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RESEARCH BULLETIN



THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

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The CMA professionals would ethically drive enterprises globally by creating value to stakeholders in the socio-economic context through competencies drawn from the integration of strategy, management and accounting.

The Institute of Cost Accountants of India would be the preferred source of resources and professionals for the financial leadership of enterprises globally.

Vision Statement

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CMA Balwinder Singh

President

The Institute of Cost Accountants of India

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FOREWORD

It is my pleasure to write the foreword for the Research Bulletin, Volume-45, No. I & II of The Institute of Cost Accountants of India. I believe this volume will undeniably enrich the thought process of the readers and potential researchers.

Today, India is poised to transform itself and improve the lives of its 1.25bn citizens with unprecedented speed. India brings to the table a rare set of strengths: a stable government that supports private effort, a demographic dividend, a capable private sector, and restless entrepreneurs. Armed with these advantages, India must seize this unique moment in its history. India has to go for the big leap; there is no other option but to grow. If we do not grow, we face a demographic disaster. With such a large number of young people coming into the job market every year, if India has to remain united and peaceful, then there is no alternative but to grow fast.

India will have to marshal its entire people and channel all of its resources toward a common vision and purpose. It will have to liberate entrepreneurs to create quality jobs at a pace never seen before in India's history. It will have to help citizens find and excel in those jobs. It will have to ensure the rule of law and safeguard India's democratic values.

If India builds its economy to US\$10tr in 2034, its achievement will have enormous significance not only for India but also for other ambitious economies. The coming century could be India's to lead. Clearly, the likelihood of any vision becoming realised hinges tightly on the efforts and commitment of all stakeholders.

The bulletin comprises of in-depth researched topics on a variety of segments of the Indian Economy. I hope the readers would love to go through them.

I hope the research articles presented in this volume will address diverse issues and confrontations of our economy and throw some light towards its effective solutions.

CMA Balwinder Singh
President
The Institute of Cost Accountants of India

CHAIRMAN'S COMMUNIQUÉ

It gives me an immense pleasure to place before you the Research Bulletin, Vol.45, No.I & II, issue of the Institute. Our Research Bulletin mainly emphasizes on pragmatic research articles and has a much wider audience of academics, researchers, industry professionals and practitioners.

India is on the cusp of a tremendous opportunity for both economic progress and improvement in the general wellbeing of its citizens. India is currently the world's sixth largest economy and one of the fastest-growing large countries. In the last five years, the Government of India has provided a sustained policy impetus. E-commerce is taking a share from traditional retail at a speed that "modern" organized retail has struggled to emulate. Mobile-based payment models have acquired greater acceptance in a shorter time than credit cards did over the past two decades. A massive increase in internet penetration will lead to more than a billion internet users in India by 2030.

Online connectivity, and the resultant access to information, is proving to be a key driver of differences in aspiration and the desire to spend and upgrade consumption, even among people at similar income levels. Those who are more connected have a keener sense of what is "desirable" and are willing to invest in more comfortable living – including a greater spend on household durables and services. As a vast majority of India is connected over the next decade, this pattern will become a driver of overall consumption growth.

I take this opportunity to put on record my appreciations for my fellow members of the Journal & Publications Committee, esteemed members of the Review Board and the eminent contributors for their sincere effort to publish this volume in time.

The present volume of the Research Bulletin contains varied issues of interest namely, like Cloud Technology, Insurance markets, Life Cycle Theory of Dividends, Virtual water Trade, Corporate Governance, etc.

I welcome the readers to put forward their valuable feedback to enrich Research Bulletin further. Suggestions for improvement of this Bulletin shall be highly appreciated.

CMA (Dr.) K. Ch. A.V. S. N. Murthy
Chairman, Journal & Publications Committee
The Institute of Cost Accountants of India

EDITOR'S NOTE

Greetings!!!

It is our pleasure to launch the Research Bulletin, Vol.45 No.I &II, April & July, 2019 Issue, an offering of the Directorate of Journal and Publications of the Institute.

The present volume of the Research Bulletin contains varied issues of interest namely: Life Cycle Theory of Dividend, Corporate Governance in FMCG Sector, Life Micro Insurance, Virtual Water Trade, Corruption in the Public Sector, Cloud Technology and Women Empowerment. I firmly believe the rich content of the articles would surely improve the knowledge base of the readers.

An Empirical Study on the Effect of National Culture on the perception of Corruption in the Public Sector envisages assessing the effect of national culture, represented by Hofstede's six dimensions of national culture on the perception of corruption in the public sector represented by the Corruption Perception Index published annually by Transparency International.

Corporate Governance in India has come of age as the corporate houses are practicing governance in line with the standards prescribed from time to time by the Companies Act and the SEBI guidelines. The article on Corporate Governance in FMCG industry assesses the quality of corporate governance standards and present practices in two major large cap listed Indian corporate houses representing FMCG industry based on their Annual Reports for the financial year 2018- 2019.

The paper on the employment status and intra-household power of women workers in the leather goods export sector in Kolkata have fourfold objectives: to study the income and work profile of women in the industry; to examine whether the women's employment status translate into their empowerment within the household, to find out whether there is any relationship between the women's empowerment and labour force participation decisions, and to determine whether patriarchal attitude of husbands have any role in the empowerment of women.

LIC of India is the pioneer across the different aspects of marketing strategy. However, in terms of pricing, ICICI Prudential is charging less as compared to LIC of India. It is also inferred that there is distinct approach of both life insurers to serve the rural market. The article on Life Micro Insurance is distinct from other previous studies as it highlights the comparative evaluation of marketing strategies in rural market from the ultimate consumer perspectives.

The article Testing Lifecycle Theory of Dividends examines the Life Cycle Theory of dividends on the Indian Market and whether there is any correlation of paying corporate

dividends on the stage of a firm/company's life cycle. The empirical evidence presented in the paper strongly supports the life-cycle theory, that is, dividend payments reflect firm maturity. It is clear from the data that paying dividends are larger, more profitable and have higher retained earnings than non-dividend paying firms.

The article on Cloud Technology is focused on studying and providing understanding of various qualitative aspects associated with profitability of Cloud Technology managed service delivery projects operating in Industry 4.0 scenerio. This study emphasize at addressing the scope of improvement in an optimum manner and preventing recurrence of the problem with the aim of achieving & maintaining targeted profitability at the project management level.

In view of the increasing importance of water as a resource and its efficient use, virtual water trade position with other countries of the world need to be evaluated and addressed at length. The article on Virtual Water Trade seeks to estimate and analyze the virtual water trade of crop products which were traded by India with the developing countries during the course of international trade for the period 2013-14 to 2017-18 and to quantify the volume of net virtual water trade for that period. The study also evaluates the international trade position for the aforesaid period by combining two parameters (virtual water trade and balance of trade) along with the presence of any association between these two important parameters.

I look forward to presenting the next issue of Research Bulletin, Vol.45, No. III &IV, which will be a Non-theme one.

We look forward to constructive feedback from our readers on the articles and overall development of the Research Bulletin. Please send your mails at research.bulletin@icmai.in.

I am delighted that everyone pulled together to make this issue possible on time.

My earnest gratitude to all the contributors and reviewers of this important issue and wish our readers get plenty of academic inputs from the articles.

Warm regards,

CMA (Dr.) Debaprosanna Nandy
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AN EMPIRICAL STUDY ON THE EFFECT OF NATIONAL CULTURE ON THE PERCEPTION OF CORRUPTION IN THE PUBLIC SECTOR

Shuvashish Roy
Rajib Bhattacharya
Abdul Kader Nazmul

Abstract:

It has been revealed a number of times across nations in the world that the continued failure of most countries to significantly control corruption has contributed to a crisis in democracy. Baring exceptions, empirical evidences revealed that in spite of some progress, most countries have been failing to curb corruption significantly. Corruption is a perceived aspect. An event can be viewed as a severe corruption in some nations while as not that serious in some other nations. The key determinant for such perception is culture. Acts of Corruption is viewed through the cultural filter and thus appears to be severe in some nations and mild in others depending on the filter. This study envisages assessing the effect of national culture, represented by Hofstede's six dimensions of national culture on the perception of corruption in the public sector represented by the Corruption Perception Index published annually by Transparency International. Multivariate linear regression technique has been applied in the study. The findings of the study revealed that four of Hofstede's six dimensions of national culture i.e. power-distance, individualism, long term orientation and restraint, had statistically significant effect on perception of corruption in the public sector.

Key Words:

Corruption, Perception, Hofstede's Dimensions of National Culture, Linear Multivariate Regression



I. Introduction

Corruption is most commonly understood as the abuse of entrusted power for private gain. Corruption can be classified as grand, petty and political, depending on the amounts of money lost, the sector where it occurs and amount of population affected by it.

Grand corruption consists of acts committed at a high level of government that distort policies or the central functioning of the state, enabling leaders to benefit at the expense of the public good. Petty corruption refers to everyday abuse of entrusted power by low- and mid-level public officials in their interactions with ordinary citizens, who often are trying to access basic goods or services in places like hospitals, schools, police departments and other agencies. Political corruption is a manipulation of policies, institutions and rules of procedure in the allocation of resources and financing by political decision makers, who abuse their position to sustain their power, status and wealth.

Corruption impacts societies in a multitude of ways. In the worst cases, it costs lives. In less severe conditions, it costs people their freedom, health or money. The cost of corruption can be divided into four main categories: political, economic, social and environmental. On the political front, corruption is a major obstacle to democracy and the rule of law. In a

democratic system, offices and institutions lose their legitimacy when they're misused for private advantage. This is harmful in established democracies, but even more so in newly emerging ones. It is extremely challenging to develop accountable political leadership in a corrupt climate. Economically, corruption depletes national wealth. Corrupt politicians invest scarce public resources in projects that will line their pockets rather than benefit communities, and prioritize high-profile projects such as dams, power plants, pipelines and refineries over less spectacular but more urgent infrastructure projects such as schools, hospitals and roads. Corruption also hinders the development of fair market structures and distorts competition, which in turn deters investment.

Corruption corrodes the social fabric of society. It undermines people's trust in the political system, in its institutions and its leadership. A distrustful or apathetic public can then become yet another hurdle to challenging corruption.

Environmental degradation is another consequence of corrupt systems. The lack of, or non-enforcement of, environmental regulations and legislation means that precious natural resources are carelessly exploited, and entire ecological systems are ravaged. From mining, to logging, to carbon offsets, companies across the globe continue to pay bribes in return for unrestricted destruction.



Ideally the world should be a place where governments, businesses, civil societies and the daily lives of people shall be free of corruption.

In 1993, an organization Transparency International was formed which now is present in more than 100 countries. Their motto is to work relentlessly to stir the world's collective conscience and bring about change in eradicating corruption. The organization publishes an index which ranks 180 countries and territories by their perceived levels of public sector corruption according to experts and businesspeople. The index uses a scale of 0 to 100, where 0 is highly corrupt and 100 is very clean.

It has been empirically found that corruption is tolerated in many countries though corruption can impede commerce and economic development. This anomaly is due to the fact that corruption is a perceived aspect. Being a perceived aspect, it depends on culture. Hence it is important to assess how national culture affects perceived corruption in an objective manner. This study has been undertaken against this backdrop.

II. Survey of Literature

Getz & Volkema (2001) developed and tested a model which integrated socioeconomic factors related to corruption. Their study revealed that a negative relationship between economic adversity and wealth was catalyzed by corruption. Economic adversity was

positively related to corruption, and corruption was inversely related to wealth. The Hofstede dimensions of Uncertainty avoidance moderated the relationship between economic adversity and corruption. Another Hofstede dimension i.e. Power distance and Uncertainty avoidance were positively associated with corruption. Seleim & Bontis (2009) aimed at investigating the relationship between the Global Leadership and Organizational Behaviour Effectiveness, national cultural dimensions of values and practices and the Corruption Perception Index. Their findings provided support for the influence of Uncertainty Avoidance values, human orientation practices, and individual collectivism practices on the level of corruption. Pillay & Dorasamy (2010) assessed the relation between cultural dimensions and the nature of corruption. Their study provided formal propositions for a framework that linked dimensions of national culture with the pervasiveness and arbitrariness of corruption in the institutions of a nation. They argued that national culture could mediate discretion and accountability thereby engendering either arbitrariness or pervasiveness in corruption. They acknowledged that national culture was an important macro-variable that influenced corruption. Lee & Guven (2013) used micro-level data for over 20 European countries that directly measured individual characteristics, corruption experiences, gender roles, trust and values to examine the determinants of corruption. Their study transcended the search for associations between various macro



factors and perceptions of corruption. Their work focused on how cultural norms e.g. gender roles and risk preferences influenced corruption and whether there were gender differences in the determinants of corruption. Their study also sought to determine if there were contagion effects in corruption at the micro level. Using a seemingly unrelated probit approach, they provided empirical estimates of how past experiences with corruption affected both attitude towards bribery and the actual act of offering a bribe. More masculine societies appeared to have lower probabilities of viewing bribery as being seriously wrong. McLaughlin (2013) examined the issues of corruption in some of the least corrupt countries in the world and in some of the most corrupt countries in the world. His work focused on the role of culture in determining how much corruption a country would be expected to have. He showed that cultural variables like Hofstede's dimensions i.e. power distance and masculinity played a role in determining the level of corruption. He argued that as nations begin to change culturally and experience less power distance and masculinity, it may be a good time to enter with investment into a particular country. He further argued that reduction in power distance and masculinity indices within a country would not only lessen corruption, but could also raise incomes of the individuals living in those countries. This is important because if the reduced power distance and masculinity would be able to increase the transparency of the investment. Rothstein

& Torsello (2013) attempted to investigate how ideas and socio-cultural preferences of public vis-a-vis private accounted for the presence of bribery and corruption practices. Their methodology was based on a quantitative analysis of ethnographic data from the Human Relations Area Files which explored the relation between types of economic subsistence and cases in which issues of bribery were detected. The variation in how bribery was understood in different cultures did not relate to different moral understandings of the problem of corruption, but to how different societies valued the difference, convertibility or blurring of goods belonging to the public and private spheres. Their findings supported their argument that corruption was a phenomenon that was universally understood in a similar manner across different cultures. Akanji (2017) investigated the interface between the national culture and the realities of corruption in Nigeria. His findings provided empirical support for uncertainty avoidance values, patriarchy, and collectivist practices as influencing levels of corruption that affected the nation's economy and human development adversely. His results further revealed the need for a pragmatic approach that placed more emphasis on functional education that could raise cultural consciousness which would promote accountability, transparency and moral adherence to anti-corruption values. His findings offered insights that revealed corruption in Nigeria as more cultural than political. He argued that eradicating corruption in



Nigeria would practically necessitate the need for a culture change, which could be a slow and difficult process, but not an impossible one. Klitgaard (2017) inferred that societies could draw different lines between a licit transaction and a corrupt quid pro quo. For whatever line a society decided to draw in a particular domain, those receiving and giving bribes weighed the possible benefits and costs of crossing the line. He concluded that corruption was a crime of calculation. Juacaba (2018) took up the cases of Petrobras and Statoil, which were long been regarded as role models for other organizations in terms of managerial practices, transparency, efficiency and value creation. Both the companies had experienced corruption in the past decades. He compared two cases i.e. Operation Car Wash and Statoil-Horton scandal, to investigate the causes of a remarkable contrast between the levels of corruption observed in these companies. His findings revealed that national culture played an important contextual role in causing corruption. The composition of the companies' board of directors was also found to be a key factor. He challenged the notion of a universal solution for corruption and suggested that national culture must be taken into account by policymakers to curb corruption.

The various researches of Hofstede (2003, 2010) and Trompenaars (2012) have been found globally in order to get a broad view of the culture. Hofstede's taxonomy is the most cited in the literature on national culture and his taxonomy has

strong linkages to several streams of research (Reis et al 2011). As such this paper focuses on the initial four dimensions of national culture as identified by Hofstede (1983) i.e. Power Distance, Individualism, Masculinity versus Femininity and Uncertainty Avoidance. Though he extended the number of dimensions of national culture to six (<http://www.geert-hofstede.com>) with introduction of two new dimensions of Long-Term Orientation in 1991 based on research by Michael Bond and Indulgence versus Restraint in 2010 based on analysis by Michael Minkov.

Brief descriptions of the six dimensions considered in this paper have been provided hereafter. All the dimensions have been scaled from 0 – 100.

Power-Distance (coded as “pdi” in this study) measures the degree of equality, or inequality, between people of one society and how much the less influent members accept the hierarchy. The institutions or organizations where less powerful members accept power is distributed unequally will have a high PDI. Those countries will be more likely not to allow significant upward mobility of its citizens, because they accept autocratic and paternalistic relations. A low PDI indicates the society tends to reduce the differences between citizen's power and wealth. In those cultures people expect power relations that are more democratic. They relate to others regardless of formal positions, such as if they were consulting them. Subordinates are more comfortable



with contributing to and criticizing the decisions of those who are hierarchically higher.

Individualism (coded as “ici” in this study) focuses on how much people of a society define themselves apart from their group and on how much the country emphasizes individual or collective achievements. A High Individualism ranking indicates that people are expected to develop and to be proud of their personalities and their choices. People often tend to form a higher number of looser relationships in those societies. A Low Individualism ranking typifies societies where the individuals are more likely to act as a member of a group e.g. family, town, profession etc. This collectivist nature tends to develop relationships between individuals, and reinforce extended families.

Masculinity (coded as “mfi” in this study) measures the degree the society reinforces the traditional masculine work role model or not. A High Masculinity ranking indicates the country gives a high importance on traditional male values like ambition, accumulation of wealth and power. Those societies emphasize high gender differentiation. In these cultures, males dominate a significant portion of the society, while females are under domination. In the opposite case, a low masculinity will indicate that the society de-emphasizes the gender differentiation. In those countries, females are treated equally to males in all aspects of the society.

Uncertainty Avoidance (coded as “uai” in this study) focuses on the level people try to cope with stress by fighting uncertainty and ambiguous situations within the society. A high uncertainty-avoidance indicates a rule-oriented society, where citizens prefer explicit laws, rules and controls, in order to reduce the amount of uncertainties. A Low Uncertainty Avoidance ranking indicates the country has less concern about ambiguity and has a greater tolerance for informal situations. This is reflected in a society that is less rule-oriented, where people value implicit or flexible guidelines.

Long-term (coded as “lsi” in this study) orientation encompasses the basic notion that preparing for the future is always needed. In a short-time-oriented culture, the past provides a moral compass and adhering to it is morally good. Every society has to maintain some links with its own past while dealing with the challenges of the present and the future. Societies prioritize these two existential goals differently. Societies who score low on this dimension, view societal change with suspicion. Those with a culture which scores high, on the other hand, encourage thrift and efforts in modern education as a way to prepare for the future.

Indulgence (coded as “iri” in this study) stands for a society that allows relatively free gratification of basic and natural human drives related to enjoying life and having fun. Restraint stands for a society that suppresses gratification of needs and



regulates it by means of strict social norms. In an indulgent culture it is good to be free. Human activities driven by impulses are considered good. In a restrained culture, the feeling is that life is hard. Life in these countries is considered to be a duty and not freedom and is thought of as the normal state of being.

III. Objective of the study

The study aimed at determining whether national cultures have any effect on the level of perceived corruption in the public sector across nations. This objective has been envisaged to be achieved through assessing the extent of explicability of the variation in the level of perceived corruption in the public sector in different nations by the variations in the dimensions of national culture. Accordingly Linear Multivariate Regression analysis was used in this study. The Corruption Perception Index of various nations as published by Transparency International has been taken to be the independent variable and the six dimensions of national culture i.e. Power-Distance (pdi), Individualism vs Collectivism (ici), masculinity vs femininity (mfi), Uncertainty Avoidance (uai), Long-term Orientation (lsi) and Indulgence vs Restraint (iri) has been considered as the predictor variables.

