capital employed is statistically significant at 5% level and regression between EPS and return on assets is statistically significant at 10% level in case of Bajaj Finance. In Shriram Transport Finance Corporation regression between EPS and return on capital employed is statistically significant at 10% level. In Sundaram Finance regression between EPS and net profit is statistically significant at 5% level. Cholamandalam Investment & Finance Company coefficient of regression between EPS and return on assets is statistically significant at 10% level.

Table 13 is showing the multiple correlation and multiple regression of earnings on Current ratio, quick

ratio, cash earnings retention ratio. The computed multiple correlation co-efficient is tested with the help of 'F' test and computed multiple regression coefficient is tested help of 'T' test. In this analysis, Current ratio, quick ratio, cash earnings retention ratio are selected as independent variables and the EPS has been selected as dependent variable. Regression equation is $EPS = \hat{\alpha}_0 + \hat{\alpha}_1 \cdot \text{current ratio} + \hat{\alpha}_2 \cdot \text{quick ratio} + \hat{\alpha}_3 \cdot \text{cash earnings retention ratio}$. In case of Bajaj Finance and Shriram Transport Finance Corporation coefficient of regression between EPS and cash earnings retention ratio is statistically significant at 5% level. In case of Mahindra & Mahindra Financial Services coefficient of regression between EPS and cash earnings retention is statistically significant at 10% level.

Table-12: Multiple correlation and multiple regression

Multiple correlation and multiple regression of earnings on Net profit, Return on capital employed, Return on assets [Regression equation $EPS = \beta_0 + \beta_1 \cdot \text{Net profit} + \beta_2 \cdot \text{Return on capital employed} + \beta_3 \cdot \text{Return on assets}$]

Company	R	R ²	F	β_0		β_1		β_2		β_3	
				value	t	value	t	value	t	value	t
Bajaj Finance	0.90	0.80	8.08#	0.95	-0.07	0.49	0.74	0.04	-2.63**	0.08	-2.13*
Shriram Transport Finance Corporation	0.82	0.67	4.04	0.08	2.10*	0.26	-1.25	0.06	2.28*	0.75	-0.34
Mahindra & Mahindra Financial Services	0.71	0.50	2.04	0.30	-1.14	0.48	0.75	0.80	0.26	0.91	-0.12
Sundaram Finance	0.90	0.81	8.73#	0.05	-2.40*	0.02	3.02**	0.20	-1.42	0.72	0.38
Cholamandalam Investment & Finance Company	0.98	0.97	58.77#	0.24	-1.30	0.16	-1.62	0.65	0.47	0.09	2.00*
# Significant at 5% level of table value (k,n-k-1) i.e (3,6) degree of freedom at 5% is 4.76			*Significant at 10% level **Significant at 5% level ***Significant at 1% level Table values of t with (n-k-1) or 6 degree of freedom at 10%, 5% and 1% levels are 1.943, 2.447, 3.707 respectively.								

Source: calculated by author

Table-13: Multiple correlation and multiple regression

Multiple correlation and multiple regression of earnings on Current ratio, Quick ratio, Cash earnings retention ratio [Regression equation $EPS = \beta_0 + \beta_1 \cdot \text{Current ratio} + \beta_2 \cdot \text{Quick ratio} + \beta_3 \cdot \text{Cash earnings retention ratio}$]