IV. Methodology of the study

The Corruption Perception Index (coded as "cpi" in this study) was taken to be the measure of the perceived corruption in the public sector across nations. This index is

computed and published annually by Transparency International. First launched in 1995, the Corruption Perceptions Index has been widely credited with putting the issue of corruption on the international policy agenda. The perceived corruption is depicted by a number i.e. the Corruption Perception Index (CPI). Each year Transparency International scores countries on how corrupt their public sectors are seen to be. The Corruption Perceptions Index sends a powerful message and governments have been forced to take notice and act. The daily reality for people living in these countries is the background for this index. It is true that this index cannot capture the individual frustrations, but it does capture the informed views of analysts, businesspeople and experts in countries around the world. The index values of the countries have been collected from the report for the year 2018 from the official website of Transparency International i.e. <https://www.transparency.org/cpi2018> as accessed on 21 February 2019. The values of the six dimensions of national cultures as discussed in the survey of literature were collected from the official website of Geert Hofstede i.e. <https://www.hofstede-insights.com/product/compare-countries/>. Though the values of the dimensions do not change frequently, the website of Hofstede was accessed on 03 November 2018. 82 countries were screened out for which the Corruption Perception Index as well as values of all the six dimensions of culture was available. Thus the data points in this study were 82. The provision for an intercept has been kept in constructing



the linear multivariate regression equation as existence of certain amount of entrepreneurship can be there even without the effects of the six dimensions of national culture. The objective of constituting the regression equation was not to predict the Corruption Perception Index on the basis of the dimensions of national culture, but to find out which dimensions were significant in affecting the Index.

The values of the seven variables were tested for normality of their distributions by computing their skewness and kurtosis and plotting Box & Whiskers plots. As they were not found to be normally distributed and occasional presence of outliers were also noted, they were normalized by taking natural logarithms of the respective values of all the seven variables.

The skeletal structure of the regression equation was constituted as:

$$cpi = \text{Intercept} + \beta_1 * pdi + \beta_2 * ici + \beta_3 * mfi + \beta_4 * uai + \beta_5 * Isi + \beta_6 * iri$$

The statistical significance of the intercept and the coefficients of the predictor variables were tested by t test at 5% Level of Significance through framing the following hypotheses

- H_0 : The regression coefficient is statistically insignificant
 H_1 : The regression coefficient is statistically significant

The value of the Adjusted R^2 was taken to be the measurement of the extent of explicability of the variations in inequality of income by the variations in the six dimensions of national culture.

ANOVA was applied to test the robustness of the regression model by testing the statistical significance of the F statistic at 5% Level of Significance through framing of the following hypotheses:

- H_0 : The model is not robust
 H_1 : The model is robust

The presence of autocorrelation in the regression model was tested by computing the Durbin-Watson statistic and testing its statistical significance at 5% Level of Significance through framing of the following hypotheses:

- H_0 : True Autocorrelation = 0
 H_1 : True Autocorrelation > 0

The Residuals versus Fitted Plot was also done to test the accuracy of the regression model. The normality of the distribution of the residuals was tested by plotting the Quantile-Quantile (Q-Q) plots as well. All the statistical processes were carried out on R platform.

V. Findings of the study

The distributions of the dependent variable as well as the six predictor variables were not found to be normally distributed. The corresponding values of



skewness and kurtosis are contained in Table 1.

Table 1
Kurtosis and Skewness of the Independent & Dependent Variables

	Kurtosis	Skewness
pdi	-0.625	-0.279
ici	-1.077	0.493
mfi	0.097	-0.052
uai	-0.694	-0.297
lsi	-0.887	0.345
iri	-0.814	0.162
cpi	-1.206	0.272

Source: Authors' own calculations

The coefficient of correlation matrix of the intercept and the six predictor variables are contained in Table 2.

Table 2
Correlation Coefficient Matrix of the Intercept and the Independent Variables

	(Intercept)	pdi	ici	mfi	uai	lsi	iri
(Intercept)	1	-0.722	-0.587	-0.077	-0.331	-0.353	-0.543
pdi	-0.722	1	0.663	-0.268	-0.121	0.089	0.253
ici	-0.587	0.663	1	-0.195	0.031	-0.162	-0.010
mfi	-0.077	-0.268	-0.195	1	-0.000	-0.047	-0.064
uai	-0.331	-0.121	0.031	-0.000	1	-0.051	0.051
lsi	-0.353	0.089	-0.162	-0.047	-0.051	1	0.456
iri	-0.543	0.253	-0.010	-0.064	0.051	0.456	1

Source: Authors' own calculations

The covariance matrix of the intercept and the six predictor variables are contained in Table 3.



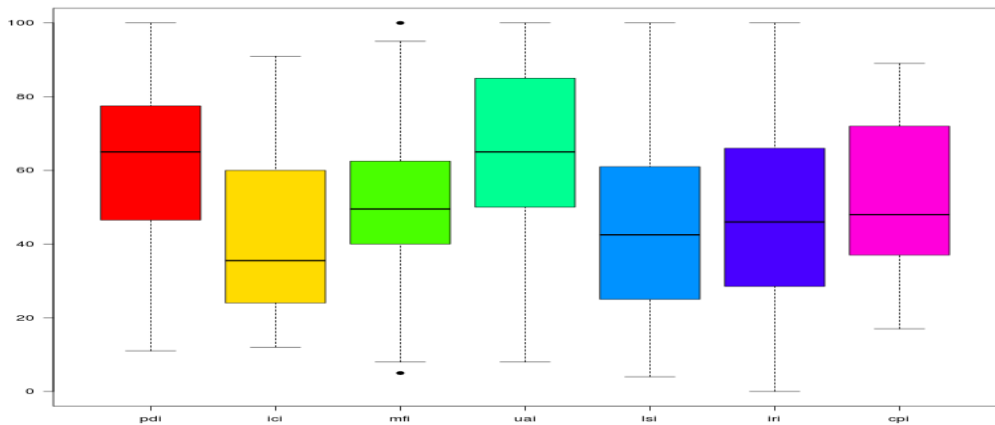
Table 3
Covariance Matrix of the Intercept and the Independent Variables

	(Intercept)	pdi	ici	mfi	uai	lsi	iri
(Intercept)	0.862	-0.005	-0.003	-0.000	-0.001	-0.001	-0.002
pdi	-0.005	0.000	0.000	-0.000	-0.000	0.000	0.000
ici	-0.003	0.000	0.000	-0.000	0.000	-0.000	-0.000
mfi	-0.000	-0.000	-0.000	0.000	-0.000	-0.000	-0.000
uai	-0.001	-0.000	0.000	-0.000	0.000	-0.000	0.000
lsi	-0.001	0.000	-0.000	-0.000	-0.000	0.000	0.000
iri	-0.002	0.000	-0.000	-0.000	0.000	0.000	0.000

Source: Authors' own calculations

The Box & Whiskers plot of the independent variable and the predictor variables are contained in Figure 1.

Figure 1
Box & Whisker Plots of the Dependent & Independent Variables



Source: Authors' own calculations



The summary of the constructed regression model which mainly shows the value of the Adjusted R^2 is contained in Table 4.

Table 4
Summary of the Regression Model

R Square	Adjusted R Square	Std. Error of the Estimate
0.689	0.664	11.907

Source: Authors' own calculations

The intercept and the regression coefficients of the six predictor variables are contained in Table 5. The variable having the absolute value of t statistic ≥ 2 are statistically significant. This is obvious from the corresponding p-value of the t statistic which is ≤ 0.05 i.e. the Level of Significance.

Table 5
Coefficients of the Intercept and the Independent Variables

	Estimate	Std. Error	t	Pr(> t)
(Intercept)	56.564	11.059	5.114	0.000
pdi	-0.400	0.097	-4.120	0.000
ici	0.261	0.084	3.107	0.002
mfi	-0.118	0.071	-1.647	0.103
uai	-0.083	0.065	-1.278	0.205
lsi	0.307	0.065	4.722	0.000
iri	0.144	0.068	2.110	0.038

Source: Authors' own calculations

The results of the ANOVA test done to assess the robustness of the constituted regression equation, is contained in Table 6.



Table 6
Summary of ANOVA

F	Regression df	Residual df	p Value
27.048	6	73	0.000

Source: Authors' own calculations

The presence of autocorrelation in the constituted regression model is tested by the computation of Durbin-Watson statistic the value of which along its p-value, are contained in Table 7.

Table 7
Summary of the Durbin-Watson Statistic

Statistics	Method	Alternative Hypothesis	p Value
1.952	Durbin-Watson test	true autocorrelation is greater than 0	0.416

Source: Authors' own calculations

The extent of multicollinearity in the constructed regression model has been tested by computing the Variable Inflation factor (VIF) of the six predictor variables, which are contained in Table 8.

Table 8
Summary of Variable Inflation Factor (VIF)

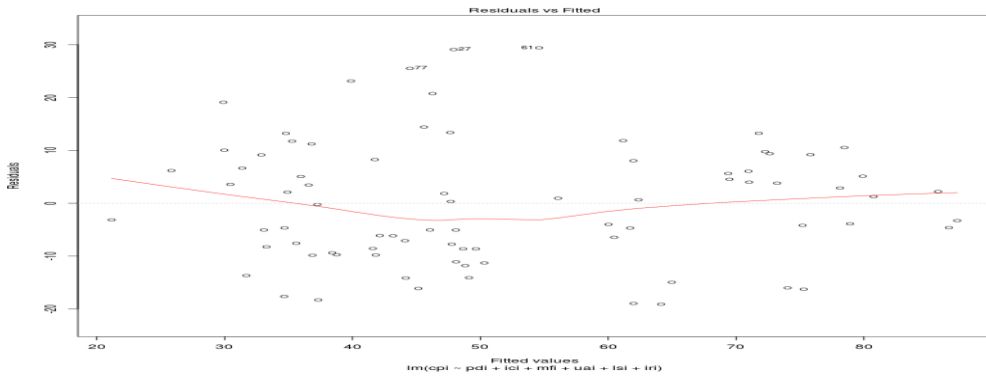
Variables	VIF
pdi	2.233
ici	2.050
mfi	1.080
uai	1.059
lsi	1.330
iri	1.390

Source: Authors' own calculations



The plotting of the Residual versus Fitted values are contained in Figure 2.

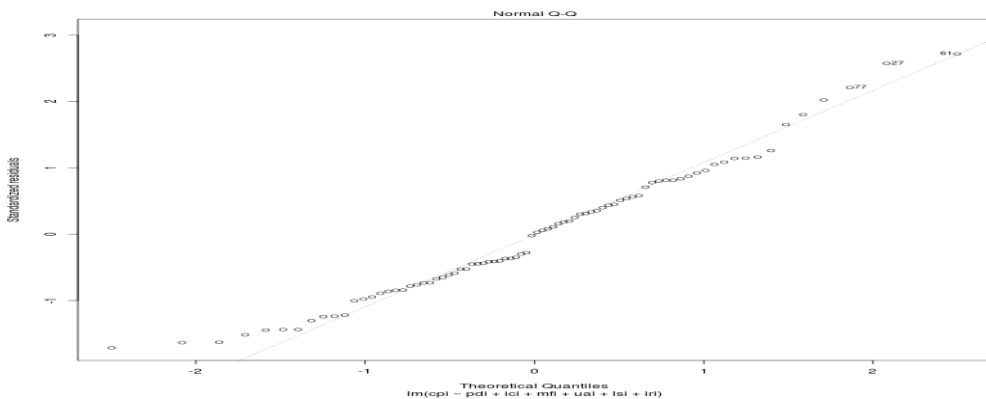
Figure 2
Residual vs Fitted Plots



Source: Authors' own calculations

The normality of the distribution of the residual values has been plotted through the Q-Q Plot contained in Figure 3.

Figure 3
Residuals Normal Q-Q Plots



Source: Authors' own calculations



VI. Discussions

From the value of the Adjusted R^2 , the dimensions of national culture could explain a considerable and 66.40% of the variations in Corruption Perception Index. The model has been found to be statistically robust as evidenced by rejection of the null hypotheses of the F static. The model does not suffer from the problem of autocorrelation as the Durbin-Watson statistic is close to 2 and the null has been accepted. The problem of multicollinearity is also not that significant as the values of the Variable Inflation factor (VIF) have been found to be marginally over 2 for two predictor variables and below 1.4 for the other 4 predictor variables.

The value of the Adjusted R^2 indicated that nearly $2/3^{\text{rd}}$ of the variation in perception of corruption was explained by Hofstede's dimensions of national culture. This proves that perception of corruption is largely effected by the dimensions of national culture.

The statistically significant predictor variables were found to be the Power-Distance (pdi), Individualism (ici), Long-Term Orientation (lsi) and Indulgence (iri). Among the significant predictor variables, Power-Distance was found to be inversely related with the index. This indicated that nations with high Power-Distance might result in low level of transparency and high level of corruption. All the other three significant predictor variables i.e. Individualism, Long-Term

Orientation & Indulgence were found to be positively related with level of perception of corruption in the nations.

VII. Conclusion and policy implication

The findings of this study lead to the conclusion that national culture to a considerable extent, is relevant in the context of influencing level of perception of corruption in public sector across nations. The findings corroborates the theory that perception of corruption being a behavioural aspect, is largely influenced by culture. Thus the findings of this study upholds the relative superiority of the cultural context as determinant of perception of corruption in nations across the globe.

The policy makers of different nations, while formulating policies to curb corruption, may consider the cultural factors for paving way for sustainable development of corruption-free nations. The framed policies should be aligned with the national cultures to fit the particular nation best.

The findings of this study may be used for further studies on a continental or regional basis. Moreover further studies may also be undertaken to assess the role of dimensions of national culture in explaining the variations in important socio-economic phenomena of inequality in distribution of income and wealth, happiness and entrepreneurship.



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CORPORATE GOVERNANCE IN FMCG INDUSTRY

Subhash Chandra Das

Abstract:

Corporate Governance in India has come of age as the corporate houses are practicing governance in line with the standards prescribed from time to time by the Companies Act and the SEBI guidelines. This article assesses the quality of corporate governance standards and present practices in two major large cap listed Indian corporate houses representing FMCG industry based on their Annual Reports for the financial year 2018-2019. The study is expected to serve as a pointer to the effectiveness of current corporate governance practices in these companies.

Key Words:

Corporate Governance, Fast-Moving Consumer Goods (FMCG), Governance Parameters, Share Holding Pattern, SEBI Listing Regulations



1.0 INTRODUCTION

Corporate Governance in India has come of age as the listed corporate houses are now practicing governance reasonably well in line with the standards prescribed from time to time by the Companies Act and the SEBI guidelines. In this article we have endeavoured to look into and assess the structures and processes for corporate governance practiced by the two renowned large cap listed Indian companies representing FMCG industry viz. ITC Ltd. and Hindustan Unilever Ltd. (HUL) and their effectiveness in terms of substance and quality of reporting of governance practices in annual reports 2018-19. The study has been made to assess the state of compliance of key governance parameters prescribed by the SEBI Listing Regulations as also the provisions required by the Companies Act, 2013 and Company Rules, 2014. It is pertinent to mention here that although ITC is now a diversified company, however, it has been considered in the FMCG sector since major revenues (73%) of ITC come from its FMCG business.

Share Holding Pattern in ITC and HUL

A snapshot of the share holding pattern of ITC and HUL for the year 2018-2019 is shown in Table 1.

Table 1
Share Holding Pattern of ITC and HUL
As on 31st March, 2019

	ITC	HUL
Number of Shares	12258631601	2164704405
(A) Institutional Shareholding	%	%

2.0 ANALYSIS

ITC's business interests and product portfolio includes: (a) FMCG (including cigarettes), (b) Hotels, (c) Agri Business, and (d) Paperboards, Paper and Packaging. The company's total turnover has been Rs. 45784 crore (excluding GST etc.) with Profit after tax Rs. 12464 crore in the year 2018-19.

HUL's business interests and product portfolio includes: (a) Home Care, (b) Beauty & Personal Care, (c) Foods and Refreshment. The company has achieved a turnover of Rs. 38224 crore with Profit after tax Rs. 6036 crore in the year 2018-2019.

We have relied on the published annual report for the year 2018-2019 of these companies.

Our analysis is made in two parts:

- a) Share holding pattern in ITC and HUL
- b) Key governance parameters and their compliance status in ITC and HUL



Financial Institutions, Insurance Companies, Mutual Funds, Banks and Others	38.13	7.03
Foreign Portfolio Investors and Foreign Institutional Investors	17.01	11.83
Sub-Total (A)	55.14	18.86
(B) Non-Institutional Shareholding	%	%
Foreign Companies	29.53	67.19
NRIs, OCIs, and Foreign Nationals	0.62	0.47
Bodies Corporate	4.11	1.75
Public and Others	10.43	11.73
Sub-Total (B)	44.69	81.14
Public Shareholding (A + B)	99.83	100.00
Shares underlying Global Depository Receipts (%)	0.17	
Total	100.00	100.00

Source: Annual Reports 2018-2019

Observation from Table 1

1. It is evident from the above Table that in HUL the ownership system (i.e., cash flow rights and control rights) is more concentrated in the hand of foreign promoters mainly Unilever PLC, which holds 67.19% of the total shares of the company as compared to ITC in which BAT has a shareholding of 29.53% only.
2. Institutional shareholdings in ITC is much more as compared to HUL as Financial Institutions, Insurance Companies, Mutual Funds, Banks etc. hold as much as 38.13% as compared to HUL in which they hold only 7.03% of the total shares of the company.

3. Management and control of operations of these companies are delegated to the professional managers under governance of the board of directors of eminence.

Key Governance Parameters and the Compliance Status in ITC and HUL

We now examine the corporate governance reports of ITC and HUL and ascertain the actual position with respect to the following key governance parameters.

Statement of Company's Philosophy on Code of Governance

ITC defines corporate governance as a systematic process by which companies



are directed and controlled to enhance their wealth-generating capacity. Two core principles followed by the company are: (a) management must have the executive freedom to drive the enterprise forward without undue restraints, and (b) this freedom of management should be exercised within a framework of effective accountability. The cornerstones of ITC's governance philosophy are: (i) Trusteeship, (ii) Transparency, (iii) Ethical Corporate Citizenship, (iv) Empowerment & Accountability and (v) Control.

Responsible corporate conduct is integral to the way HUL does its business. HUL's actions are governed by its values and principles, which are reinforced at all levels within the company. HUL is committed to do things the right way which means taking business decisions

and acting in a way that is ethical and is in compliance with applicable legislation. The board of HUL is responsible for and committed to sound principles of corporate governance in the company. HUL keeps its governance practices under continuous review and benchmark itself to best practices across the globe.

Board of Directors / Board Issues

We examine various aspects of the board of directors viz., board structure, board strength and size, directors' attendance and a few others in the following paragraphs.

Board Structure, Strength and Size (Regulation 17 of SEBI Listing Regulations, 2015 read with Section 149 of the Companies Act, 2013)

The board structure, strength and size of ITC and HUL have been shown in Table 2.

Table 2
Structure, Strength and Size of ITC and HUL Board
During the year 2018-2019

Particulars	ITC	HUL
1. Total Number of Directors:	13	10
(a) No. of Executive Directors (EDs):		
(i) Promoters		
(ii) Others	4 (C)	4 (C)
(b) No. of Non-Executive Directors (NEDs):		
(i) Promoters		
(ii) Independent (IDs)	6	6
(iii) Nominee	3	
(iv) Others		



2. Total Number and Percentage of:		
(i) Executive Directors (EDs)	4 (31%)	4 (40%)
(ii) Non-Executive Directors (NEDs)	9 (69%)	6 (60%)
(iii) Independent Directors (IDs)	6 (46%)	6 (60%)

Source: Annual Reports 2018-2019. Results computed.

(C) denotes Executive chairman.

Observation from Table 2

1. It has been observed from Table 2 that ITC does not have an optimum combination of executive directors (EDs) and non-executive directors (NEDs)/independent directors (IDs) on its board during the year 2018-2019, thereby not complying with the conditions of Regulation 17 of SEBI Listing Regulations. ITC ought to have at least 7 independent directors instead of current 6 in the board while its chairman is an executive director.
On the other, HUL has an optimum combination of executive directors (EDs) and non-executive directors (NEDs)/independent directors (IDs) on its board during the year 2018-2019, thereby complying with the conditions of Regulation 17 of SEBI Listing Regulations.
2. ITC has 2 women directors and HUL has 1 woman director representing 15% and 10% of total board representation respectively, which should be improved in order to ensure proper gender balance in the functioning of the board.

Directors' Attendance in Board Meetings

Directors' attendance in the board meetings of ITC and HUL in the year 2018-2019 is shown in Table 3.

Table 3
Directors' Attendance in the Board Meetings of ITC and HUL
During the year 2018-2019

Number of Board Meetings Attended	Number of Board Members Present	
	ITC	HUL
1	1	
2	1	
4	1	1
5		1



6	1	
7		2
8	9	6
Last Annual General Meeting Attended	10(C)	9(C)

Source: Annual Report 2018-2019. Results computed.

(C) indicates the attendance of chairman in AGM.

Observation from Table 3

1. Both ITC and HUL board met 8 times in the year 2018-19. It is revealed from the annual report that out of 8 board meetings, only 1 full board meeting took place in ITC during the year. However, there is no information about the number of meetings attended by the full board members in HUL.
2. 9 out of 13 board members and 6 out of 10 board members attended all 8 board meetings of ITC and HUL respectively.
3. 10 out of 13 directors and 9 out of 10 directors attended the last AGM of ITC and HUL respectively.

Chairman and CEO Duality

A good corporate governance principle expects that there should be a clear division of responsibilities at the helm of the company, which should ensure a balance of power and authority such that no one individual has unfettered powers of decision. A decision to combine the posts of chairman and CEO/MD in one person should be publicly justified. Moreover as

per the SEBI Listing Regulations, top 500 companies by market capitalisation need to have separate positions for Chairman and Managing Director effective April 2020.

It is observed that this principle and legal requirement has not been followed by ITC and HUL as the power, authority and responsibility at the helm have been concentrated with the Executive Chairman of both the companies. Therefore, these companies must ensure compliance of this new statutory requirement of separation of position and regard the principle of chairman and CEO duality on or before the due date.

Disclosure of Appointment and Tenure and Age Limit of Directors

Both ITC and HUL have not disclosed their policy in the annual report on age of retirement as also the age limit of the directors. However, both companies disclosed about appointment and tenure of their directors. Only HUL disclosed its policy regarding the appointment and tenure of independent directors.



Disclosure of Definition of Independent Director and Selection Criteria of Board Directors including Independent Directors (Regulation 16 (1) (b) of SEBI Listing Regulations, 2015)

A good governance system demands that a company should disclose in its annual report, the definition of independent director as also the selection criteria for board members, followed by the corporate board. It is observed that both ITC and HUL have failed to disclose the definition of independent directors. However, HUL has disclosed selection criteria of board directors in its corporate governance report, whereas ITC has not disclosed the same in its report.

Induction and Familiarisation Programme for Independent Directors

It is observed that HUL has disclosed about induction and familiarisation programme for all directors inducted on the board. All new independent directors are taken through a detailed induction and familiarisation program. As part of the induction sessions, the MD & CEO provides an overview of the organisation and its history, culture, values and purpose. The immersion sessions provide a good understanding of the business to the independent directors. The strategy session organised by HUL board focuses on the strategy for the future and covers all parts of the business activities. However, ITC also disclosed about induction and familiarisation programme for the directors in brief but not adequate.

Board Evaluation

It is observed that ITC has not disclosed in detail, the parameters for evaluation of performance of the board, board committees and individual directors (including independent directors) in its annual report 2018-19. On the contrary, HUL has made adequate disclosure of the parameters for evaluation of performance of the board, board committees and individual directors (including independent directors) in its annual report. Moreover, in terms of requirement of Listing Regulations, 2015, the board of HUL identified the core skills/expertise/competencies of its directors in the context of the company's business for effective functioning and disclosed the same in the annual report.

Post Board Meeting Follow-up System and Compliance of Board Procedure

ITC has disclosed information about post-board meeting follow up system and compliance of board procedure in its report, whereas HUL has not disclosed any information in this regard.

Appointment of Lead Independent Director

The international standard of corporate governance prescribes as a good governance practice that irrespective of whether the posts of chairman and CEO are held by different persons or by same individual, there should be a strong and independent non-executive element on the



board as lead independent director (other than the chairman), to whom concerns can be conveyed. It will be the responsibility of lead independent director to act as a spokesperson for independent directors as a group, work closely with the chairman/CEO, and take a lead role in the board evaluation process, apart from other important board functions. A lead independent director should be identified in the annual report.

The annual reports revealed that both ITC and HUL have not appointed a lead independent director nor provided any information in this regard. It is suggested that these two companies should follow international standard of corporate governance and appoint a lead independent director in their corporates.

Disclosure of Other Provisions as to the Boards and Committees

Both ITC and HUL have disclosed information about the required number of board meetings, directorships in other companies and details of committee membership and committee chairmanship.

Disclosure of Remuneration Policy and Remuneration of Directors (Schedule II, Part D of SEBI Listing Regulations, 2015)

The Listing Regulation requires the companies to establish and disclose a formal and transparent policy on executive remuneration and for fixing remuneration packages of individual directors based on the principles of fairness, reasonableness

and accountability. There should be a clear relationship between responsibility and performance vis-à-vis remuneration.

ITC has not given in the annual report the details of remuneration policy for directors, key managerial personnel and all other employees of the company. So far as disclosure of remuneration of directors is concerned, it has failed to disclose the details of remuneration as per fixed component and performance linked incentives, details of perks & allowances of individual executive directors. On the contrary, HUL has furnished in the annual report the details of remuneration policy for directors, key managerial personnel and all other employees of the company. However, it has also failed to disclose the details of remuneration as per fixed component and performance linked incentives, details of perks & allowances of individual executive directors.

From the details of remuneration it is interesting to note that one of the executive directors of HUL has received consultancy fees of Rs. 121 lakh through his firm which was appointed by HUL board as consultant during the year 2018-19. This matter needed more clarification in the annual report as to whether it attracted conflict of interest, the nature of consultancy offered, procedural aspect of such appointment, compliance of the provisions of related party transaction etc. for the sake of clear and transparent disclosure in the report.



Dividend Distribution Policy (Regulation 43A of the SEBI Listing Regulations, 2015)

As per the extant provisions of the Companies Act, 2013 and Regulation 43A of the SEBI Listing Regulations, 2015, both ITC and HUL board have adopted dividend distribution policy and disclosed in the annual report, 2018-2019 without any indication of the quantum of dividend distribution.

Board Committees

The study of board committees of ITC and HUL, as disclosed in the annual reports 2018-2019 reveals the existence and operations of the following committees:

Statutory Board Committees	ITC	HUL
1. Audit Committee	Yes	Yes
2. Nomination & Remuneration/Compensation Committee	Yes	Yes
3. Stakeholders'/Securityholders Relationship Committee	Yes	Yes
4. Corporate Social Responsibility and Sustainability Committee	Yes	Yes
5. Independent Directors Committee	Yes	Yes
6. Risk Management Committee	Yes	Yes
Non-Mandatory Board Committees		
1. Corporate Management Committee	Yes	
2. Share and Debenture Transfer/Transmission Committee	Yes	Yes
3. Committee for Allotment of Shares under ESOPS		Yes
4. Administrative Matters Committee		Yes
5. Committee for approving Disposal of Surplus Assets		Yes

Let us discuss in brief, about the existence and operations of the statutory committees.

Audit Committee (Regulation 18 of the SEBI Listing Regulations, 2015 read with Section 177 of the Companies Act, 2013)

The status of the audit committee in ITC and HUL in the year 2018-2019 is given in Table 4.



Table 4
Status of Audit Committee in ITC and HUL
During the year 2018-19

Sl No.	Particulars	ITC	HUL
1.	Transparency in composition of Audit Committee (AC)	AC consists of 4 Non-Executive directors of whom 3 are independent directors including its chairman.	AC consists of 5 independent directors including its chairman.
2.	Compliance of minimum requirement of the number of independent directors in the committee	The conditions of Regulation 18 of SEBI Listing Regulations complied with.	All members are independent directors thereby complying with Regulation 18 of SEBI Listing Regulations.
3.	Compliance of minimum requirement of the number of meetings of the committee	8 meetings held during 2018-2019. 3 committee members attended all 8 meetings.	8 meetings held during 2018-2019. 4 committee members attended all 8 meetings.
4.	Information about literacy and financial expertise of the committee members	AC is financially literate. 3 members including chairman have accounting and financial management expertise.	All members of the committee have relevant experience in financial matters as reported.
5.	Information about participation of head of finance, statutory auditor, chief internal auditor, and other invitees in the committee meetings	Head of finance, statutory auditor, internal auditor, and other invitees in the committee meetings participated as reported.	Head of finance, statutory auditor, internal auditor, and other invitees in the committee meetings participated as reported.
6.	Disclosure of audit	AC's terms of reference and	AC's terms of reference and



	committee charter and terms of reference	charter not disclosed in corporate governance report.	charter not disclosed in corporate governance report.
7.	Publishing of audit committee report	Not published in corporate governance report.	Not published in corporate governance report.

Source: Annual Reports 2018-2019

Nomination and Remuneration Committee (Regulation 19 of the SEBI Listing Regulations, 2015 read with Section 178 of the Companies Act, 2013)

The status of the nomination and remuneration committee in ITC and HUL in the year 2018-2019 is given in Table 5.

Table 5
Status of Nomination and Remuneration Committee in ITC and HUL
During the year 2018-2019

Sl No.	Particulars	ITC	HUL
1.	Transparency in formation of the committee (NRC)	NRC consists of 3 independent directors of whom 1 is the chairman of the committee and the executive chairman of the company as member	NRC consists of 5 independent directors of whom 1 is the chairman of the committee and the executive chairman of the company as member.
2.	Information about number of committee meetings	6 meetings were held during 2018-2019.	6 meetings were held during 2018-2019.
3.	Compliance of minimum requirement of the number of NEDs/IDs in the committee	NRC has complied with minimum requirement of Regulation 19 of the SEBI Listing Regulations.	NRC has complied with minimum requirement of Regulation 19 of the SEBI Listing Regulations.
4.	Information about participation of all members in	All members attended all 6 committee	4 members attended all 6 committee



	the committee meeting	meetings.	meetings, 1 attended 4 meetings and 1 attended 2 meetings.
5.	Disclosure of nomination policy and terms of reference	Nomination policy and the terms of reference of the committee not disclosed in the annual report.	Nomination policy and the terms of reference of the committee not disclosed in the annual report.
6.	Publishing of committee report.	Not published in corporate governance report.	Not published in corporate governance report.

Source: Annual Reports 2018-2019

Corporate Social Responsibility (CSR) Committee (Section 135 of the Companies Act, 2013)
The status of the CSR committee in ITC and HUL in the year 2018-2019 is given in Table 6.

Table 6
Status of CSR Committee in ITC and HUL
During the year 2018-2019

Sl No.	Particulars	ITC	HUL
1.	Transparency in formation of the CSR committee	Committee consists of 6 directors, of whom 2 are independent directors & 3 are other non-executive directors. Chairman of the committee is the chairman of the company.	Committee consists of 6 directors, of whom 4 are independent directors & 2 executive directors. Chairman of the committee is an independent director.
2.	Information about number of committee meetings	3 meetings were held during the year 2018-19.	2 meetings were held during the year 2018-19.
3.	Disclosure of CSR policy	CSR policy disclosed in the annual report. The terms of reference of the committee also	CSR policy and the terms of reference not disclosed in the annual report.



		disclosed.	
4.	Publishing of committee report	Published in annual report pursuant to Section 135 of the Companies Act, 2013.	Published in annual report pursuant to Section 135 of the Companies Act, 2013.

Source: Annual Reports 2018-2019

Risk Management Committee (Regulation 21 of the SEBI Listing Regulations, 2015)

The status of the Risk management committee in ITC and HUL in the year 2018-2019 is given in Table 7.

Table 7
Status of Risk Management Committee in ITC and HUL
During the year 2018-2019

SI No.	Particulars	ITC	HUL
1.	Transparency in formation of the committee and the number of meetings held in pursuance of Regulation 21 of SEBI Listing Regulations	Committee consists of 5 members, of whom 4 are executive directors. Chairman is an executive director. Besides, 3 members of management also inducted as the member/invitee of the committee. 3 meetings of the committee held in 2018-2019.	Committee consists of 5 members, of whom 4 are executive directors. Chairman is an executive director. Besides, 1 member of management also inducted as the member/invitee of the committee. 1 meeting of the committee held in 2018-2019.
2.	Disclosure of risk management policy and terms of reference	Risk management policy and terms of reference not disclosed in the annual report. A brief of risk management has been given in the directors' report.	Risk management policy and terms of reference not disclosed in the annual report. A brief of risk management has been given in the directors' report.



3.	Publishing of committee report	No formal report on risk management has been published in the annual report.	No formal report on risk management has been published in the annual report.
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Source: Annual Reports 2018-2019

Stakeholders' Relationship Committee (Regulation 20 and Schedule II, Part D of the SEBI Listing Regulations, 2015 read with Section 178 of the Companies Act, 2013)

The status of the Stakeholders' Relationship committee in ITC and HUL in the year 2018-2019 is given in Table 8.

Table 8
Status of Stakeholders' Relationship Committee in ITC and HUL
During the year 2018-2019

Sl No.	Particulars	ITC	HUL
1.	Transparency in composition of the committee	Committee consists of 4 directors, of whom 2 are executive directors, 1 nominee director and 1 independent director, Chairman being non-executive independent in terms of Regulation 20 read with Schedule II, Part D of SEBI Listing Regulations.	Committee consists of 3 directors, of whom 2 are executive directors and 1 independent director, Chairman being non-executive independent in terms of Regulation 20 read with Schedule II, Part D of SEBI Listing Regulations.
2.	Information about nature of complaints and queries received and disposed – item wise	Nature of complaints and queries disclosed-item wise. The number of complaints received and resolved mentioned in the corporate governance report.	Nature of complaints and queries disclosed-item wise. The number of complaints received and resolved mentioned in the corporate governance report.
3.	Information about number of	19 meetings held	2 meetings held during



	meetings of the committee.	during the year 2018-2019.	the year 2018-2019.
4.	Information about action taken on investors/shareholders' survey	No information provided.	No information provided.
5.	Publishing of committee report and terms of reference	No report has been published in the annual report. No terms of reference mentioned in the corporate governance report.	No report has been published in the annual report. No terms of reference mentioned in the corporate governance report.

Source: Annual Reports 2018-2019

Independent Directors' Committee (Regulation 25 (3) of SEBI Listing Regulations, 2015 read with Schedule IV of the Companies Act, 2013)

It has been reported that all independent directors met 1 and 4 times in ITC and HUL respectively during the year 2018-2019 without the presence of non-independent directors and members of the management to evaluate the performance of non-independent directors, the board of directors as a whole and the chairman as also to discuss the issues relating to the quality, quantity and timeliness of the flow of information between the company, the management and the board. In addition to these formal meetings, interactions outside the board meetings also took place between the chairman and independent directors.

Disclosures and Transparency

Disclosures in the report of corporate governance in the annual reports of ITC and HUL, as required by the Companies Act, 2013 and the SEBI Listing (Obligation and Disclosure) Requirements, 2015 have been analysed in Table 9.

Table 9
Items of Statutory Disclosures / Requirements and Their Status of Compliance in ITC and HUL
During the year 2018-2019

Sl. No.	Items of Statutory Disclosures	ITC	HUL
1.	a) Significant Related Party	(a) Disclosed as no	(c) Disclosed as no



	<p>Transactions having potential conflict with the interests of the company. (Regulation 23 of the SEBI Listing Regulations, 2015)</p> <p>b) Policy on dealing with Related Party Transactions</p>	<p>materially significant related party transactions (i.e. transactions exceeding 10% of the annual consolidated turnover as per the last audited financial statements) and not being in conflict with the interests of the company. The details of contracts negotiated on arm's length basis as also not at arm's length basis disclosed.</p> <p>(b) Policy on dealing with Related Party Transactions not disclosed in the corporate governance report.</p>	<p>materially significant related party transactions (i.e. transactions exceeding 10% of the annual consolidated turnover as per the last audited financial statements) and not being in conflict with the interests of the company. The details of contracts negotiated on arm's length basis as also not at arm's length basis disclosed.</p> <p>(d) Policy on dealing with Related Party Transactions not disclosed in the corporate governance report.</p>
2.	Non-compliance related to capital market matters during the last 3 years.	No non-compliance reported.	No non-compliance reported.
3.	Accounting Treatment	Applicable accounting standards followed in the preparation of annual accounts and no material departure made from the same as reported.	Applicable accounting standards followed in the preparation of annual accounts and no material departure made from the same as reported.
4.	Management Discussion and Analysis (MD&A)	Management Discussion & Analysis report included in the	Management Discussion & Analysis report included in the



		annual report. This report included a wide coverage of the items prescribed in the SEBI Listing Regulations.	annual report. This report included a wide coverage of the items prescribed in the SEBI Listing Regulations.
5.	Shareholders information on: (i) Appointment of new director/re-appointment of retiring directors/resignation of director (ii) Quarterly results and presentation (iii) Share transfers (iv) Directors' Responsibility Statement		Disclosed compliance
6.	Shareholder Rights	Disclosed compliance	Disclosed compliance
7.	Audit qualification	Disclosed compliance	Disclosed compliance
8.	Policy on Material Subsidiaries	Not disclosed in the corporate governance report.	Not disclosed in the corporate governance report.
9.	Vigil Mechanism and Whistle Blower Policy (Regulation 22 of SEBI Listing Regulations, 2015)	Whistle blower policy not disclosed in the annual report. Vigil mechanism also not disclosed.	Whistle blower policy not disclosed in the annual report. Vigil mechanism also not disclosed.

Source: Annual Reports 2018-2019

General Body Meetings

In regard to reporting of information on a company's general body meetings, following information is to be mandatorily included in the annual report:

- I. Location and timing of general meetings held in last 3 years
- II. Details of special resolution passed in the last 3 AGMs / EGMs

- III. Details of resolution passed last year through postal ballot including the name of the conducting official and voting pattern / procedure

It is observed that both ITC and HUL have provided required information on all the above items in the corporate governance report 2018-2019.



Code of Conduct including Information and Affirmation of Compliance (Regulation 26 (3) read with Schedule V, Part D of SEBI Listing Regulations, 2015)

ITC gave affirmation in regard to the code of conduct for all board members and senior management of the company in the corporate governance report 2018-19. A separate declaration to this effect has been duly signed by the Chairman & Managing Director as required by SEBI Regulations. On the contrary, HUL gave affirmation in regard to the code of conduct for all board members and senior management of the company in the corporate governance report. However, the annual report 2018-19 did not contain separate declaration to this effect duly signed by the Chairman & Managing Director as required by SEBI Regulations. Rather, declaration to this effect has been included in CEO & CFO Certification which is not proper and not in compliance with SEBI regulation.

CEO & CFO Certification (Regulation 17 (8) read with Schedule II, Part B of SEBI Listing Regulations, 2015)

Both ITC and HUL have given in writing in the annual report 2018-2019, the CEO & CFO certification confirming absence of materially untrue statement/omission thereof, fraudulent, illegal or violative transactions in the financial statements, and ensuring existence of true and fair view of the companies' affairs, and effective internal control system etc.

Means of Communication and General Shareholder Information

Both ITC and HUL provided general shareholder information and adopted various means of communication every year as prescribed by the Listing Regulations to be included in the report on corporate governance 2018-19.

Disclosure of Stakeholders' Interests

Here we focus briefly on the disclosures status made by ITC and HUL in their annual reports on various initiatives and measures on the following items, in order to meet their commitments on the expectations and interests of stakeholders:

- Environment, Health & Safety (EHS) measures
- Human Resources Development (HRD) initiative
- Business Responsibility (BR) reporting
- Industrial Relation (IR)
- Disclosure of policies on EHS, HRD and IR

It is observed that both ITC and HUL in their annual report 2018-2019 explained in details, various initiatives and measures taken by them on EHS, HRD & IR issues during the year. They also furnished business responsibility reports. However, they have not disclosed policies separately and clearly in regard to all these items.

Compliance of Corporate Governance and Auditors' Certificate (Schedule V, Part E of SEBI Listing Regulations, 2015)

Both ITC and HUL published auditors' unqualified certificate on compliance with the conditions of corporate governance as stipulated by the SEBI Listing Regulations,



2015 and annexed the same with the annual report for the year 2018-2019. However, one may question about the veracity of the statutory auditors' certificate on corporate governance of ITC particularly when the composition of board of directors in ITC is not optimum and not complying with the conditions of Regulation 17 of SEBI Listing Regulations.