Company	R	R ²	F	β_0		β_1		β_2		β_3	
				value	t	value	t	value	t	value	t
Bajaj Finance	0.90	0.82	9.03#	0.03	-2.88**	0.69	0.42	0.13	1.77	0.02	3.29**
Shriram Transport Finance Corporation	0.98	0.96	45.04#	0.29	-1.16	0.30	-1.14	0.31	1.12	0.02	3.00**
Mahindra & Mahindra Financial Services	0.61	0.37	2.02	0.12	-1.75	0.35	-0.95	0.36	-0.97	0.09	1.98*
Sundaram Finance	0.46	0.21	0.55	0.36	-0.99	0.93	-0.1	0.93	0.09	0.30	1.14
Cholamandalam Investment & Finance Company	0.65	0.42	2.56	0.38	0.94	0.12	-1.78	0.11	-1.75	0.81	-0.25
# Significant at 5% level of table value (k,n-k-1) i.e (3,6) degree of freedom at 5% is 4.76			*Significant at 10% level **Significant at 5% level ***Significant at 1% level Table values of t with (n-k-1) or 6 degree of freedom at 10%, 5% and 1% levels are 1.943, 2.447, 3.707 respectively.								

Source: calculated by author

8. Conclusion:

It may be concluded from the above analysis and findings that in case of profitability ratios the of Bajaj Finance and Sundaram finance have shown very robust performance over the other companies. In case liquidity ratios, Mahindra & Mahindra Financial Services and Bajaj Finance performance were good. In case of earning Bajaj Finance,Cholamandalam Investment & Finance Company and Sundaram finance performances are very shareholders friendly. Shriram Transport Finance Corporation, there is correlation between EPS and Return on capital employed and also there is correlation between EPS and Return on assets and in Sundaram Finance correlation EPS and net profit are correlated and correlation exists between EPS and Return on

capital employed and EPS and Return on assets are correlated. In Shriram Transport Finance Corporation there is correlation between EPS and current ratio, quick ratio and cash earnings retention ratio. In Mahindra & Mahindra financial services the correlation. In sundaram finance there is Correlation between eps and current ratio, quick ratio and cash earnings retention ratio. In Bajaj Finance, Sundaram Finance and Cholamandalam Investment & Finance Company there is multiple correlation co-efficient between net profit, return on capital employed, return on assets and the EPS. There is regression between EPS and return on capital employed and regression between EPS and return on assets in case of Bajaj Finance. In Shriram Transport Finance Corporation regression between EPS and return on capital employed is

statistically significant. In Sundaram Finance regression between EPS and net profit is statistically significant. Cholamandalam Investment & Finance Company coefficient of regression between EPS and return on assets is statistically significant. In case of Bajaj Finance

and Shriram Transport Finance Corporation there are coefficients of regression between EPS and cash earnings retention ratio. In case of Mahindra & Mahindra Financial Services there is regression between EPS and cash earnings retention.

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Bank Employees Task Performance: A Role of Leadership Style with Reference to Indian Banking Industry

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Abstract

Leading with sustainability in this high-tech global competition had become a major concern for every single organization all over the world. Here, not only customer expectation but employees' aspirations were also accelerating day by day, which had captivated banks too for focusing on the excellency whether it was a company's product or its company employees. Employee's high-level performance & development had become an enormous challenge, where it had been acknowledged that manager's leadership behavior can have a constructive influence on their employees, which stimulates employee's performance for long term growth. Task performance was most pertinent and directly connected to the organization's goal, where employees' behaviors, efforts were rightly indulged into the prescribed job activities, and technical process of organizations. Thus, to retain & increase task performance in banks, there was a need to strategize a perfect leadership style along with other HR tactics. Thus, this analytical study aims to identify the role of Bank supervisor's leadership style on their employee task performance, where the hypothesis was tested through a multi-stage sampling of 422 employees from public & private banks in India.