03. EVALUATION OF GOVERNANCE STANDARD

It is no denial of the fact that there have been certain genuine difficulties because of non-availability of inside information, and no scope for discussion with key officials of the companies, their auditors, directors and major shareholders etc. As an alternative we had to depend upon the disclosures made in the annual reports for assessment of the standard and quality of corporate

governance practised by these companies. Accordingly, we have developed our own model '**Working Method**' as specified below.

The working method applied here for evaluation of the standard and quality of corporate governance practised in ITC and HUL has considered all relevant conditions of corporate governance stipulated by SEBI (Listing Obligations and Disclosure Requirements) Regulations 2015 and the new Companies Act, 2013. A **Point Value System** has been applied whereby an adequate weightage in terms of points has been provided to these conditions according to their importance and weightage. Each of these two companies has been awarded points on some parameters which constitute the governance process in companies. These key governance parameters are selected on a 100 point scale as shown hereunder.

Selected Key Governance Parameters

Serial No.	Key Governance Parameters	Points Assigned
1.	Statement of company's philosophy on code of governance	2
2.	Structure and Strength of the board	2
3.	Chairman and CEO duality	5
4.	Disclosure of tenure and age limit of directors	2
5.	Disclosure of (a) definition of independent director, (b) appointment of woman director, (c) selection criteria of board members, (d) familiarisation programme for independent directors, and (e) board evaluation	5
6.	Post board meeting follow-up system and compliance of board procedure	2
7.	Appointment of lead independent director	2
8.	Disclosure of other provisions as to boards and committees	1
9.	Disclosure of remuneration policy and remuneration of directors, and dividend policy	3



10.	Board committees: (a) Audit Committee (8) (b) Remuneration and Nomination Committee (8) (c) Independent Directors' Committee (2) (d) Shareholders'/Stakeholders' Relationship Committee (5) (e) Corporate Social Responsibility Committee (4) (f) Risk Management Committee (4) (g) Health, Safety and Environment Committee (1) (h) Ethics and Compliance Committee (1) (i) Investment Committee (1) (j) Share Transfer Committee (1)	35
11.	Disclosures and transparency: (a) Significant related party transactions having potential conflicts with the interest of the company and policy on dealing with related party transactions (2) (b) Accounting treatment (1) (c) Management discussion and analysis (1) (d) Shareholders' information (4) (e) Shareholders' rights (1) (f) Audit qualification (1) (g) Vigil mechanism and whistle blower policy (2) (h) Non-compliance related to capital market matters during last 3 years (1) (i) Policy on material subsidiaries (1)	14
12.	General body meetings	3
13.	Code of conduct and its affirmation	2
14.	CEO / CFO certification	2
15.	Means of communication and general shareholder information	2
16.	Disclosure of stakeholders' interests: (a) Environment, Health and Safety (EHS) measures (2) (b) Human Resource Development (HRD) initiative (2) (c) Business Responsibility reporting (2) (d) Industrial Relation (2) (e) Disclosure of policies on EHS, HRD and IR (2)	10
17.	Compliance of corporate governance and auditors' certificate	8
	Total	100

Justification for Assignment of Points to Major Key Governance Parameters

It may be mentioned from the above table that out of total 100 points, 67 points have been assigned to four parameters, viz. (i) various board committees (35 points), (ii)



disclosure and transparency (14 points), (iii) disclosure of stakeholders' interests (10), and (iv) compliance of corporate governance and auditors' certificate (8 points) because these are very important parameters for assessing quality and effectiveness of corporate governance system in a company.

After determining total score based on the above parameters, both ITC and HUL representing two giant large cap listed companies, have been graded on a five-point scale as stated below:

Score range	Rank
81-100	Excellent
61-80	Very good
41-60	Good
21-40	Average
Below 21	Poor

4.0 CONCLUDING OBSERVATION

The assessment result reveals that overall both ITC and HUL have shown **very good** performance in so far as compliance of majority of the items of corporate governance standards prescribed by the Companies Act as well as the SEBI regulations is concerned. ITC has secured 62 points whereas HUL earned 67 Points to their credit.

However, there are some areas where the both ITC and HUL should improve the standards and practices of corporate governance and disclosures such as composition of board of ITC, disclosures of definition of independent director, nomination policy, detailed break up of remuneration of directors, appointment of

lead independent director, board evaluation, publishing of all committee reports in the annual report, risk management policy, whistle blower policy, disclosure of EHS, HRD and IR policies, chairman and CEO duality etc. in order to bring in governance reforms and maintain the quality of governance practices.

Nevertheless both ITC and HUL have been able to command tremendous respect and goodwill in the industrial world. The investors, shareholders and other stakeholders have always expressed satisfaction for true & fair dealings, disclosure and transparency in all their business transactions, and the manner in which the governance practices are discharged by them. The responsibility lies with every member of the board of directors and the management of these companies to ensure true compliance of the highest standards of corporate governance norms and practices and keep up the same in the future to come.

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EMPLOYMENT AND INTRA-HOUSEHOLD EMPOWERMENT: WOMEN WORKERS IN LEATHER GOODS EXPORT SECTOR IN KOLKATA

Ujjaini Mukhopadhyay

Abstract:

The paper is purported to examine the employment status and intra-household power of women workers in the leather goods export sector in Kolkata. The objectives are fourfold: to study the income and work profile of women in the industry; to examine whether the women's employment status translate into their empowerment within the household, to find out whether there is any relationship between the women's empowerment and labour force participation decisions, and to determine whether patriarchal attitude of husbands have any role in the empowerment of women. The analysis shows that the women are mainly concentrated in low skill activities and get lower earnings than their male counterparts, primarily due to vertical work segregation. The women workers have fairly low overall intra-household empowerment, particularly in economic and interpersonal matters. Their earning status has no significant impact in their empowerment. The women's work participation decisions are dictated more by patriarchal attitude of the husbands and gender norms than their empowerment levels.

Key Words:

Women Employment; Female Labour Force Participation; Intra-Household Empowerment of Women; Patriarchal Norm



1. INTRODUCTION

Access and engagement of women in paid work is believed to have close association with empowerment within the household. Empowerment is a multi-dimensional complex issue. It can be defined as “social process that helps people gain control over their own lives” (Page and Czuba, 1999) or “the process through which those who are currently disadvantaged achieve equal rights, resources and power” (Mayoux, 2008). Kabeer (1999) refers to empowerment as the “process by which those who have been denied the ability to make choices acquire such an ability”. She identifies three inter-related dimensions of the ability to make choices: access to resources, ability of decision-making and achievements in terms of well-being outcomes. Employment opportunities constitute a critical means for women to gain greater control over their lives (Malhotra and Mather, 1997).

Nonetheless, it is not enough to work and earn a wage, but rather it is control over those resources that matters (Kabeer, 1997; Blumberg, 2005). Evidences regarding the effect of employment of women on their empowerment are varied. Dutta (2000) and Salway et al. (2005) find that women who work are more likely to participate in decision-making in the home, control resources and have greater mobility. In a study of Bangladeshi women workers, Kabeer (1997) find that access to earnings per se did not contribute to improvements in bargaining

power in the home. In the case of the Bengali women in India, husbands still maintain the final say in major domestic decisions (Dutta, 2002). Braunstein (2008) shows that working for a wage can enhance women’s bargaining power, but these wage effects are intervened by social and material contexts like the extent of social protections provided by states, organizations and communities.

In the context of globalisation, with employment of woman increasing manifold in export sectors of developing countries, the complexities in the nature of association between employment and empowerment of women is intensified. Trade liberalisation has led to increase in demand for female labour in labour-intensive export-oriented industries of developing countries. In the pursuit of enhanced international competitiveness, firms prefer to hire women since women’s wages are typically lower than that of men, and women are perceived to be more productive in these types of jobs. The unprecedented preference for women workers in export-oriented production has led to rapid growth of employment of women in these sectors, but the quality and security of jobs have been severely limited (UNCTAD, 2008), posing a serious question on their power. In a study of Sri Lankan women, particularly those employed in the Export Processing Zones, Hancock (2007) finds both positive and negative outcomes of their employment.

However, a severe impediment in empowerment of the women in most



developing countries is the patriarchal values embedded in the culture of the societies. Patriarchy refers “to male domination, to the power relationships by which men dominate women, and to characterise a system whereby women are kept subordinate in a number of ways” (Bhasin, 2006). Control over resources may not necessarily translate into any real power or into changes in patriarchal control (Endeley, 2001). The social patriarchal norms and perceptions often shape the intra- household power dimensions and impinge on the labour market outcomes as well. The patriarchal practices of families in Turkey wherein certain specific roles are assigned for women leading to gendered division of labour, gives the authority to the male members to decide whether women can participate in the labour market or not (Das, 2017). In India, often ownership of formal land titles by women does not guarantee access to and control of these assets, due to deep-rooted patriarchal and social biases (Ghai, 2018). The women themselves internalise the social norms and accept their subordination. Kandiyoti (1988) shows the case of South Asia as “classic patriarchy” where women accommodate the internal logic of the patriarchal system. However, the absence of protest and questioning of inequality does not testify the absence of inequality, rather it legitimizes an unequal order due to lower self-perceptions of personal welfare (Sen, 1990).

The present paper tries to reflect on whether engagement of women in paid

work translates into empowerment within the household. It examines the employment status and intra-household power of women workers in the leather goods export sector in Kolkata, India. The objectives are fourfold: to study the income and work profile of women in the industry; to examine whether the women’s employment status leads to their empowerment within the household; to find out whether there is any relationship between the women’s empowerment and their labour force participation decisions; and to ascertain whether patriarchal attitude of husbands play any role in the intra-household empowerment of women.

2. METHODOLOGY

Sample

The paper mainly uses categorical data collected from a primary survey conducted in the leather export units in Kolkata, the capital of the state of West Bengal in India. The state is at the forefront of leather processing and leather goods manufacturing in India. According to the Council of Leather Exports, about 55% of the total leather goods from India originate from West Bengal. The production units are mainly located in Kolkata. Although small production units are scattered throughout the city, most of the export units are concentrated in Calcutta Leather Complex in Bantala, Topsia and Kasba Industrial Enclave on the south-eastern fringes of Kolkata.



Data was collected from the leather goods producing firms since they offer considerable employment opportunities for women. In fact, the expansion and development of these units have significant contribution in labour market outcomes of women – both in terms of job opportunities and wages. A survey by Labour Bureau (2008) found that in West Bengal, the average monthly of women employed in leather industry is higher than those employed in other industries.

Information was collected through structured questionnaires with both open-end and closed-end questions, and in-depth discussions with both the management of the export firms and its women workers. The sample consists of 8 firms and 120 women workers working in these firms. The sample firms have been chosen by convenience sampling and reflect locational diversity. They are located in Topsia, Kasba Industrial Estate, Behala and Jadavpur. All the firms in the sample are export firms, registered with Council for Leather Exports (CLE), and cater solely to the export market.

In only two firms the number of permanent workers is found to be very low. These small manufacturers intentionally keep the number of permanent workers less in order to avoid the obligations of provision of social security benefits to workers; none of the women are permanent – they are casual and called upon as and when required on the basis of long-term personal acquaintances. However, in all other

firms, the total number of workers varies from 80 to 210. They are largely informal since they are not unionised and can enter and exit the industry easily. The percentage of female workers ranges from 20% to 40%. In some firms, they are entitled to social security benefits; in some, bank accounts have been opened for female workers and their remuneration is directly transferred so as to enable some savings.

Analysis

The analysis of data is done from two aspects.

- (I) The employment status of women workers is examined on the basis of structured formal interview along with detailed discussions with the management of leather export firms. In particular, the research questions are the following:
- (i) Do women get less wages than men?
 - (ii) Is there any preferential pattern of employer towards employing men and women?

The analysis in this part is mainly exploratory in nature and deduced from the interviews of the managers of the firms. This is because no systematic data regarding the wages could be collected from the workers due to reservations of the firms.



- (II) The empowerment level of women workers is examined on the basis of their socio-demographic characteristics and information reflecting different empowerment dimensions obtained from the women workers. The specific objectives are to find out:
- (i) the level of women's intra-household power
 - (ii) whether there exists any relation between women's earning status and their intra-household power
 - (iii) whether there is any relation between intra-household power of women and their decision to participate and continue in labour force.
 - (iv) whether patriarchal norms have any role in the empowerment of women.

In order to measure the intra-household power of women workers, initially, indices of different dimensions of empowerment are constructed. They are then used to construct the overall empowerment index. Statistical techniques like correlation and Chi-square tests are used to test the association between intra-household empowerment indices and other categorical data.

3. RESULTS

3.1. Employment Status of Women

Most of the firms corroborate the view that female employment in leather industry has been increasing substantially over the last few years. This has been due to both increases in the demand and supply of women workers. More women have been willing to join the leather industry – the reasons identified in the study are: more respectful job status and higher wages vis-à-vis other opportunities like domestic maids, ayahs, etc; stable employment; congenial and safe work atmosphere; negligible work hazards, etc. On the other hand, greater sincerity and comparatively lower wages payable to women (for the same unskilled work) at the entry level make them profitable for employers.

Women seem to be more stable with respect to their choice of employer. 37% of the sample women workers have worked for the same employer for more than 5 years. The employers also suggest that their quit rate is quite low; in fact, men have higher quit rates than women. This negates the conventional proposition that women are prone to higher quit rates due to household responsibilities (Barnes and Jones, 1974; Morissette, et al. 1992; Hewlett et al., 2008).

In order to comprehend the work profile of the women vis-à-vis men in the leather goods industry, it is necessary to get a brief overview of the production process.



For manufacture of leather goods like handbag, wallets, card holders, etc., the firms initially procure leather hide from the domestic market. Then inputs like adhesives, solution, spirit, buckles, buttons, silk cloth for lining etc. are used to make the finished products. The manufacturing process involves a number of stages of production:

- (i) Cutting: Different pieces of leather are cut according to required shape manually/using leather cutting machines.
- (ii) Splitting: The leather pieces are then 'split' or riven into thinner layers because leather hides are too thick for any kind of manufacturing.
- (iii) Skiving: The next step is to trim the thickness of the leather, often around the edges, to thin the material and make it easier to work with.
- (iv) Colouring: The skived part that get peeled off are coloured to match that of the hide.
- (v) Stitching: The leather pieces are stitched, linings are sewed and decorated with buttons, buckles, etc.
- (vi) Embossing: The brand names and logos are stamped.
- (vii) Packaging: The products are packed in appropriate polybag or other material that will prevent colour fading, contact with moisture and are cost effective for overseas customers who are responsible for the costs of collecting, sorting, transporting,

and recycling packaging materials.

- (viii) Checking: Close examination of every minute details of the item to be shipped so that it adheres to the export quality and abides by all the stipulations of the importer.

In the production hierarchy, cutting, splitting and skiving are considered to be skilled job, which are necessarily executed by men. These activities may be performed manually or with the help of machines. In all the firms, women perform only the unskilled and semi-skilled works (stage iv to stage viii).

Do women get less wages than men?

The management of most of the firms interviewed acknowledge that women get less monthly income than men. Two observations can be forwarded regarding the income disparity of men and women workers on the basis of discussions with the managers of the firm:

- (a) In smaller firms, women are employed on a casual basis in accordance to market demand. They are hired on per day basis and receive less wages than permanent women workers in other larger firms. They not only get lower wages than their counterparts engaged as permanent workers, they are subject to more insecurity in labour market. These casual women workers travel usually from the suburbs and villages in the vicinity of Kolkata, and assemble in



areas like Park Circus, which is close to the leather hub.

- (b) In larger firms, monthly wages of women vary from Rs. 6000 to Rs. 9000. The variation in wage is mainly due to difference in skill level and experience. Quite predictably, experienced and semiskilled women earn more than the new unskilled female workers. However, monthly wages of men range from Rs. 8000 to Rs. 12000 (approx). This clearly indicates the presence of wage differences between men and women workers.

Reasons for wage differences

The existing literature identifies certain reasons behind gender-based wage differences: productivity difference due to biological reasons (Ichino and Moretti, 2006), difference in the effort level put in the market production (Becker, 1985), less work hours of women due to household responsibility, occupational segregation and direct gender discrimination (UNDP, 2006).

In the leather goods manufacturing firms, it is found that there is explicit vertical work segregation – men and women are engaged in diverse activities. While some men are permanent with fixed monthly salary and some are paid on piece rate basis, most women are permanent workers with fixed working hours. Women are concentrated in the low skill, low paid activities. Since majority of the women are permanent workers with fixed working

hours, it is untenable that they have lower income than male workers due to lesser work hour. On the other hand, the domination of higher paid activities by men has been traditional and not based on skill differences. The work segregation seems to be discriminating, in view of the fact that no woman has ever been employed in the works done traditionally by men. Hence the women's inability, lack of skill or inefficiency is not the basis of this work segregation. If properly trained and given the chance, women might have proved their efficiency. However, an interesting fact is that the women themselves are quite content and approve of the premise that men are more proficient in doing skilled and machine related works. The study reveals some reasons behind gender based occupational segregation in leather goods manufacturing industry.

First, women are employed in the low paid activities since no male worker is willing to work at such low wages. Even a newcomer male worker who does the same job as women is paid more – the firms do not acknowledge this fact and the workers, both men and women, justify their differential payment on the basis of differential gendered financial responsibilities. However, women who are sole breadwinners of their family also accept this justification, despite their financial responsibilities.

Secondly, in a number of firms, men work in groups – a group leader who is a skilled worker brings with him a group of semi-



skilled and unskilled workers. The unskilled workers learn the particular work over time and eventually become skilled in the work. They are paid on the basis of piece rate; hence there is usually no fixed working hours for them. They often work in night shifts, particularly during high demand phases, which is not plausible for women workers.

Most of the wage difference between men and women is due to occupational segregation. But even at the lowest hierarchy of work, men are paid more than women for similar work, indicating a discriminating approach of the firms. This is possible because women, who mostly do not have to shoulder the responsibility of the household as primary breadwinner, are ready to accept low wages. However, as workers gain proficiency and climb up the skill ladder, the discrimination gradually disappears.

Is there any preferential pattern of employer towards employing men and women?

The study reveals that the employers appreciate that women are sincere, dedicated, have less distractions (like smoking etc. in case of men) and can perform their jobs better. Firms are neutral regarding their gender preferences for worker, due to segregation of work between men and women. Gender stereotyping is evident due to the perceptions of employers regarding women workers as docile and suited for repetitive and detailed work. Some

employers opine that despite their better performances, men are preferred since women are unsuitable for long hours or night shifts during emergencies; secondly, presence of women adversely affects the work environment due to their mutual proximity.

3.2. Intra-household Empowerment of Women Workers

The demographic profile of the sample women workers is displayed in Table 1. The age distribution shows that the average age of the women employed in the industry was approximately 35 years, with majority aged between 30 to 40 years. Women of age 30 and above constitute 77.5% of the sample. 90% of the women reside in urban areas and 10% come from semi-urban areas in the vicinity of Kolkata city. 75% of women workers are married and only 25% are single (unmarried, widow or deserted). Contrary to cases where marriage is a hindrance to industrial employment, leather industry seems to be acceptable for married women workers. 85% of the sample women workers are literate with education below Class X. Only 12.5% are illiterate.

Table 1: Demographic profile of the sample women workers

Variable	Women workers
Mean Age	34.97 (SD = 6.25)
Distribution of Age	



Less than 30	22.5%
30 - 40	60%
41 and above	17.5%
Residence	
Semi urban	10%
Urban	90%
Marital Status	
Married	75%
Unmarried	17.5
Widow	5%
Deserted	2.5%
Educational Qualification	
Illiterate	12.5%
Below class X	85%
X - XII	2.5%

Most of the women (75%) have joined the leather industry to supplement their family income (Table 2). Discussions with the women revealed that while for some, their husband's income is insufficient, for others additional income is sought in order to give better education and life to children. 20% of the women are sole breadwinners of their family and shoulder the entire financial burden. Interestingly, 5% respond that they have joined work only to spend their spare time productively. 47.5% of the women have been in their current workplace for one to five years, while 37.5% have been working for more than one year. 35% of the women workers have been working in other firm in leather industry and for 55% the present firm is their first place of

work. This indicates that leather manufacturing sector has been attracting women workers and providing stable employment opportunities.

Table 2: Work related details of sample women workers

Reason for joining work	Percentage of women workers
Supplementing family income	75
Loss of job/unemployment/of male bread winner	2.5
Husband does not support family	5
Death of husband/father	12.5
Spending spare time	5
No. of years in present work	
Less than 1	15
1 - 5	47.5
More than 5	37.5
Previous work	
Leather industry	35
Other sector	10
Did not work	55

Measure of intra-household power of women

Different researchers have considered different dimensions - social, economic, legal, political and psychological, to capture the diverse elements of



empowerment (CIDA, 1996; Kishor, 2000; Malhotra, et al., 2002). However, in this study, since we are interested to determine the extent of intra-household power or empowerment of the women workers within their households, three dimensions are considered: economic, socio-cultural and interpersonal/familial.

Economic dimension includes three indicators: women’s control over income; relative contribution to family support; and status relating to decisions in financial matters. Socio-cultural dimension is captured by four indicators: women’s freedom of movement; seeking of suggestions in domestic decision-making; decision making regarding items to be cooked; and availability of time for leisure. Interpersonal/familial dimension has three indicators: decision making regarding child’s education; ability to make childbearing decisions; and use of contraception. The questionnaire included specific questions on each of the indicators.

Since some questions pertaining to empowerment relate to response concerning the husband’s behaviour, and response relating to other male member is not relevant for the study, this part of the analysis is carried out on 90 married women.

Most of the responses obtained with respect to the indicators are qualitative in nature and are converted to numerical data using ordered ordinal scores. Next, the response in each indicator is expressed as an index with value between 0 and 1 by normalisation using Min-max method¹. According to the method,

$$I_j = \frac{X_{ij} - \text{Min}(X_i)}{\text{Max}(X_i) - \text{Min}(X_i)} \text{ where } X_{ij} \text{ is the actual value.}$$

The dimension index is calculated by taking an unweighted average of the indicator indices. The geometric mean of the dimension indices yields the overall intra-household empowerment index of the sample.

Table 3: Indices of different dimensions of intra-household empowerment

Dimensions	Indicators	Index	Aggregate index	Overall intra-household empowerment index
Economic empowerment	Contribution of income to family	0.32	0.37	0.48
	Freedom to spend independently or	0.25		

¹ This method has been used for constructing the Human Development Index.

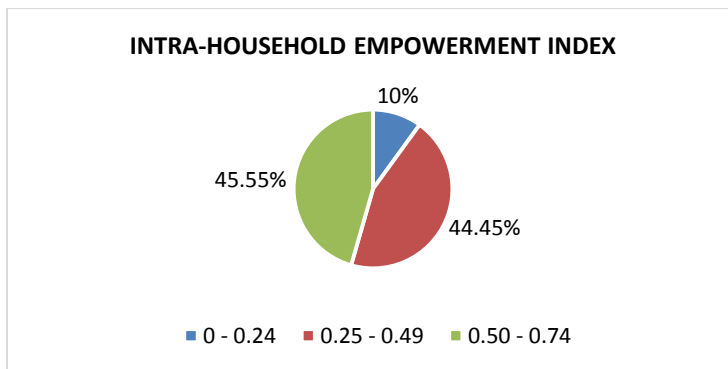


index	for self		
	Consultations in financial matters	0.55	
Socio-cultural empowerment index	Time for leisure	0.71	0.63
	Freedom to socialise	0.6	
	Decision regarding items to be cooked	0.56	
	Freedom to visit parents	0.53	
	Acceptance of their suggestions	0.73	
Interpersonal empowerment index	Birth control decisions	0.53	0.47
	Decisions regarding child birth	0.45	
	Decisions regarding child's education	0.43	

Table 3 shows the indicator indices, dimension indices and the aggregate indices of empowerment. In the sample, the overall intra-household empowerment index is found to be 0.48. A closer examination of the different dimensions of overall empowerment reveals disparities within different indicators. Among the three dimensions, the economic empowerment index is lowest (0.37), while interpersonal empowerment and socio-cultural empowerment indices are 0.47 and 0.63 respectively.

Figure 1 depicts the distribution of overall intra-household empowerment over the sample women workers. The index is very low (0 - 0.24) for 10% of the women, low (0.25 - 0.49) for 44% of them and moderate (0.50 - 0.74) for 46% of the women. It seems that majority of the women are moderately empowered, but none of them are highly empowered (0.75 - 1).

Figure 1: Extent of empowerment of sample workers





Work Status, Patriarchal Norms and Empowerment

In the present study, 63.3% of the sample women workers opined that their work and earning did not change the level of their intra-household power. Discussion with the women at length revealed that those who think that their work status did not have any impact on the intra-household power, believe that they had already been domestically empowered and enjoyed adequate importance in the family even before they had started earning.

To ascertain whether there exists any association between overall empowerment of women and their perception of increase in empowerment due to job, Pearson chi square test is performed. The result yields $\chi^2 = 0.7483$ with p-value = 0.688 > 0.05, implying that there is no significant association between the opinion of women regarding their increase in power after starting to earn and their actual

empowerment index. Among the 57 women who responded in favour of being already empowered within the household, 27 actually were low and 24 were moderately empowered.

In order to examine whether patriarchal attitude of the husbands that have any role in the skewed power distribution of women among different dimensions within household, three indicators are considered: attitude of husband towards women’s work, decision maker regarding women’s work outside and pressure to quit job when husband’s income increases. These essentially capture the attitude of husbands regarding their wives’ labour market participation. The overall index for patriarchal culture is 0.22, calculated as the unweighted arithmetic mean of the indicator indices. For each of the three indicators, the indices are obtained as 0.03, 0.25 and 0.4 respectively (Table 4).

Table 4: Indices of different dimensions of patriarchal culture

Indicators	Response	Code	Indicator Index	Overall index for patriarchal culture
Attitude of husbands towards women’s work	encourage	0	0.03	0.22
	discourage	1		
Decision maker regarding women joining work outside	self	0	0.25	
	both	1		
	husband	2		
Pressure to quit job when husband’s income increases	yes	1	0.4	
	no	0		



The Pearson product-moment correlation coefficient between patriarchal attitudes of husbands and their wives' empowerment is found to be 0.0437 with p-value 0.6829, implying the negligible role of the attitude of husbands in their wives' power.

There is also strong evidence that the woman's continuation of work inspite of her husband's objection does not depend on her attitude (whether she has been compelled or willing to work), work feeling (happy or dissatisfied) and overall empowerment as revealed by the result of Chi square test (Table 5).

Table 5: Results of Chi square test to find the association between woman's desire to continue work despite her husband's objection and other related variables

	Desire to continuation of work despite husband's objection	
	Pearson's Chi-square value	p-value
Woman's attitude towards work (compelled or willing)	0.8571	0.355
Woman's work feeling (happy or dissatisfied)	1.3300	0.249
Woman's overall empowerment index (very low, low and moderate)*	4.1131	0.128

* The sample shows that none of the woman have high empowerment index, see Figure 1.

Of the sample, 76.6% of the women prefer to stay at home and not work outside, if given a choice. 90% of the women had to venture out to work in order to supplement their insufficient family income. 83.3% of them responded that they were compelled to work outside; out of the 16.7% women who joined the labour market willingly most of them responded that they intended to earn so as to provide better education to their children. 43.3% responded they would not work if their family income increased. However, 93.3% of the women are happy working outside, and indicate their satisfaction or sense of emancipation.

4. DISCUSSION

Although the sample consists of working women, they have little power when it comes to economic matters. Most of them contribute the major part of their income to the family but have very limited freedom to spend for their own needs or according to their desire. The socio-

cultural empowerment is comparatively higher implying their relatively better position with respect to domestic decision making and social mobility. Nonetheless, their interpersonal empowerment is quite low; it indicates that women have little say in vital decisions that involves the couple, like those pertaining to child birth and their education.



Kabeer (1997; 1998) opined that empowerment should be measured in terms of women's own interpretation - the process of empowerment should be judged as having occurred if it is self-assessed and validated by women themselves. Researchers studying intra-household dynamics believe that an improvement in a family member's fall-back position – the outside options determining the extent to which the person is well off if the co-operation fails - improves the bargaining power or deal the person gets within the household (Agarwal, 1997). It can be expected that the work status of women might improve their empowerment level. However, the result of the study is indicative of divergence between women's perceptions and their actual power and corroborates the idea that women, particularly in India, have less or false perceptions about their self-interests (Agarwal, 1997). It reflects that their assessments and acceptance of the inequitable gender relations may be circumscribed by gender norms and patriarchal culture. While gender norms implicitly express the expected behaviour of people of a particular gender in a given social context, patriarchal culture reflects gender norms dictating traditional and pre-set behaviour of the women in social, economic and personal aspects.

Two pertinent implications of the study regarding the association between patriarchal culture and women's labour market behaviour are: first, the role of patriarchal attitude of husbands in the context of women's entry into labour

market is very low; secondly, women are persuaded to quit their job as their husband's income increases (index value being 0.4). Economic compulsion overrides the husband's inherent reservations regarding their wives working outside² when family income is low, while women face husband's objections to work once he has higher earnings. Thus, an inherent undercurrent of patriarchal attitude of the husbands is obvious.

The results rule out the possibility that wives of men with more patriarchal attitude are likely to be less empowered. While women participate in labour market to cushion the family's inadequate income, neither their income earning status nor their husband's attitude affects their empowerment.

The study is also a pointer to the fact that the women's personal preferences and empowerment has hardly any impact on their work decision, if there is objection to her work from the husband. The husband's approval is the most important determining factor whether the woman will continue to work or not. The traditional gender roles do not allow women to have bargaining power regardless of their earning status. The sample women in the leather industry

² Salway, Jesmin, and Rahman (2005) found in a study of dual earners in Bangladesh that husbands felt anxious if their wives worked outside the home since it was against their cultural identities of being the sole breadwinners.



have been able to continue work due to the encouragement of their husbands, who displayed low patriarchal attitude. Women's power dimension has limited effect on their continuation of work.

The study also shows that gender norms are embedded in the mindset of the women. During discussions, they explained that home is where women belong to – insufficient family income has compelled them to move out to work. The paradoxical finding is that although 93.3% of the women are happy working outside reflecting their satisfaction or sense of emancipation, they would withdraw from labour market if their husbands have objections to their continuation of work.

The results are indicative of the overwhelming importance of patriarchal culture and gender norms vis-à-vis the intra-household power of women in their labour force participation decisions. Structural factors like gender norms shape individuals' perceptions of appropriate behaviours. Women's labour market behaviour is influenced by social values that can be seen as discriminatory against women. Even those who prefer staying at home and not working outside, feel happy after having started work; nonetheless, they are ready to quit job if her husband would object. Women's decisions and actions do not always reflect her own preferences; even if it does, their preferences are often constrained by cultural and contextual factors. Women accept the subordination to their husbands despite their earning and empowerment status. As Lerner (1989) opined,

“Subordination does not have the connotation of evil intent on the part of the dominant; it allows for the possibility of collusion between him and the subordinate”. A literature survey by England (1989) shows that women on average are more altruistic than men and less willing than men to drive hard bargains. The women in the sample are oblivious of their empowerment status in the household and in their role in labour market decisions, largely because they inherently believe that they should abide by their husband's wishes, and have little realization of the denial of power in decision-making. They adhere to the social norm that is essentially characterized by ‘paternalistic dominance’.

5. CONCLUSION

The study endeavours to assess whether there exists any inequality in employment status and wages of women workers in leather goods export industry in Kolkata. It also tries to examine the relation between intra-household bargaining power of these women workers and their work participation.

We find that women have lower earnings than their male counterparts, primarily due to vertical work segregation; nonetheless, there is discrimination at the lowest level of skill hierarchy, with women being paid less than men for similar jobs, primarily since the latter are unwilling to accept the low wages. Women are mainly concentrated in low skill and low paid



activities. Although employers are appreciative of the efficiency and sincerity of the women workers, the traditional norm of 'gendered' work pattern continues.

On the other hand, the women workers have fairly low overall intra-household empowerment. There exists a divergence between the women's perceptions regarding their power and their actual empowerment. Their acceptance of the inequitable gender relations reflects a lack of sense of deprivation. Despite the working status of women, they have very low economic empowerment; they contribute the maximum proportion of their income to the family but have little freedom to spend their income for themselves or on their own. The level of interpersonal empowerment is also low, so that women have limited power of assertion in conjugal decisions involving the couple. Their socio-cultural empowerment is found to be higher. However, neither their earning status nor their husbands' attitude towards their work affect their empowerment.

The women's work participation decisions are dictated more by patriarchal culture than their empowerment levels, whereby the women themselves prefer to stay at home and go out to work only if the husband approves of it, on the belief that they should always adhere to the husband's wishes. Thus, while the women are moderately empowered in social spheres, they are severely circumscribed

in their labour market decisions by their husbands' will and gender norms.

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MARKETING STRATEGIES OF PUBLIC LIFE INSURER AND PRIVATE LIFE INSURER IN RURAL MARKET: WITH SPECIAL REFERENCE TO LIFE MICRO INSURANCE

Furquan Uddin

Abstract:

The present study intends to assess the marketing strategies of public life insurer (LIC of India) and private life insurer (ICICI Prudential) pertaining to life micro insurance in rural market. It is a descriptive and comparative study. The researcher contacted 350 people residing in rural area out of which 82 people are policyholders; as a result, the sample size is 82. Multi-stage sampling has been adopted to collect the data from the rural market of Varanasi, India. For the purpose of analysis, one sample t-test has been applied. The finding of the study includes that there is significant difference between LIC of India and ICICI Prudential in their marketing strategies in rural market. Both life insurers are suggested to revamp their marketing strategies to suit the local needs and expectations of the rural market.

Key Words:

Affordability, Life Micro Insurance, Marketing Strategies, Rural Market



1. Introduction

The present business world is complex and volatile. In order to strive and thrive, firms manage their marketing strategies and choose a comprehensible marketing strategy. As a matter of fact, marketing strategy is a vital component of corporate strategy which yields a competitive advantage over the competitors. Marketing strategy encompasses strategies pertaining to elements of marketing mix. It helps in developing the products and services with best profit making potential. It plays a crucial role in fixing the right price of the products and services. It also ensures departmental co-ordination. It facilitates a firm in optimum utilisation of resources to provide a sales message to its target market. Besides, it helps in determining the promotion budget in general and advertising budget in particular and reveals its scope of revenue generated by the promotional plan. Marketing strategy also guides the distribution decision whether direct or indirect flow of products would be followed. The conceptual framework of marketing strategy is presented through Table 1.

Table 1: Conceptual Framework of Marketing Strategy

Authors	Definitions of Marketing Strategy
Buttle (1993)	Marketing strategy- the overall (corporate and marketing) action programme, including all elements of marketing complex in order to clarify undertaking to set goals and objectives. This is a logical continuation of the business plan that combines a number of interrelated decisions.
Kotler (2009)	Marketing strategy is marketing logic according to which the business unit is marketing. Marketing strategy focuses on target customers. The company chooses a market, divides it into segments, selects the most viable ones and consolidates its forces in the service segment. The company creates a marketing mix, using the tools at its disposal: product, price, distribution, sales support. In order to establish the best marketing mix and be able to take appropriate action, the company performs marketing analysis of marketing plans and carries them out. It carries out these activities by monitoring the environment and adapting to it.
Pranulis (2008)	Marketing strategy is consistently located and coordinated set of marketing actions, aimed at meeting the long term marketing goals.

Source: Compiled from different sources

It is inferred that segmentation, targeting and positioning (STP) is the crux of

marketing strategy. It is a course of actions to achieve the set goals through



marketing mix tools such as product, price, place, promotion, and in services three additional is also considered i.e. process, physical evidence and people.

2. Review of Literature

There are many studies on life insurance; however, some studies have been conducted in context of life insurance rural market. Furquan (2018) has explored the product objectives of LIC of India such as effective product management, strategic approach, societal marketing perspective and legal considerations. Vanitha and Rajakrishnan (2017) have highlighted the transformation of insurance sector in India. It has been observed that a full circle has been completed by India in context of being an open competitive market during the initial years then choosing to be nationalised and then again adopting liberalisation. They have further stated that LIC of India has been witnessing the whole transformation and coping up with the changes and diversifying its marketing strategy to reduce the competitive pressure. LIC of India success can be measured on two dimensions i.e. policies and premium. It has also been highlighted in the research paper that micro insurance offers insurance policies with low premiums and Government of India also contributes certain percentage to the premiums paid by the customers belonging to BPL (Below poverty line). Lokesh and Sandhya (2017) have stated that the limited magnitude of the urban market has compelled the insurance companies to

search for rural markets. Formulation of rural marketing strategies no longer means only surviving and evolving in their business but also means contributing to the enhancement of rural economy. They have also pointed out that the prime reason of LIC of India being on the top is the annual market research conducted by it. Innovating new plans and discarding old irrelevant plans, LIC has been on steady run by shaping its product offerings based on the stable changing behaviour of consumers as well as competitors. Further change in selling and distribution policies adding option of push and pull strategy to create demand, bancassurance generating 35 percent of LIC premiums have paved the way of success for LIC currently.

Siddique and Stephen (2017) have emphasised why rural sector is significant politically as well as economically. As the said sector comprises 68.84 percent and population generates about 26 percent of the GDP (Gross Domestic Product) as per census, 2011. Rural large population and rising rural propensity are the two factors making insurance companies contesting to notch their names in rural market. This research paper has highlighted the LIC's three prolonged strategy – firstly targeting rural wealth, secondly offering group policies for those who couldn't afford then lastly for the very poor it has offered government subsidised policies. This paper has also highlighted the inherent obstacles associated with the insurance sector in rural market where payback period is longer and patience is required.



Rao and Periyasamy (2014) have highlighted the success and dominant position of LIC in rural area to its offering exclusive rural centric products. Boston consultancy group (2007) has observed that insurance is associated with income and it is immense significant to design products which offer low premiums and have rural orientation. This paper has enlightened with the very basic fact that insurance marketing is based on trust and personal connection. LIC by offering satellite branches and physical presence of office has achieved the confidence of rural consumers and leaving behind the private players in the competition. It has been pointed out that the number of insurance agents for micro insurance policies is low for private company compared to LIC.

Ashfaque Ahmed (2013) has narrated that after the privatisation policy of 1991; rural statistic still shows a relevant low penetration and poor density. This research paper has highlighted the poor understanding and knowledge of the life insurance products, more significantly the operation of life insurance companies among rural people. Rural consumers still struggle to distinguish between life insurance, general insurance, health insurance and some endowment products.

Yadav and Mohania (2015) have mentioned the LIC's indispensable efforts of fulfilling insurance needs of the rural community in the changing social and economical environment. Adaptability is the keyword for LIC. Despite the strong brand name of LIC, its claim settlement

process if compared with ICICI is not transparent, approachable and flexible.

Dar et al. (2014) have revealed that the formulation of marketing strategy is a crucial task when it comes to designing, distributing and promoting insurance services. They have concluded that the end result of promotion is to convey positive word of mouth among existing and potential consumers about the services or product. This paper has highlighted when it comes to choosing between public and private companies, Indians always choose public sector because of reliability irrespective of the fact that this sector lacks quality and innovation. Private companies are preferred less because of misleading and hidden information in advertisement despite having good quality services. Hence, a margin is created in adopting promotional policies of both the sector.

Bapat et al. (2014) has mentioned the scope of risks inherent in life, commerce, trading, etc. The study reveals that the insurance sector has been successful in harnessing risk to some extent and successfully paving its way to the interiors of Indian economy. It has been observed that LIC is still struggling hard in developing its SERVQUAL (used for service quality measurement in terms of reliability, assurance, tangibles, empathy and responsiveness) where the private players have already excelled significantly. Kalal and Gajja (2017) have opined that rural consumers are becoming more tech savvy gradually. It has been



predicted that they will soon use digital channels to buy policies. The study has also highlighted that to boost transaction volume most insurance companies offer big tickets policies and sale of low ticket policies in rural areas is ignored.