Key Words: Transformational, transactional, Leadership styles, task performance, banking sector

1. Introduction of the Study:

Organizations, internal & external frameworks had been facing a huge challenge; every single company, currently adapting themselves to gain an advantage in this dynamic state of competition. Here, human resource management continuously focusing on inducing a high-level performance with core competencies in every employee (Barney, 1995). The notion performance had been extensively researched, but still, no specific dimension or factors had noticed. It might be the reason that employee performance was a multifaceted term, which cannot quantify in one

parameter, as different employees had a different way of performing or putting efforts in a different zone. Over that, the researcher, Borman, and Motowidlo (1993) framed two different employee's performance dimensions, as per employees' behavior for organizational success i.e., task & contextual performance. It was stated that task performance depicts the efforts of employees, which were related to their job description which directly assists in the process of creating goods and services in the organization and which were more linked with the company's formal system (Borman and Motowidlo, 1997; Werner, 2000). Moreover, contextual performance related to the "employee's extra-role behaviors. Thus, both were significant in their place, while focusing at the urgency in the banking industry related to high-tech employees for core competencies, there was a need to give utmost importance to employee's behavior for producing task performance

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which involved task responsibility and specific job attitude to perform the technical function at stipulated time. (Motowidlo & Schmit, 1999). There had been several theories which were signifying that leadership style marked a massive difference in any of its follower's performance, but theoretical work found it tough to make a clear association among "which leadership styles relate which performance factors of employees", since both the notions had multiple perplexing variables which made it difficult to validate the reliable source and outcome among them. The problem statement of this research paper was that the banking sector plays a lead and significant role in Indian economic growth. However, to accelerate it for future uncertain challenges with the more effective result in the overall world, banking top officials and supervisors were required to inspire their subordinates for High-level performance. Leadership was a critical aspect that might had a high impact on employee individual job performance" (Yukl, 1998). Hence, the banking sector, including public and private banks, must hire a specialized leader to understand the importance of banks' mission and vision along with employees' aspirations. So, to trace the bright and positive relationship among a leader and performance, this paper through primary data, had attempted to explore bank employees' level of task performance concerning three independent leadership style (Transformational, transactional and laissez-faire). Consequently, this research paper will also examine that which style mostly prevails in the bank and the different levels of impact of all three styles on their follower's performance in Rajasthan, directed to project the study hypotheses.

2. Literature Review:

Looking towards the banking structure of India, there was a need for restructuring the banking management system from top to down, wherever there was a lacking in innovation or zeal to work for core competitive advantage. Besides, in today's banking era, where change was not constant, and it was unavoidable, which needs a prompt response, the challenge of employee performance development had also become an enormous concern for leaders. Every organization possesses a diverse source, which discriminates them

from their opponents; one of these was the company manager's or leader's capacity to accelerated organization services with new know-how to acquaint the hastily reformed probabilities (Hamel & Prahalad, 1990). Several leadership styles had dissimilar relation with their employee's behavior; an efficient leader always gives direction, guidance by persuading their cohorts (employees) on the way to attain individual & organizational objectives, which cover all facets of in & out of the organization. Kumar (2014) explained that "The term leadership was valued as a distinct course through which a manager or a person stimulus other to accomplish an objective & leads everyone in the organization in such a manner that develops them in a more unified and lucid way." Although many experts had acclaimed that leaders always make efforts in fostering, the aspiration of the organization by inspiring subordinates towards the positive effort collectively. However, Still, academicians contend that here was a gap in the leadership literature of the Indian banking sector. Although, there had been several individuals and organizational factors that result in employee's performance like employee's personality, satisfaction, engagement, abilities, and skills (Flippo, 1995) or the organization's culture, structure, superior behavior peers, reward system and many more. Among them, the leadership style of superior was found as the most impacting factor. The past facts on leadership & work performance had made various authors & researchers to rethink in some specific way as the past the result was lacking consistency. Deinert et al. (2015) stated that even though there was a need to observe "specific "transformational factor or the behavior of leadership" on the scale in India. Additional explicitly, we can notice that still, studies had not yet explored the leadership behaviors of Indian bank officials and its connection with bank employees' task performance.