Banerjee (2008) has highlighted the struggle of exploring various aspects of brand marketing, which includes building a positive reputation about the brand. In India, ICICI Prudential instrumented 'sindoor' as the greatest symbol of protection and benefit. Further, in their communication, they also instrumented 'shoulder' as a sign of dependability. Through these symbols, ICICI Prudential attempted to integrate social culture and individual emotion. Bedi and Singh (2011) have stated that LPG (liberalization, privatization and globalization) has proved to be beneficial for LIC in India. The total business of LIC has been on an upward trend but it is notable to mention about the success of ICICI capturing over a lot of business of LIC due to dynamic and versatile product range.

P.K Gupta (2000) has reported that LIC in India has enjoyed monopoly during pre-privatisation. Post-IRDAI (Insurance Regulatory and Development Authority of India) enactment, it has been observed that the brand loyalty of LIC is still the long lasting one making the private players extremely at loss. Less interest shown by the private companies is the result of high initial cost and operational losses. The research study has suggested that service

based approach works partially whereas price based approach along with personal touch works fruitfully in rural India. The study has revealed that the rural market consists not only of rural consumers but rural producers (farmers) also. Hence, the payment of premiums on policies should be linked with the harvest season, being agriculture the prime source of income for the rural population. Tagra and Dhiman (2017) have stated that in the year 2005, IRDAI introduced statute to provide safety and increase coverage in the low income groups. The research study has suggested that rural market agents need to be trained and made aware of the significance of life insurance. Shinde (2011) has advocated that most of the people perceive insurance as a tax saving and investment tool.

Most of the studies are based on general aspects of life insurance business in rural India, awareness level of micro insurance and confined to LIC of India's marketing strategy; however, comparative study of LIC of India with the near competitor ICICI Prudential Life Insurance Company Ltd. pertaining to marketing strategies for rural market has not been conducted so far. Therefore, the present study is distinct, concrete and strict to comparative evaluation of marketing strategies of LIC of India and ICICI Prudential pertaining to life micro insurance in rural market.

3. Objective of the Study

The objective of the present study is to evaluate the marketing strategies of LIC



of India and ICICI Prudential pertaining to life micro insurance in rural market.

4. Hypothesis

H₀: There is no significant difference between LIC and ICICI Prudential pertaining to marketing strategies of life micro insurance product in rural market.

H₁: There is significant difference between LIC and ICICI Prudential pertaining to marketing strategies of life micro insurance product in rural market.

5. Material and methods

The nature of present study is descriptive. It is based on both primary data and secondary data. Interview schedule has been used as an instrument to collect the primary data because respondents belong to rural market where level of education is not upto the mark, as a result, researcher himself filled the schedule. Interview schedule contains dichotomous, open ended and close ended questions. Five point Likert scale has been used in the

schedule. A sample of 82 policyholders has been taken into consideration as out of 350 respondents merely 82 respondents have the life micro insurance product. It has been assumed that the respondents who are the policyholders have better understanding of the rural marketing strategies of both insurers. Multistage sampling has been adopted to collect the data from the rural market of Varanasi, India. Descriptive statistics and one sample t-test have been applied to analyse the primary data with the help of SPSS 24.

6. Results

The crux of marketing strategy is STP i.e. segmentation, targeting, and positioning. Further, marketing strategies under positioning includes 7Ps viz. product, price, place (distribution), promotion, people, process, and physical evidence. As life insurance business is concerned with services marketing, it entails 7Ps. The comparative evaluation of all the components of services marketing mix has been shown (Table 2).

Table 2: Rural Marketing Mix of LIC of India and ICICI Prudential

Bases	LIC of India	ICICI Prudential Life Insurance
Product	1. LIC' New JeevanMangal 2. LIC's Bhagya Lakshmi Plan	1. ICICI Pru Sarv Jana Suraksha Micro Insurance Term Plan 2. ICICI Pru Anmol Bachat Micro Insurance Term Plan
Price	Premium-Rs. 60 per month	Rs. 50 per annum in the case of Sarv Jana Suraksha
Place	Non-Government Organisation, Self Help Groups, Micro Finance Institutions, Corporate Agents, Select	Micro Finance Institutions, Non-Banking Financial Companies,



	Conventional Agents, District Cooperative Banks, Regional Rural Banks, Urban Cooperative Banks, Primary Agricultural Cooperative Societies, Other Cooperative Societies, Banking Correspondents, and Individual Agents.	
Promotion	Personal Selling, Advertising	Personal Selling, Advertising
People	19,183 Micro Agents as on 31.03.2018.	151,563 advisors for whole organisation as on 31.03.2018. Data exclusively for rural business is not available.
Process	Intermediaries propose to prospective customers	Intermediaries propose to prospective customers
Physical Evidence	4040 Micro Insurance Premium Points	512 offices throughout the country. Data exclusively for rural business is not available.

Sources: Compiled from several sources

It can be inferred that both life insurers have two life micro insurance products. Premium is much less in ICICI Prudential as compared to LIC of India. LIC of India has more extensive distribution. Promotion mix is almost similar in both life insurers. Both life insurers have exclusive intermediaries for rural market. Process is almost similar and simple. Physical evidence is evident through premium receipts, bonds and premium points in both life insurers.

In order to collate the data, people residing in the rural vicinity of Varanasi were contacted. During the course of survey, it has been observed that 82 respondents (23.43 percent) have the life micro insurance policy, whereas 268 respondents (76.57 percent) do not have the life micro insurance policy. The demographic profile of the respondents is analysed on the basis of age, gender, marital status, occupation, educational qualification and annual income. The distribution of sample respondents is shown in Table 3.

Table 3: Demographic Profile of the Policyholders

Aspects	Items	Number	Percentage
Age	Below 20 years	4	4.88



	21-40 years	57	69.51
	41-60 years	15	18.29
	Above 60 Years	6	7.32
	Total	82	100.00
Gender	Male	65	79.27
	Female	17	20.73
	Total	82	100.00
Marital Status	Unmarried	51	62.20
	Married	31	37.80
	Total	82	100.00
Occupation	Agriculture	34	41.46
	Employee	14	17.07
	Business	23	28.05
	Professional	11	13.42
	Total	82	100.00
Educational Qualification	Up to High School	39	47.56
	Intermediate	12	14.63
	Graduation and above	07	08.54
	Uneducated	24	29.27
	Total	82	100.00
Annual Income	Below Rs. 25,000	18	22.86
	Rs. 25,001-50,000	32	41.43
	Rs. 50,001-75,000	75	21.43
	Rs. 75001- 1,00,000	30	08.57
	Above 1,00,000	20	05.71
	Total	82	100.00

Source: Interview Schedule

An analysis of the table reveals that more than two-thirds belong to the age-group of 21-40 years. On the other hand, consumers below 20 years and above 60 years account for about twelve percent together. About four-fifths of the total respondents are male. More than three-fifths are unmarried and more than two-fifths are engaged in agriculture activities whereas more than one-fourths is dependent on business for their livelihood.

A little more than one-sixths is employee. It is also interesting to know that a little more than thirteen percent comprise professionals like medical practitioners and advocate. Less than one-thirds is uneducated while a slight less than one-tenths is graduated. About half of the respondents are high-school and rest is intermediate. Of the overall respondents, more than two-fifths earn between Rs. 25,000 and Rs. 50,000 per annum and less



than one-fourths fall under the category of annual income less than Rs. 25,000. A nominal fraction (5.71 percent) of the

respondents belongs to above Rs.100,000 annual income.

7. Hypotheses Testing

As stated earlier, the policyholders (82) have been considered for the purpose of evaluation of marketing strategies of select life insurers. The hypothesis pertaining to marketing strategies comprises 7ps; therefore, sub-hypotheses have been tested by applying one-sample t-test.

H_{01a}: Product is customer oriented.

Table 4: One-Sample Statistics pertaining to Product

	N	Mean	Std. Deviation	Std. Error Mean
LIC	82	2.8659	1.18386	.13074
ICICI	82	1.5000	.50308	.05556

Table 5: One-Sample Test pertaining to Product

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
LIC	21.921	81	.000	2.86585	2.6057	3.1260
ICICI	27.000	81	.000	1.50000	1.3895	1.6105

Table 4 presents the means (LIC-2.86 and ICICI-1.50) and standard deviation (LIC-1.18 and ICICI-.50) pertaining to product strategy of life micro insurance. It is visible that life micro insurance product of LIC of India is more customer oriented than ICICI Prudential as the mean of LIC is twice to mean of ICICI, however, the standard deviation of ICICI Prudential denotes less dispersion as compared to LIC. Table 5 states one-sample test between product of LIC of India and ICICI Prudential pertaining to customer

orientation. Further, under t-test the null hypothesis is rejected and alternate hypothesis is accepted as the significance value is $.000 < .05$ which indicates that there is significant difference between LIC of India and ICICI Prudential in terms of customer orientation of product. LIC enjoys this difference due to its product features and strong brand name in the market. It has been observed that LIC is regarded as 'life insurance' in majority of the rural folks.



H_{01b}: Pricing (premium) is affordable.

Table 6: One-Sample Statistics pertaining to Price

	N	Mean	Std. Deviation	Std. Error Mean
LIC	82	2.9659	1.28386	.13074
ICICI	82	3.5000	1.50308	.05556

Table 7: One-Sample Test pertaining to Price

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
LIC	21.921	81	.000	2.96585	2.6057	3.1260
ICICI	27.000	81	.000	3.50000	1.3895	1.6105

Table 6 indicates the means (LIC-2.96 and ICICI-3.50) and standard deviation (LIC-1.28 and ICICI-1.50) related to pricing strategy of life micro insurance. It is clear that pricing of life micro insurance product of LIC of India is less affordable than ICICI Prudential on mean basis. However, the standard deviation of ICICI Prudential represents much dispersion as compared to LIC. Table 7 states the one-sample test between pricing of LIC of India and ICICI Prudential pertaining to affordability. Further, under t-test the null

hypothesis is rejected and alternate hypothesis is accepted as the significance value is $.000 < .05$ which indicates that there is significant difference between LIC of India and ICICI Prudential in terms of price affordability of life micro insurance product. The difference arises as ICICI Prudential charges Rs. 50 per annum in the case of Sarv Jana Suraksha plan as compared to LIC where Rs. 60 per month is the premium.

H_{01c}: Distribution is convenient.

Table 8: One-Sample Statistics pertaining to Distribution

	N	Mean	Std. Deviation	Std. Error Mean
LIC	82	3.8659	.78386	.13074
ICICI	82	1.5000	.56308	.05556



Table 9: One-Sample Test pertaining to Distribution

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
LIC	21.921	81	.000	3.86585	2.6057	3.1260
ICICI	27.000	81	.000	1.50000	1.3895	1.6105

Table 8 reveals the means (LIC-3.86 and ICICI-1.50) and standard deviation (LIC-.78 and ICICI-.56) concerned to distribution strategy of life micro insurance. It is obvious that distribution of life micro insurance product of LIC of India is more convenient than ICICI Prudential on mean basis. However, the standard deviation of ICICI Prudential signifies less dispersion as compared to LIC. Table 9 displays the one-sample test between LIC of India and ICICI Prudential pertaining to convenient distribution. Further, under t-test the null

hypothesis is rejected and alternate hypothesis is accepted as the significance value is $.000 < .05$ which indicates that there is significant difference between LIC of India and ICICI Prudential in terms of convenient distribution of life micro insurance product. LIC enjoys its wider distribution network across the country which is one of its biggest strengths. Apart from individual agents, LIC offers its plans through different intermediaries.

H_{01d} : Promotion is effective.

Table 10: One-Sample Statistics pertaining to Promotion

	N	Mean	Std. Deviation	Std. Error Mean
LIC	82	3.8175	.94868	.13074
ICICI	82	3.0506	1.09738	.05556

Table 11: One-Sample Test pertaining to Promotion

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
LIC	21.921	81	.000	3.8175	2.6057	3.1260
ICICI	27.000	81	.000	3.0506	1.3895	1.6105



Table 10 contains the means (LIC-3.8175 and ICICI-3.0506) and standard deviation (LIC-.94868 and ICICI-1.09738) pertaining to promotion strategy of life micro insurance. It is evident that promotion of life micro insurance product of LIC of India is more effective than ICICI Prudential on mean basis. However, the standard deviation of ICICI Prudential shows much dispersion as compared to LIC. Table 11 presents the one-sample test between LIC of India and ICICI Prudential pertaining to effectiveness of

promotion. Further, under t-test the null hypothesis is rejected and alternate hypothesis is accepted as the significance value is $.000 < .05$ which indicates that there is significant difference between LIC of India and ICICI Prudential in terms of effective promotion of life micro insurance product. LIC invests a significant portion of the fund in promotional campaign.

H_{01e} : Employees are efficient.

Table 12: One-Sample Statistics pertaining to Employees

	N	Mean	Std. Deviation	Std. Error Mean
LIC	82	2.3659	1.38386	.13074
ICICI	82	1.8500	.90308	.05556

Table 13: One-Sample Test pertaining to Employees

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
LIC	21.921	81	.000	2.36585	2.6057	3.1260
ICICI	27.000	81	.000	1.85000	1.3895	1.6105

Table 12 shows the means (LIC-2.36 and ICICI-1.38) and standard deviation (LIC1.38 and ICICI-.90) pertaining to people strategy of life micro insurance. It is apparent that employees of LIC of India are more efficient related to life micro insurance as compared to ICICI Prudential on mean basis. However, the standard deviation of ICICI Prudential shows less dispersion as compared to LIC. Table 13

implies the one-sample test between LIC of India and ICICI Prudential pertaining to efficiency of people. Further, under t-test the null hypothesis is rejected and alternate hypothesis is accepted as the significance value is $.000 < .05$ which indicates that there is significant difference between LIC of India and ICICI Prudential in terms of efficiency of employees related to life micro insurance



product. LIC of India has paid special attention to rural market; as a result, about twenty thousand micro agents are working with LIC.

H_{01f} : Process is simple.

Table 14: One-Sample Statistics pertaining to Process

	N	Mean	Std. Deviation	Std. Error Mean
LIC	82	2.4659	1.51386	.13074
ICICI	82	1.3800	1.20308	.05556

Table 15: One-Sample Test pertaining to Process

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
LIC	21.921	81	.000	2.46585	2.6057	3.1260
ICICI	27.000	81	.000	1.38000	1.3895	1.6105

Table 14 reveals the means (LIC-2.46 and ICICI-1.38) and standard deviation (LIC-1.51 and ICICI-1.20) pertaining to process strategy of life micro insurance. It is clear that the process of LIC of India is more simple related to life micro insurance as compared to ICICI Prudential on mean basis. However, the standard deviation of ICICI Prudential demonstrates less dispersion as compared to LIC. Table 15 illustrates the one- sample test between LIC of India and ICICI Prudential

pertaining to simplicity of process. Further, under t-test the null hypothesis is rejected and alternate hypothesis is accepted as the significance value is $.000 < .05$ which indicates that there is significant difference between LIC of India and ICICI Prudential in terms of simplicity of process related to life micro insurance product. Micro agents of LIC facilitate the process for policyholders.

H_{01g} : Physical evidence is visible.

Table 16: One-Sample Statistics pertaining to Physical Evidence

LIC	82	3.8859	1.65386	.13074
ICICI	82	1.6800	.72308	.05556



Table 17: One-Sample Test pertaining to Physical Evidence

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
LIC	21.921	81	.000	3.88585	2.6057	3.1260
ICICI	27.000	81	.000	1.68000	1.3895	1.6105

Table 16 displays the means (LIC-3.88 and ICICI-1.68) and standard deviation (LIC-1.65 and ICICI-.72) pertaining to physical evidence strategy of life micro insurance. It is evident that physical evidence of LIC of India is more visible related to life micro insurance as compared to ICICI Prudential as per mean value. However, the standard deviation of ICICI Prudential has less dispersion as compared to LIC. Table 17 exhibits the one sample-test between LIC of India and ICICI Prudential pertaining to visibility of physical evidence. Further, under t-test the null hypothesis is rejected and alternate hypothesis is accepted as the significance value is $.000 < .05$ which indicates that there is significant difference between LIC of India and ICICI Prudential in terms of visibility of physical evidence related to life micro insurance product. In order to overcome the intangibility, LIC has extended to 4040 micro insurance premium points which is an indicator of physical evidence and creates trust in the people.

8. Discussion

It has been observed in this study that LIC of India is the pioneer across the different

aspects of marketing strategy. However, in terms of pricing, ICICI Prudential is charging less as compared to LIC of India. It is also inferred that there is distinct approach of both life insurers to serve the rural market. The present study is distinct from other previous studies as it highlights the comparative evaluation of marketing strategies in rural market from the ultimate consumer perspectives.

9. Concluding Observations

It is concluded that all null hypotheses have been rejected and alternate hypotheses have been accepted as the significance value was $.000 < .05$ which indicates that there is significant difference between LIC of India and ICICI Prudential in their rural marketing strategies such as, customer orientation of product, price affordability of life micro insurance product, convenient distribution of life micro insurance product, effective promotion of life micro insurance product, efficiency of employees related to life micro insurance product, simplicity of process related to life micro insurance product and visibility of physical evidence related to life micro insurance product.



1. In the process of formulating an effective marketing strategy, both life insurers need to focus on market segmentation and product differentiation. It is a well-known fact that the Indian life insurance market in general and rural market in particular is under-exploited. A large chunk of prospective insurance customers belong to medium to lower income groups. At the same time, they reside in rural and sub-urban areas. With a view to reaping the benefits of market segmentation and gaining competitive edge over the rivals, they need to apply multidimensional segmentation, that is, the entire insurance market may be segmented on the basis of age, education, income, needs and benefits sought.
2. Both life insurers should follow the localised strategy that suits the local markets needs like village fairs, puppet shows, haats, etc. to reach the masses. They should create an optimal mix of all advertising media to ensure top of mind recall for products name. They should prepare a robust strategy for outdoor publicity, especially leveraging their own buildings for reinforcing brand awareness throughout the length and breadth of the country.
3. It is visible from the study that more than three-fourth of the sample size do not have insurance coverage while a little less than one-fourth is insured. Therefore, both life insurers should design effective marketing strategy to enhance market penetration.
4. Keeping in mind the findings of the study, ICICI Prudential should focus on building trust-based relationship as it is a prominent factor in life insurance.
5. ICICI Prudential needs to manage external forces by adopting more strategic approach and it should enhance its distribution network.
6. LIC is charging more premiums in comparison to ICICI in context of life micro insurance; therefore, LIC should also re-consider about competitive premium as life micro insurance is generally meant for affordability.
7. Both life insurers should focus on relationship building, mutual trust and after sales service.
8. Both insurers should treat rural business as significant part of whole business rather than a compulsion.
9. As a matter of fact, rural folks confront the irregular flow of income, therefore, a special type of treatment should be given to them like whenever they have the money they can pay premium as in the case of public provident fund.



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TESTING LIFECYCLE THEORY OF DIVIDENDS: EVIDENCE FROM INDIAN CORPORATES

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Abstract:

The present paper examines the lifecycle theory of dividends among Indian firms. The focus is to test whether the life-cycle theory explains Indian corporate payout policies. The data consists of firms listed on NSE and BSE. The time period of the analysis is from 1999-2018. Pooled OLS estimator, fixed effect and random effect estimators have been analyzed to understand the determinants of dividend paying companies in India. Multivariate logit regression has also been used to investigate the determinants of dividend payouts. Results of multivariate logit regression indicate that the ratio of retained earnings to total assets (and retained earnings to total equity) have a highly positive and a significant relation to the amount of dividend being paid, hence it is consistent with the life cycle theory. Dividend paying firms are larger in size, with higher profitability.

Key Words:

Life Cycle Theory, Retained Earning, Logit Regression



1. Introduction

Dividend refers to a reward, cash or otherwise, that a company gives to its shareholders. Dividends can be issued in various forms, such as cash payment, stocks or any other form. A company's dividend is decided by its board of directors and it requires the shareholders' approval. However, it is not obligatory for a company to pay dividend. Dividend is usually a part of the profit that the company shares with its shareholders. The dividend policy decisions play an important role in overall corporate strategy and firm value creation.

The dividend puzzles (Black,1976) has long been one of the greatest puzzles of corporate finance. Black (1976) tried to answer "Why firms pay dividends?". Empirical research in this context has revealed that corporations follow many different dividend payout policies. Some firms pursue a stable dividend policy while others follow a residual policy of paying out whatever remains after fulfilling investment expenditure. While others distribute dividend payments as an internal disciplinary tool. This practice reduces agency problems and also signal good financial performance. Others pay no or low dividends to avoid or lessen shareholders' tax burden. More mature and profitable companies often maintain higher payout levels. Whereas smaller and highly levered companies don't find comfort and are unwilling to distribute the profit as a cash dividend. Few firms recognize the shifts in investor demand

and adopt dynamic dividend policies, while others pay no cash dividends. In summary, no single or "one-size-fits-all" explanation adequately describes why firms pay dividends.

India is one of the most important emerging and growing economies, Indian corporates provide a relevant setting for the study because the ownership structures of listed firms are highly concentrated. In India, Differential tax rates exist between dividend income and capital gains among investors. These features differ substantially from well-developed markets such as in the United States and the United Kingdom. Indian regulatory authorities employed major economic and structural reforms in the early 90s to integrate with world markets. In July 2016, SEBI has inserted Regulation 43A with respect to Dividend Distribution Policy in Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015, whereby the top 500 listed entities based on market capitalization (calculated as on 31st March of every financial year) are required to formulate a dividend distribution policy which shall be disclosed in their annual reports and on their websites and the dividend distribution policy shall also include certain stated parameters.

This issue of dividend policy in India now will engage managers to comply with the regulations. This research will help corporate managers to take better dividend policy decisions. The present study also



contributes to the dividend literature by examining the life cycle hypothesis empirically.

For better exposition, the remaining sections are organized into 5 sections. Section 2 describes the literature review. Section 3 discusses the objectives, and methodology, Section 4 contains data description and findings. Conclusion of the study is presented in section 5.

2. Literature Review and Hypothesis Development

Dividends have been an enigma for a long time. Why do some firms pay dividends while others don't? Ever since the publication of the Dividend Irrelevance theory by Miller and Modigliani (1961) the very fact that some firms tend to distribute dividends while others don't have puzzled scholars for generations. Two school of thoughts emerged over time. The arguments were clustered around Dividend Relevance and Dividend Irrelevance Theory. Prior to the publication of Miller and Modigliani's (1961) postulate on dividend policy, a common belief was that higher dividends increase a firm's value. This belief was mainly based on the so-called "bird-in-the-hand" hypothesis also known as a pre-Miller-Modigliani theory. It was argued that in a world of uncertainty and information asymmetry dividends are more valued. Because of uncertainty of future cash flow, investors will often tend to prefer dividends to retained earnings. Graham and Dodd (1934) argued that "the

sole purpose for the existence of the corporation is to pay dividends", and firms that pay higher dividends must sell their shares at higher prices. Later various empirical studies supported this theory (Gordon and Shapiro, 1956; Gordon 1959; Gordon 1963; Lintner, 1962; and Walter, 1963).

Two main important form of pay-outs to shareholders are – dividends and share repurchases. The idea of "Signalling of a dividend" or in an easier term "Information content of dividends" was first proposed by Miller and Modigliani (1961). As per Miller and Modigliani proposition, if the current dividend policy is affected by the expectation of the future earnings, then the changes in the dividends will convey much needed information on the future earnings. Traditional dividend- signalling model suggest that dividends convey information about the firm's future earnings. Dividends increase signals good news whereas dividend decrease conveys bad news. Traditionally, the need to pay dividends was based upon Clientele effects and Signalling theory.

Clientele effects were considered as one of the most prominent reasons for the presence of dividends, because institutions have a relative advantage in monitoring firms or in detecting firm quality. Firms initiating/increasing their dividends attract new institutional clientele. Firms omitting/decreasing their dividends lose institutional clientele. Other approach would be the Signalling theory, when a



company announces an increase in dividend payouts, it is an indication it possesses positive future prospects, firms with more valuable inside information distribute larger dividends that distinguish all firms in the efficient equilibrium. But the findings of DeAngelo, DeAngelo, and Skinner (2004) cast doubt on the empirical importance of the dividend clientele and signalling hypothesis as the primary factors which decides the dividend policy of a firm. Later on, DeAngelo, DeAngelo and Shultz (2006), proposed the life cycle theory in which a firm's stage in that cycle is well captured by its mix of internal and external capital. The life cycle theory of dividends is stated by DeAngelo et al (2006: 228) as follows: "Dividends tend to be paid by mature, established firms, plausibly reflecting a financial life cycle in which young firms face relatively abundant investment opportunities with limited resources so that retention dominates distribution, whereas mature firms are better candidates to pay dividends because they have higher profitability and fewer attractive investment opportunities."

In norms with the life-cycle theory, a firm in its initial stage encounters many investment opportunities, though it is not profitable enough to satisfy all its financial needs only with the aid of internally-generated cash. Moreover, a young firm faces problem when it comes to raising capital from external sources. To compensate for their financing needs, such firms will waive the dividends payments to shareholders, thereby

conserving cash which could again be used for investment purposes. As time progresses, the firm reaches a mature stage, investment opportunities diminish, profitability increases, firm generates more cash internally than it can profitably invest. So, there is a free cash flow. Gradually, the firm begins to pay out dividends out to the shareholders. The extent to which a mature firm distributes earnings to shareholders instead of investing them internally will be a function of the extent to which the interests of its managers are aligned with those of its shareholders.

Grullon et al. (2002) suggest that the fundamental characteristic of a firm must be about its cash flows (or its risk characteristics). Based on this Grullon proposed a notion, referred to as the "maturity hypothesis". They proposed that as a firm propagates into its mature stage, it experiences a decline in investment opportunity while at the same time, an increase in the free cash flow leading to an increase in the dividends paid back to the shareholders though comes with a decrease in future profitability. The positive market reaction surrounding dividend increases indicate that the news about risk dominates the news about profitability.

Many technology and internet firms went public during the 1990s, these firms were mostly small and were perceived to have abundant growth opportunity. In their work on disappearing dividends, Fama and French (2001) conclude that a primary



reason for the decline in the proportion of dividend payers is the huge number of newly listed firms in the 80's and 90's. In their initial stage, these young firms are expected to reinvest all of their internally generated fund in profitable future investment opportunities. Yet, according to the maturity hypothesis proposed by Grullon (2002), when a firm enter a competitive market, its entry and exit creates a life cycle of sort. These firms eventually grow as time progresses, evolves and enters into their mature stage. These mature firms have stable cash flow though fewer investment opportunities. Therefore, a more decent explanation for changes in the payout policy of the newly listed firms from the 1990s are becoming mature and started paying dividends. Firms' pay out increase as the firms mature with the decrease in investment opportunities.

Many studied support life-cycle explanations for dividends that depends on the trade-off between the advantages such as flotation cost savings) and the costs of retention such as agency costs of free cash flow (Fama and French, 2001; Grullon et al., 2002, and DeAngelo and DeAngelo, 2006).

Frankfurter and Wood (2002) suggested the irrelevance of any single theory in explaining the dividend puzzle. Baker and Weigand (2015) conducted a survey of literature surveys to understand the companies' policies for paying cash dividends. The study observed that a single set of factors is not appropriate for

all firms and dividend policy is dependent to many factors including firm characteristics, market characteristics, and substitute forms of dividends. Previous studies on dividend policy in India have primarily examined the dividend policy and its relation to share-price levels. In this study we examine the lifecycle theory of dividends among Indian firms.

The model used in this paper comes along the same line of Grullon et al. (2002). The present paper tests the life-cycle theory by analyzing whether the probability a firm pays dividend is positively related to its mix of earned and contributed capital, i.e., whether firms with relatively high retained earnings as a proportion of total equity and of total assets are more likely to pay dividends by using regression.

H1: Dividend payout is positively related to maturity of a firm.

H2: Dividend payout is positively related to profitability of a firm.

H2: Dividend payout is positively related to size of a firm.

3. Data, Methodology and Objective of the Study

The data for this paper consists of firms listed on NSE and BSE. The time period of our analysis is from 1999-2018. Sample for the analysis of determining factors in selecting factors for dividend payment composes of 1850 firms listed in the NSE -years ending in March, from 1999 to 2018 with the condition that each fiscal year ending in March must contain twelve



months, any firms not meeting this criterion has been omitted from the model. After that, the total assets, total outside liabilities, profit after tax, total sales, short term investments, bank balances, cash balance, other short-term balances (including deposit with post office), equity dividend and cumulative retained profits for the short-listed firms (with 12 months fiscal year period) have been listed out. These above-mentioned quantities are in Rupees Millions. For calculating the total equity, the total outside liabilities was subtracted from total assets. The logarithm of total assets with base 10 to have been used to calculate the size of the firm. The short-term investments, bank balances, cash balance, other short-term balances have been added and collectively referred as the total cash balance. For any firm with no Sales or no total assets have been excluded from the model. Moreover, any firm with no equity dividend have been omitted. Each and quantity thereafter have been divided with the total assets. So finally, we obtain Dividend/TA as the dependent variable and RE/TA, RE/TA, TE/TA, CASH/TA, SALES/TA, PROFIT/TA, SIZE as the independent variables. We introduced another column which have a value of 1 for a firm which pays dividend and 0 for a firm which doesn't pay dividend.

Pooled OLS estimator have been used for determining the effects of above listed variables on the dividend being paid. To make the estimates more precise Random and Fixed effects estimators have also been used. Hausman (1978) test statistic

have been checked to test whether a fixed or random effects model should be used. The test question is whether there is significant correlation between the unobserved country-specific random effects and the regressors. If there is no such correlation, then the random effects model may be more powerful and parsimonious.

Using the short-listed firms mentioned above from the period of 1999-2018, estimate using the following equation-

$$\text{Dividend} = \beta_1 + \beta_2 (\text{Retained Earnings} / \text{Total Equity})_{it} + \beta_3 (\text{Retained Earnings} / \text{Total Assets})_{it} + \beta_4 (\text{Profit} / \text{Total Assets})_{it} + \beta_5 (\text{Total Equity} / \text{Total Assets})_{it} + \beta_6 (\text{Cash} / \text{Total Assets})_{it} + \beta_7 (\text{Profit} / \text{Total Assets})_{it} + \beta_7 \text{Size}_{it}$$

(1)

In equation (1), we examine the effect of several variables on firm's dividend. The independent variables used are similar to the variables used by DeAngelo et al. (2006). The independent variable is the firm maturity measured by the ratio of retained earnings to total equity (RE/TE). So, more the retained earnings to total equity ratio, more likely the firm is in its mature stage. We also control for firm size measured as the logarithm of total assets and ratio of retained earnings to total assets (RE/TA) and profit to total assets (PROFIT/TA). We also use the ratios of total equity to total asset (TE/TA), and total cash to total assets (CASH/TA).



4. Data Description and Findings

Table 1 shows the distribution of the data. The mean, median, standard deviation, first and the third quartiles of the distribution are listed in the Table. The median value of retained earnings to total equity ratio is 52.28% in India which is relatively low as compared to 74.8% reported by DeAngelo et al. (2006) and Denis and Osobov (2013) in the US. The median value of retained earnings to total assets is 20.13% which was 34.1% as reported by DeAngelo et al. (2006). We also have observed the ratio of cash to total assets with a median value of 0.289% which is relatively lower to 5.2% as reported by DeAngelo et al. (2006). In addition, total equity to total assets, sales to total assets, profit to total assets and dividend to total assets was found to be 45.18%, 83.94%, 3.92% and 10.55%.

TABLE 1: Descriptive Statistics

	Median	Mean	SD	Q1	Q3
RE/TE	0.5228	0.4955	1.47713	0.2542	0.7635
RE/TA	0.20138	0.18898	0.36631	0.08971	0.35599
TE/TA	0.4518	0.4340	0.35143	0.2691	0.6619
CASH/TA	0.00289	0.02701	0.063725	0.00038	0.01841
SALES/TA	0.8394	0.9576	0.733709	0.4665	1.2691
PROFIT/TA	0.03922	0.04253	0.12187	0.01032	0.08102
SIZE	3.4842	3.5187	0.79054	2.9898	4.0014
DIV/PROFIT	0.1055	0.1756	0.375920	0.0000	0.2621

Table 2 exhibits correlation among the variables. It's evident that RE/TA and RE/TE are positively correlated with DIV/PROFIT which agrees with life cycle theory, which proves that as retained earnings increases (which is a sign of mature firm), the dividend payout also increases. Also, it is evident from the Table 2 that there exist positive correlation between PROFIT/TA and DIV/PROFIT which again agrees with the findings of DeAngelo et al. (2006) and with the life cycle theory.

TABLE 2: Pearson's Correlation Matrix

	RE/TE	RE/TA	TE/TA	CASH/TA	SALES/TA	PROFIT/TA	SIZE	DIV/PROFIT
RE/TE	1							
RE/TA	0.097414	1						



TE/TA	-0.050194	0.62761	1					
CASH/TA	0.033361	0.16833	0.12574	1				
SALES/TA	0.030638	0.10516	-0.06512	-0.004333	1			
PROFIT/TA	0.054528	0.46099	0.38901	0.097055	0.17305	1		
SIZE	0.055027	0.15841	-0.07484	0.17629	-0.172	0.02816	1	
DIV/ PROFIT	0.027272	0.1532	0.1417	0.06743	0.04898	0.1057	0.073274	1

Table 3 presents the OLS regression results. The results depict that the RE/TE is positively and significantly related to the dividend payments. This means that more the retained earnings are, more will be the dividend being paid. These findings align with DeAngelo et al. (2006), Stacescu (2006), Pandey (2003), Coulton and Ruddock (2009). RE/TE measures the life cycle stage of a given firm as the extent to which that firm's equity is earned or contributed. A firm cannot have a high RE/TE ratio without substantial prior earnings, and so RE/TE to some degree reflects profitability. It agrees with DeAngelo et al. (2006) that firms pay dividends when the most equity is earned rather than contributed; retained earnings represent a large portion of total equity and of total assets.

We also find that the total equity to total assets is not significant with a p-value of 0.10 and hence not a characteristic determinant of dividend policy. This aligns with DeAngelo et al. (2002) findings. Here Profit/TA has high positive and significant effect on the payout of dividend, which is same as observed by DeAngelo et al. (2006), Pandey (2003), Fama and French (2001), Afza and Mirza (2010). The significantly positive relationship of profitability shows

that highly profitable companies have more reserves and hence have more capability to pay high dividends. Cash/TA has a negative but significant effect on the dividend. Sales/TA and size of the firm also have a positive and significant relation. More is the sales, more will be the amount of profit that will be earned hence will significantly determine the dividend policy of firm. Also, the total asset owned by firm or the size will determine the dividend because to some extent amount of investment opportunities does depend on the assets owned by a firm and hence so will the profit being made.

Table 3 also show the fixed effect and random effect estimators. We performed the Hausman Test and concluded that the random effect estimators are more consistent and error free for the given set of observations. The result of Hausman Test has been recorded in table 4.

The estimates of the random effect estimation comply with that of the pooled OLS estimation except for Profit/TA not yielding a significant result. We also performed logit regression listed in table 5.



TABLE 3
Regression Results: OLS, Fixed and Random estimators

	POOLED OLS		FIXED ESTIMATOR		RANDOM ESTIMATOR	
	Estimate	p-value	Estimate	p-value	Estimate	p-value
RE/TE	0.004	0.002 ***	0.001	0.294	0.003	0.043 *
RE/TA	0.049	0.00 **	-0.002	0.827	0.031	0.002 **
TE/TA	0.116	0.00 ***	0.099	0.00 ***	0.110	0.00 ***
CASH/TA	0.172	0.00 ***	0.200	0.00 ***	0.165	0.00 ***
SALES/TA	0.030	0.00 ***	0.000	0.941	0.022	0.00 ***
PROFIT/TA	0.076	0.00 ***	0.003	0.871	0.035	0.116
SIZE	0.036	0.00 ***	0.00	0.943	0.029	0.00 ***
INTERCEPT	-0.052	0.00 ***	-	-	-0.015	0.38

TABLE 4: Results of Hausman Test

Hausman Test	
chisq	177.73
p-value	< 2.2e-16

TABLE 5: Results of Logit Regression

	Logit Regression	
	Estimate	p-value
RE/TE	0.02	0.09 *
RE/TA	4.98	0.00 ***
TE/TA	0.13	0.10 *
CASH/TA	-1.98	0.00 ***
SALES/TA	0.33	0.00 ***
PROFIT/TA	11.24	0.00 ***
SIZE	1.07	0.00 ***
INTERCEPT	-4.97	0.00 ***

* and *** indicate level of significance at 10 per cent and 1 percent

In this analysis, we have taken whether a firm pays dividend or not as the dependent variable (by assigning 1 for Dividend Payers and 0 for Non-Payer and carried out the regression). From our analysis, it is evident that RE/TA (RE/TE) have strong positive significant relation with whether dividend is paid or not. This high positive correlation shows that higher the value of retained earnings (RE/TA or RE/TE) higher the probability that the firm is going to pay dividend.

These findings align with DeAngelo et al. (2006), Stacescu (2006), Pandey (2003), Coulton and Ruddock (2009). RE/TE measures the life cycle stage of a given firm as the extent to which that firm's equity is earned or contributed. A firm cannot have a high RE/TE ratio without substantial prior earnings, and so RE/TE to some degree reflects profitability. The results are in sync with DeAngelo et al. (2006) that firms pay dividends when the most equity is earned rather than contributed; retained earnings represent a



large portion of total equity and of total assets.

We also find that the total equity to total assets is not significant with a p-value of 0.10 and hence not a characteristic determinant of dividend policy. This aligns with DeAngelo et al. (2002) findings. Here Profit/TA has high positive and significant effect on the payout of dividend, which is same as observed by DeAngelo et al. (2006), Pandey (2003), Fama & French (2001), Afza and Mirza (2010). The significantly positive relationship of profitability shows that highly profitable companies have more reserves and hence have more capability to pay high dividends. Cash/TA has a negative but significant effect on the dividend. Sales/TA and size of the firm also have a positive and significant relation. More is the sales, more will be the amount of profit that will be earned hence will significantly determine the dividend policy of firm. Also, the total asset owned by firm or the size will determine the dividend because to some extent amount of investment opportunities depend on the assets owned by a firm and hence the profit being made.

5. Concluding remarks

This study is an attempt to explore the existence of life cycle theory in the Indian market and to provide a suitable explanation to the “Maturity Hypothesis” in context of dividend policy.

The present paper examines the Life Cycle Theory of dividends on the Indian Market and whether there is any correlation of paying corporate dividends on the stage of a firm/company’s life cycle. The sample consist of 1850 NSE listed Indian firms from the period of March of 1999 to December 2018. Out of these firms, the firms which have a financial period of more or less than 12 months have been omitted.

It is evident from our multivariate logit regression estimates that the ratio of retained earnings to total assets (and retained earnings to total equity) have a highly positive and a significant relation to the amount of dividend being paid, hence it is consistent with the life cycle theory and in par with findings of DeAngelo (2006), thus the mix of earned/contributed capital is a significant determinant of dividend policy. We can see high significant positive relation between PROFIT/TA and dividend payer, so more the profit earns, more likely that the firm is going to pay dividends. It should also be noted that to have a high RE/TE ratio, the firm should have prior substantial earnings, so to some extent RE/TE does reflect on profitability. The empirical evidence presented in the paper strongly supports the life-cycle theory, that is, dividend payments reflect firm maturity. It is clear from the data that paying dividends are larger, more profitable and have higher retained earnings than non-dividend paying firms. We observe a positive relation between the decision to pay dividends and the



proportion of retained earnings to assets, after controlling for firm size, profitability, and cash balances.

The results have managerial and policy implications. This issue of dividend policy in India now will engage managers to comply with the latest regulations. This research will help corporate managers to take better dividend policy decisions. The present study also contributes to the dividend literature by examining the life cycle hypothesis empirically.