3. Research Methodology:

In the current study, the quantifiable method was implemented to gather data from nearly 422-respondents comprised of 212 employees from a private bank and 210 employees from a public bank in Rajasthan state. The multi-stage sampling the technique was used to collect data from three cities

(Jaipur, Jodhpur, and Udaipur) of Rajasthan based on the highest number of bank branches, in this explorative research, primary data was collected by online questionnaire-based on two verified tools i.e., MLQ (Bass 1999) for measuring leadership style of supervisor's, and secondly, the employee's task performance was measured based on IWPQ (Koopman's 2013, 2015). Descriptive and inferential statistical analysis was conducted for analysis of data-based on objectives of the current study i.e., mean, SD, Pearson correlation, and Multi-regression method.

3.1 Objective of the Study:

1. "To determine the Transformational, Transactional and Laissez faire leadership style of supervisor's in banks".
2. To determine the Task performance of employees in banks.
3. "To identify the relationship between Leadership style and task performance of subordinates in banks."
4. "To evaluate the extent to which leadership styles impact employees' Task performance in banks."

3.2 Hypothesis of the Study:

H01a "Transformational leadership style was most prevailing style of managers in banks".

H02a "There was a significant relationship between leadership style and Task performance of subordinates in banks".

H03a "There was significant impact of superior's leadership style on Task performance of subordinate's in banks".

4. Data Analysis:

Cronbach alpha values must be between 0.7 to 0.8 or above. In the current study, the calculated value of Cronbach's Alpha of MLQ and IWPQ was .886 with mean value 176.62, which was more than a minimum permissible value, hence proved that there was consistency in responses. Thus, the result of a reliability test confirmed the internal consistency of both the tool and all 54 items seems quite logical and suitable.

Objective 1: "To determine the Transformational, Transactional and Laissez-faire leadership style of the supervisor's in banks".

Table 4.1: Descriptive statistic of group variable Three leadership styles

Descriptive statistics - Variables					
Research variables	Mean	Median	Mode	SD	Range
TSLS	3.23	3.25	3	.592	3
TFLS	3.40	3.50	3	.720	4
LFLS	2.43	2.25	1	1.067	4
TS+TF+LF=Leadership style	3.24	3.28	3	.547	3

The table above 4.1 compares the ratings of the responses received from the targeted sample of this study (bank employees). The results clearly show that the concentrated bank employees view on their leaders or reporting managers style where it was found that leaders were more practicing the transformational leadership characteristics, that discloses that leaders exhibited transformational style "often" with, its mean value of (M=3.40), and (SD=0.720) standard deviation expressed variation in employees responses. Nearly only a few employees view their reporting managers

practicing "seldom" transformational style (Min=1) whereas more than few other employees perceived their reporting managers adopting "frequently" this style (Max=5). Secondly, the result of the transactional style of leadership discloses that their reporting manager exhibited this style in-between "sometimes" and "Often" with the means value of (M=3.23), and (SD=0.592) standard deviation expressed variation in employees' responses. Next when we measured the result in terms of the laissez-faire style of leadership, exhibits the views of employees about their reporting

managers as subjective with the mean value between “seldom to sometimes” ($M=2.43$) & ($SD=1.068$) standard deviation stated variation in employees’ responses. Further, the range showed that the lowest score of ($\min=1$) concludes that some applicants specified that their reporting manager or supervisors never shows this style whereas others ($\max=5$) specified that supervisors showed the Laissez fare style as frequently. Hence this Mean score of 2.43 proves the Laissez-Faire leadership style was not much prevailing

in banks of Rajasthan state. Therefore, the above table explores that the most dominating style of superior was transformational style, which comes before the transactional leadership style. Hence, this would accept our study alternate hypothesis that **Ha1: “Transformational leadership style was the most prevailing leadership style in banks of Rajasthan state”.**

Objectives 2: To determine the Task performance of employees of banks in Rajasthan.

Table 4.2: Samples Statistics of Mean, Standard Deviation of employee Task Performance

DEPENDENT VARIABLE							
Dependent variable Scale	Mean	Median	Mode	Std. Deviation	Range	Minimum	Maximum
Task performance	3.81	3.80	4	.690	3	2	5

Table 4.2: After observing the performance of subordinates of Rajasthan’s public and private sector Bank, employees task performance was assessed subjectively, i.e. the person’s assessment of his/her performance was asked. “According to the frequency analysis, the study can verify that the data gathered for Task performance had been normally distributed and the data had gathered around the mean of 3.81 and with an std. dev. of 0.690. The bell curve indicates that almost every reply to the questions to quantify the task performance of the bank employees was close to the mean, while fewer people had provided answers unlike from the mean value”. Timely planning mean score was 4.1 with $SD=0.92$, optimal planning mean score was 3.53 & $SD=0.96$, employees keep in mind the result mean score was 4.01 & $SD=0.978$, ability to separate main issues mean value which was 3.6 and $SD=1.064$ and ability to perform in time mean value was 3.79 and $SD=0.94$. In this survey, the highest scores were received in “I manage to plan my work so that it was completed on given duration” ($M=4.10$ & $SD=0.928$) and the lowermost scores were in “My planning was always optimal” ($M=3.53$ & $SD=0.966$). Through the above result, we can depict that bank employees were more than average in their Task performance where they found to be a focus on planning and organizing of their work, optimization of the task, giving priorities to the most important

work, time management.

Objective: 3: “To identify the relationship between Leadership style and task performance of subordinates in banks”.

Hypotheses H02: “There was no relationship between the leadership styles and employees Task performance of banks in Rajasthan.”

Now, next, to examine the above hypothesis Ha2, a Pearson correlation will be used among leadership styles & employee performance. Table 4.3 below displays the result of the correlation matrix.

Leadership styles with Task Performance: The Above (Table no-1.3) exhibits the results on the relationship among the supervisor’s different Leadership styles (as measured by SPSS_LS) and Task performance (as measured by SPSS_TP). The outcome shows a “significant a positive relationship between Task performance and leadership styles, where a value of $r = 0.404$, $p-0.000 < 0.05$, with an almost a strong level of the task performance, found associated with Leadership styles”. Thus, the null hypothesis “H02: Leadership styles had no significant relationship with Task performance”, got rejected. Now we would also evaluate the different styles of an individual relationship with task performance in the next paragraph. **Result of correlation of three types of Supervisor leadership styles with task performance:**

Table 4.3: Pearson Correlation between leadership style & task performance

Correlations		
Variables	Pearson Correlation	Task performance (SPSS_TP)
Leadership StylesSPSS_LS	r value	0.404**
	P value	0.000
Transactional styleSPSS_TSLS	r value	0.360
	P value	0.000
Transformational styleSPSS_TFLS	r value	0.375
	P value	0.000
Laissez-Faire styleSPSS_LFLS	r value	0.000
	P value	0.995
** . “Correlation was significant at the 0.01 level (2-tailed).”		
* . “Correlation was significant at the 0.05 level (2-tailed).”		

- Supervisors Transformational Leadership style with subordinates Task Performance: From the above table 1.3, results show a significant positive relationship between TP and TFLS, $r=0.375$, $p-0.000 < 0.05$, with moderate levels of task performance associated with TFL”.
- Supervisors Transactional Leadership with subordinates Task Performance: From the above table 1.3, results show A significant positive relationship was found between TP and TSLS, $r = 0.360$, $p-0.000 < 0.05$, with moderate levels of task performance associated with Transactional Leadership”.
- Supervisors Laissez-Faire Leadership with subordinates Task Performance: From the above table 1.3, results show a non-significant relationship was found between TP and LFLS, $r = 0.000$, as $p-0.995 > 0.05$, with zero levels of task performance association with Laissez-Faire leadership, task performance had no significant relationship with Laissez-Faire”. Thus, this shows that among all three styles it was a transformational style, which depicts the highest correlation and then the transactional style also found to be positively related to employees’ task-related work. Means if leaders focused on employee’s individual need and aspiration, with the idealized attribute, intellectual stimulation, and motivation along with contingent rewards, then the follower’s task performance got enhance more.

Objective: 4: “To evaluate the degree to which leadership styles impact employees’ Task performance in banks.” To test this Hypothesis multi regression was run on data

H03 “There was no significant impact of superior’s leadership style on Task performance of the employee’s in banks.”

The table below 4.1.1 showed the model of regression with three (transactional, transformational and laissez-faire leadership style) independent variables, which explicates 16.4 % of the variance in followers task performance. further, we found that the adjusted R² indicates “no over-fitting of the model & that the outcomes had better be generalizable from the viewpoint of the ratio of observations to variables in the equation”. Here, the standard error of estimate had been abridged to 0.63293.

Further, in the table 4.1.2, the result of the F statistic found with a degree of freedom of 3 and 418, where the considered F value i.e. 27.304 was far above 1.00 ($\alpha = 0.05$), which specified that in totally the regression was extremely significant. We approached the identical inference by observing the value of p was 0.000, as this prob value was below the significant level of $\alpha = 0.05$, this concludes that the regression as a whole was significant.” $F(3, 418) = 27.304$, $p = .000$, $R^2 = .164$, suggesting that the leadership subscales factors do significantly predict task performance among bank employees.

Table 4.1.1: Multiple Regression for Leadership Styles & Subordinate /Employee Task Performance

Model Summary					
Model		R	R Square	Adjusted R Square	Std. Error of the Estimate
	1	.405 ^a	.164	.158	.63293
a. Predictors: (Constant), Laissez-Faire LS, Transactional LS, Transformational LS					
b. Dependent Variable: Task performance					

Table 4.1.2: Showing Analysis of Variances with respect to regression

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	32.814	3	10.938	27.304	.000 ^a
1	Residual	167.452	418	.401		
	Total	200.265	421			
a. Predictors: (Constant), Laissez-Faire LS, Transactional LS, Transformational LS						
b. Dependent Variable: Task performance						

Table 4.1.3: Beta values and significance level in predicting employee Task performance

Coefficients									
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	2.169	.197		11.015	.000	1.782	2.557		
Transactional LS	.169	.081	.145	2.080	.038	.009	.329	.412	2.427
Transformational LS	.285	.070	.298	4.076	.000	.148	.422	.375	2.663
Laissez-Faire LS	.052	.034	.081	1.553	.121	-.014	.118	.742	1.349
a. Dependent Variable: Task performance									

The table-4.1.3 above, explaining that probability value, through which it was clearly signified that among all three leadership style laissez-faire style ($p=0.121$) was found as non-explanatory variable for bank employee's task performance, while transformational style (0.000) followed by transactional style (0.038) were explanatory variables for subordinate task performance.

$$\text{EQUATION 1 TP} = 2.169 - 0.169 \text{ TRANSACTIONAL} + .285 \text{ TRANSFORMATIONAL} + .052 \text{ LFL}$$

As it can be noticed that, "residual distribution was comparatively uniform, near normal distribution, which signifies that research dependent variable follow a normal distribution."

Research Contributions and Discussion: The empirical study rejected the null hypothesis and it was found the utmost dominant styles among bank managers were transformational leadership style followed by transactional leadership styles. That means the leaders in banks "encourage their subordinates or group members to realize targets beyond their own predictions through inducing every single employee

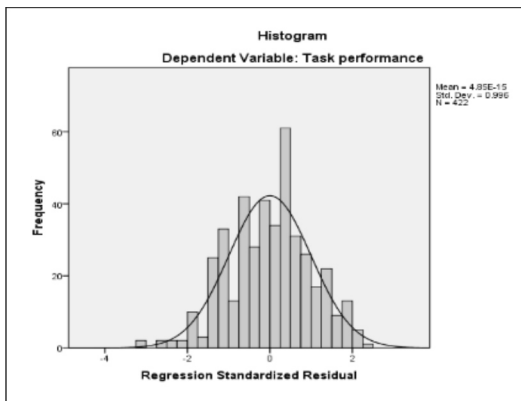


Figure-2

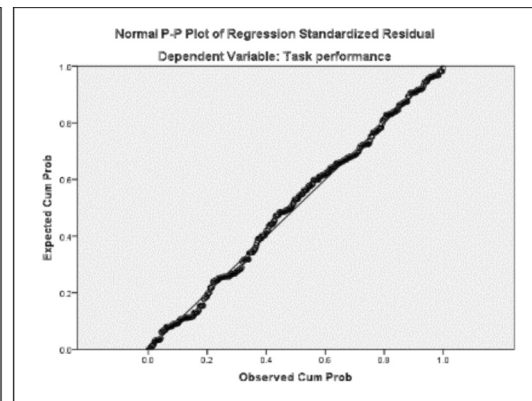


Figure-2

to pursue even complex performances. And Leaders also convince their followers to exchange their self-interests with organizational interests by fulfilling their aspirations (Bass, 1985; Bass and Avolio, 1993)". Further, finding also rejects both the second and the third hypothesis and depicts that overall leadership style was highly correlated and impacted the employee's task performance in the bank. Here, the study found TFLS and TSLS, both these styles were positively related to follower's task performance, though effect sizes differ substantially. Nonetheless, cross-sectional research designs with different other performance dimensions or measures inclined to get moderately many strong effects. Descriptive analysis of the correlation matrix displayed a transformational leadership style as most significantly related style with task performance of employees tracked by transactional leadership style and there was no relation found in Laissez-faire style with task performance "Empirical data of Regression coefficient proved 16% of the variance of followers task performance through leadership style where the highest positive influence was through transformational leadership style."

5. Recommendations & Managerial Implications:

The applicable results of this paper had not only marked its reflection on leadership topic but also had expanded the present knowledge on employees' performances and its implications across India & globally. Furthermore, from a banking industry real-world lookout, public & private sector banks were

directed to capitalize extra in training of transformational leadership, and banks must select the top-level executives/managers based on transformational behavior and a few factors of transactional behavior for collective high employee performances. Similarly, this study also induces bank leaders' consideration of employee's aspiration and need to promote their behavior for a high level of task performance, through employee's psychological development program and also by creating belongingness in employees with full security, self-identity and appreciation. These initiatives of leaders in banks would also develop organizational effectiveness by creating core competencies in employees. Banking organizations essential to give due consideration to a new intervention training programs that improve managers' styles of influencing. Bank leaders themselves can promote their replicas by selecting and endorsing their followers for becoming an exclusive future transformational and transactional leader, that would support in succession planning in banks.

6. Research Limitations & Scope for Future Research:

Although the finding was limited to the public & private bank sector in the Rajasthan zone with one source, so viewing that to generalized it all over India, the research could be expanded geographically wise. Forthcoming experimental research with other banks like foreign, cooperative banks with not only followers' views but also the perception of peers, supervisors can

be covers, which would assist and approve the contributing paths explored in the present study. By focusing on other new emerging factors or parameters could be included for a clearer picture of the overall performance of followers. Further, more research must observe other new styles of leader behaviors concerning these consequences like a servant and an ethical leadership style.

7. Conclusion:

This current study determined and attempted to examine the effect of several bank manger' leadership styles and their relation with employee's

task performances, where it was explored that the highly dominated style in the bank was Transformational leadership styles, which was certainly connected to the task performances. Along with that transactional style also appeared as the contributory feature and displayed vital parts in enhancing followers task performance in banks. Furthermore, still, there was a demand for exposing more surveys and initiatives for knowing the impact of individual factors of both leadership styles by examining, the antecedents of such behavior in leaders, instead of normal exercise of merging all into one general scale as per previous literature.

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