Appendix 1 Description of Variables

VARIABLES	DESCRIPTION
RE	Retained earnings percentage of net earnings not paid out as dividends, but retained by the company to be reinvested.
TE	Total equity is total assets -total outside liabilities
TA	Total asset is the overall resources with economic value that an individual, corporation or country owns or controls with the expectation that it will provide future benefit
CASH	Short term investments + Bank balance (short term) + Cash balance + Other short-term balances (incl. deposit with post office etc.)
DIV	Total equity dividend
PROFIT	Profit after tax
RE/TE	Retained earnings divided by total equity
RE/TA	Retained earnings divided by total assets
CASH/TA	Total cash balance divided by total assets
PROFIT/TA	Profit after tax divided by total assets
SIZE	Logarithm of total assets with base 10
TE/TA	Total equity divided by total assets
SALES/TA	Total sales divided by total assets
DIV/PROFIT	Total equity dividend divided by profit after tax



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UNDERSTANDING CAUSES & REMEDIES OF LOW PROFITABILITY OF CLOUD TECHNOLOGY MANAGED SERVICE DELIVERY PROJECTS IN INDUSTRY 4.0 ERA

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Abstract:

To measure is to know. Adequate quantitative measurements are available to know the status of profitability of the projects. Based on these quantitative measurements, in case it is found that a project has recorded less than expected profitability, then it becomes necessary to deep dive and carry out a thorough root cause analysis with the help of in-depth qualitative study. Accordingly the present study is focused on studying and providing understanding of various qualitative aspects associated with profitability of Cloud Technology managed service delivery projects operating in Industry 4.0 scenario. This study focus at addressing the scope of improvement in an optimum manner and preventing recurrence of the problem with the aim of achieving & maintaining targeted profitability at the project management level. Successful achievement of these objectives depends on the extent of strategic implementation of findings of this study by the concerned project leadership teams.

Key Words:

Industry 4.0, Cloud Technology, Profitability, Financial, Projects, Managed Service Provider



Introduction

Peter Drucker has given the golden words of wisdom, “What is measured, gets managed and improved.” Method of measuring quantitative profitability for establishing past performance records of the business units already exists. Putting it in very simple words profitability is surplus of Revenue over Costs, expressed as a percentage e.g. **Gross Margin = (Revenue – Costs) / Revenue.**

Profitability is a very significant metrics to track, monitor and assess the success or failure of a business unit. This metric also enables the meaningful quantitative comparison among multiple business units operating in the same industry, and across different industries also, if required. The area of interest in this study are the factors associated with this metrics, specifically the cases of low profitability of Cloud Technology Managed Service Delivery Projects during current Industry 4.0 era.

The quantitative profitability metrics invokes qualitative study in detail to identify causes associated with low profitability and potential areas of improvement / remedies. Understanding of these causes & remedies will enable practicing Project Managers of Cloud Technology managed service delivery projects to identify, address and remove the underlying root cause impeding their project profitability, at the same time creating a knowledge repository for future managers to rely upon and avoid pitfalls

wherever an analogy with this study can be drawn.

Overview of Industry 4.0, Cloud Technology and its Service Providers

In the present day’s significant transformation era, industries are relying heavily on interconnectivity, automation, machine learning and real time data processing for conjunction of physical production and digital technologies. This transition is known as Industry 4.0 i.e. the fourth revolution in industries, a new approach overhauling end-to-end business operations and growth. A German government memo released in 2013 brought up the discussion about “Industrie 4.0”. This high-tech strategy document outlined a plan to almost fully computerize the manufacturing industry without the need for human involvement (plattform-i40, 2019). With the onset of Industry 4.0, more and more production units are raising demand for sharing data across their sites and geographical boundaries.

This is an ideal stage for Cloud Technology to flourish, which provides reduced reaction time (up to milliseconds) for its customers while at the same time offering huge potentials of harvesting profits for its service providers. As a result, both the parties i.e. customer as well as service provider will increasingly be interested in leveraging Cloud Technology for enabling swift and flawless production. Cloud Technology is a new paradigm for hosting and delivering



services over the Internet, the practice of using interconnected remote servers hosted on the internet to store, manage and process information. The National Institute of Standards and Technology (NIST) defines Cloud Technology as “a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage, applications and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.” (Technology, 2011). Cloud Technology has changed the landscape of Information Technology (IT).

When a business invests in Cloud Technology, such business is not required to maintain huge in-house IT Team of its own, instead such business gets benefited by the regular updates and maintenance performed by the Managed Service Providers (MSPs) of Cloud Technology services. MSPs are information technology services providers who manage and assume responsibility for providing a defined set of services for their clients. These MSPs manage cloud platforms and lease resources to serve the end users according to a usage-based pricing model. Profitability of individual projects being operated by these Cloud Technology MSPs is area of interest in this study.

Research Objective

Following are the objectives of this study with reference to Cloud Technology Managed Service Delivery projects operating in Industry 4.0 era:

1. To identify the causes leading to quantitatively low profitability.
2. To support and mentor their Project Managers for preventing recurring failure in reducing costs, optimizing revenue and in achieving their targeted profitability.
3. To support and mentor their Project Managers for achieving consistent success in maintaining high profitability at project level so that a decent Net Profit is recorded at the overall organization level.
4. To shift the focus of their Project Managers from a reactive to proactive management of profitability.

Literature Review

Cloud Technology being a promising avenue, rich literature is available exploring various aspects of it. Scholars across the world are continuously adding to it and opening newer research avenues also, contributing towards this knowledge area. The subjects dealt with in the papers published in reputed peer reviewed journals and those presented in various conferences, evidence that studies have been done to track and analyze the evaluation of Cloud Technology (Srivastava & Khan, 2018), business opportunities and business values for application of this technology (Leimeister,



Böhm, Riedl, & Krcmar, 2010) for example: hosting accounting softwares (Awad, 2011) and similar model to be replicated in other departments of business organizations. On a wider level, application of Cloud Technology for enabling supply chain integration with Industry 4.0 (Ardito, Petruzzelli, Panniello, & Achille, 2019) (Shee, Shah, Fairfield, & Pujawan, 2018) and potential of Cloud Technology to strengthen the objectives of Industry 4.0 (Oztemel & Samet, 2018) have been analyzed. For service industry as well, utilization of cloud based services in e-governance (Joshi, Islam, & Islam, 2017) (Umar, Mehmood, Majeed, & Muham, 2019) has been explored. From implementation perspective, scholars have attempted to identify innovation dynamics, determinants and guidelines of Cloud Computing adoption, diffusion and usage (El-Haddadeh, 2019) (Bidgoli, 2018) (Sabi, Uzoka, Langmia, Njeh, & Tsuma, 2018) (Low, Chen, & Wu, 2011). Researchers have also deliberated upon Cloud service models & its implications such as security, reliability, privacy etc. (Prasad, Naik, & Bapuji, 2013) (Padhy, Patra, & Satapathy, 2011), paying due attention towards concept of Cloud Architecture (Kumar & Goudar, 2012), surveying the state-of-the-art of cloud computing, architecture, design challenges (Zhang, Cheng, & Boutaba, 2010) including server failures and hardware repairs for large datacenters (Vishwanath & Nagappan, 2010).

The para above provides insight about technical aspects of Cloud Technology being explored. In addition to it, studies have been done to evaluate Cloud Technology from Financial perspective, its relationship and contribution towards business strategy (Emerald, 2019) (Ross & Blumenstein, 2013). Researchers have continuously explored the cost benefit analysis model to help customer for taking call to adopt or not to adopt Cloud Technology (Nanath & Pillai, 2013), costs incurred by customers of cloud services and charging/pricing model adopted by service providers (Kumar & Goudar, 2012). Return On Investments (ROI) model for Cloud Technology customers, including the valuation of benefits associated with this technology (Mangiuc, 2017) (Misra & Mondal, 2011) has grabbed the attention of scholars time and again. Considerable work has already been done by the scholars and much more is getting added to the knowledge repository with each passing day.

Research Gaps

Based on the Literature Review undertaken by this researcher about Cloud Technology, it appears that:

1. Most of the studies are focused on the technological aspects, service delivery, application areas, operational performance indicators e.g. Data Centre Services, and a few studies are done on the financial aspects related to Cloud Technology.
2. The studies which have dealt with financial aspects, these studies are



focused on business value, costs incurred, investments done and ROI received by the customers availing Cloud Technology managed services to run their businesses. These studies are not adequately evaluating the financial aspects of projects being operated by MSPs of Cloud Technology.

3. The studies which have dealt with the financial aspects of projects being operated by MSPs of Cloud Technology, these are limited to study of charging/pricing models adopted by them.

Area of profitability achieved by Cloud Technology MSPs seems still pending to be explored. Thus this present study attempts to understand their profitability at their individual project level, specifically focusing on causes along with the corresponding remedies for low Profitability.

Research Methodology

Based on the existing gaps indicated by the extensive Literature Review conducted and presented in the Para 4 of this study, researcher was motivated to undertake this study.

This being a **Qualitative** research, **Explanatory Case Study Method** has been adopted to carry out this in-depth detailed study in real-life context, because this intricately designed methodology reveals a comprehensive and complete presentation of facts, as they have

occurred earlier, providing secondary database by way of primary recounting by those involved in the occurrence (Chawla & Sondhi, 2011).

Population for this study is formed by Cloud Technology managed service delivery projects. Cloud Technology being a new area of operations in Industry 4.0 era and profitability (specifically low Gross Margin) being a sensitive & confidential metrics of measurement, **Sampling** from this population is done by using **Snowballing Design** (Chawla & Sondhi, 2011) and a small number of such projects has been worked with as **Sampling Units** for this study.

Findings have been worked out based on analysis conducted during this study.

Data Collection and Analysis

Researcher adopted a multi-modal approach of Case Study Methodology, collecting data from different sources i.e. reviewing documents/archived records, exploring the project artifacts and detailed face-to-face discussions with the project leadership teams, so that the research objectives may be explored adequately. Data collected for this study belongs to calendar years 2016 and 2017. During the data tabulation process, Projects' names were coded with alphabets. Researcher collected Revenue and Cost data of projects being studied and performed holistic quantitative analysis on this data to establish the past financial performance of these projects. In this process,



researcher calculated gross margin for each month and average of three & six months. In these results, there were many instances of spikes, therefore Average Gross Margin of nine (9) months was calculated in order to iron out spikes appearing in short duration data due to various reasons e.g. seasonal effects,

project start-up / wind-up, contingent and unforeseen reasons etc. These metrics helped in understanding past financial profitability and a reasonable prediction for future performance. The quantitative conclusions thus obtained about nine (9) months Gross Margin (%) data is presented below:

Project Code	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Actual Gross Margin (9 months %)	38	48	43	30	32	43	36	36	42	26	0	23	30	36	30
Targeted Gross Margin %	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Difference (Actual - Targeted)	-12	-2	-7	-20	-18	-7	-14	-14	-8	-24	-50	-27	-20	-14	-20

Table 1; Source – Self compiled

This quantitative analysis clearly shows that the quarter wise Actual Gross Margin achieved by these sampling units is lower than their Targeted Gross Margin. Quantum of this variation differs among various projects as shown by the table above. In order to maintain the equality, projects with the same targeted profit (i.e.50%) have been included in the sampling units.

Once these Profitability metrics were calculated in quantitative terms, researcher applied “5 Why” method to peel away through the layers of symptoms, to identify the root cause of low profitability and to reveal causal factors associated with the quantitative status of profitability. For this purpose, researcher had

interactive sessions with the Project Leadership teams of sampling units, wherein researcher has recorded various anecdotes, comments and illustrations as vital pieces of qualitative information. At this stage researcher also motivated the Project Leadership Teams to brainstorm about solutions/remedies available to them for improving the profitability and for achieving financial targets set for their projects. Researcher crosschecked the facts/discrepancies with in the data collected, utilizing qualitative data to corroborate & support the quantitative data and vice-versa, identifying the patterns in the data. Based upon this analysis, researcher described under seven Categories, these patterns emerging



among causes of low profitability, as presented below:

1. Customer contract specific causes
2. Delayed collection from customers
3. Incorrect billing to customer
4. Manpower costs
5. Incorrect allocation / apportionment of costs & revenue
6. Onsite deployment costs
7. Travel & Transport costs

Detailed description of each of these categories is presented in Appendix – I.

The entire quantitative and qualitative data collected from the sampling units, was analyzed thoroughly to find its connect with the research objectives as described above, ultimately reaching out to the solution to address the problems. In general, the majority of the respondents perceived that the causes identified in this study contribute towards challenge of meeting their profitability targets. Finally the study arrived at actionable findings which are useful for decision making and improving project profitability.

Findings

It is extremely important for any project to be competitive and remain proactive in Industry 4.0 environment and for this, the Project Managers have to be dynamic, constantly taking and aligning their decisions, accelerating changes in business processes with an objective to optimize the project profitability. These practicing managers need guidance points

to assist them in such logical decision making. Having traverse through the data collected, analysis done and discussions held with various Project Leadership Teams, this study identified the causes of low profitability (listed in Appendix I) in the area of interest and develops the Project Managers' understanding to implement the logical decision which shall be helpful in reducing costs and enhancing profitability of Cloud Technology managed service delivery projects.

Improving profitability is not an easy task, it involves bold steps of reduction in cost along with increase in revenue for improving the bottom line and remaining proactively vigilant about the same. Findings of this study are presented here-in-below as a candid feedback for the benefit of Cloud Technology Managed Service Delivery Project Managers through its strategic implementation:

1. **Prepare** Action plan to address the identified issues and areas of improvement
2. **Review** the action plan along with key stakeholders of the project (including customers/business partners), taking into account all relevant factors
3. **Finalize** the action plan, **implement** the same and **monitor** its post-implementation progress continuously
4. **Self-Review** the Revenue, Cost and Gross Margin data on monthly basis, analyzing the spikes objectively.
5. **Peer Reviews** covering the factors highlighted in this study is necessary.



In this process, each Project Manager needs to review a project other than his own and to submit the review report to their Strategic Business Unit Leadership team.

6. **Causal analysis** must be done in case of below average performances recorded.
7. **Best practices** must be shared by the projects who have consistently exceeded their targets / benchmarks.
8. Adherence to the following **operational aspects** is prominently highlighted:
 - 8.1 **Customer contract** must be signed in timely manner and on realistic grounds, paying due attention towards service volumes, service charges, discounts and other benefits. At the same time, Project Leadership Teams are advised to improvise on their commercial prowess for keeping pace with the stringent budget, lean team and completion of work assignments with each passing year.
 - 8.2 Project team is advised to get actively involved in **3 way reconciliation** among customers' records, own invoices raised and realization of payments from customers, on timely & periodic basis and to remain constantly vigilant for the same so that Month-on-Month GM of the project may present consistent picture:

- a) Ensure that **timely billing** is done to the customer for all services provided during the corresponding period
- b) Track the **Resource Units** (Volume Inventory) on monthly basis, making the RU counts fetching process robust & transparent and get the RUs minutely **verified** from independent expert to ensure its correctness
- c) Ensure that **payments are received** from the customer as per agreed terms and the same must be reconciled on monthly basis
- d) Improve collections and **avoid Bad Debts** provisions
- e) Distribute the Revenue/cost in such a manner which does not result in skewed distribution across Project locations/segments
- f) **Discrepancies**, if any, and process to remove it should be defined scientifically so that the records give true picture and anomaly is not carried over to future periods.
- g) Execute **concrete Margin Improvement Plan** and improve Gross Margin Quarter-On-Quarter
- h) In genuine cases of low profitability, maintain atleast the current rate of Gross Margins, if not able to improve upwards



8.3 **Optimize manpower**, drawing delicate balance between improved financials and qualitative service delivery, using methods like:

- a) Keep only eligible and requisite employees on roll
- b) Cross-skill the employees
- c) Reduce Non-billable employees count
- d) Offer On-call support to customer
- e) Release/replace/move upwards the high cost senior resources
- f) Replace high cost on-site local hires with own employees
- g) In case (e) above is infeasible, take these employees on own roll to save the commission cost being paid to their recruitment agency
- h) Maintain pool of visa ready employees for onsite customer locations
- i) Tap the network around to identify suitable resources
- j) Maintain pool of trained junior resource and to present them to the customer in a planned manner during ramp down activity
- k) Utilize monthly Volumetric analysis to identify the low performers and cut down on low performers by applying load balancing

- l) Monitor Per Person Revenue also
- m) Be vigilant about opportunities for increasing billable manpower with robust provisions to control billing leakage
- n) Focus on automation and on becoming more efficient, disrupting constructively, in order to remain competitive by releasing manpower

8.4 Avail **benefit of Offshore leverage** without adversely impacting End User activities and taking customer into confidence for such arrangement. Project can start with giving parallel service from offshore without hampering deliverables, and switch to offshore completely, once customer's confidence is gained on seamless services from offshore.

8.5 Take calculated risk in implementing **cost management measures** which are tough in nature and may appear difficult to the lower staff members:

- a) Optimize the domestic and international travel cost
- b) Optimize the local transport cost incurred for employees
- c) Avail possibility of getting project investment reimbursed from the customer
- d) Be very vigilant during verification of bills which



lead to the booking of cost in project's cost sheet

- 8.6 Keep on highlighting to senior leadership team about additional business opportunities & regarding negotiating additional revenue for additional work

This study clearly found that increase / decrease in business scope does not form part of profitability improvement plan. Profitability can be increased by better cost management & increased revenue and the same can be maintained by staying proactively vigilant about it, without becoming complacent based on profitability targets achieved for a short duration or intermittently.

Conclusion

The 1st objective of this study was to identify the causes leading to quantitatively low profitability in Cloud Technology Managed Service Delivery projects operating in Industry 4.0 era. Thorough discussions with sampling units, as part of qualitative study, researcher has achieved this objective and a detailed description of such causes, broadly classified under 7 categories, has been presented in Appendix – I.

2nd and 3rd objectives of this study were set to mentor Project Managers of Cloud Technology MSPs for controlling costs, optimizing revenue, achieving their targeted profits and maintain the same in a consistent manner. Discussions, deliberations and analysis during this

study, urged these Project Managers to review the state of their affairs from all of these angles and after identifying causes as per Appendix – I, they were also able to work upon corresponding remedies which is the take away of this study, to be applied in practical scenarios as per the applicability.

With reference to the 4th objective of this study, researcher has drawn the attention of subject Project Managers to such financial aspects of their project management practice, which were somehow getting overlooked amidst of routine service delivery jobs. This study helps Cloud Technology managed service delivery projects to identify the areas having scope of improvement in their respective projects scenario and to focus their proactive attention on the same, ultimately resulting into better profitability, thus providing remedies to them.

The main conclusion from the above is the Cloud Technology Managed Service Delivery Project Managers can shift their focus from a reactive to proactive management of their project profitability by keeping a tab on causes identified and remedies advised through this study. This researcher encourages strategic implementation of the findings of this study so that multiple objectives of individual project profitability, net profitability of the organizations and GDP targets of the whole nation in this Industry 4.0 era may be achieved in a sustainable manner.



This study has also contributed towards knowledge repository which helps practicing managers at large, to quickly pick up and apply required improvement suggestion applicable to their project scenario while at the same time focusing due part of their attention on technical service delivery aspects. Cloud Technology being the latest technology, this study will help finance professionals also to guide their clients in this field, with specific reference to the following:

1. Tangible financial benefits
2. Optimization of manpower
3. Cost Management, Saving and Avoidance
4. Realization of incremental revenue
5. Enhanced profitability
6. Awareness towards customer contract clauses

Recommendations for Further Studies and Research

To the best of the researchers' knowledge, there have been no other studies done relating to causes and remedies of low profitability of Cloud Technology Managed Service Delivery projects. Through this study, researchers have expended the boundaries of theoretical as well as practical knowledge, opening new vistas to be deliberated upon as the previous studies were primarily regarding technical aspects of Cloud Technology and ROI for its customers. Based on the conclusions presented in this study, researchers suggest that future research should be undertaken on the competency,

ability and willingness of Project Leadership Teams to manage and own the financial aspects of their projects with specific reference to the scenario where core competency of such leadership teams is Information Technology.

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Appendix – I: Causes of Low Profitability

S. No.	Categories	Root Causes of Low Profitability
1.	Customer Contract	Project unable to raise invoice & realize revenue due to: 1. delay in finalization of contract with customer 2. bill rate under revision
2.		Project accepted the low bill rates / revenue because of primary objective being to enter into a particular market segment/geography
3.		Project accepted additional work order in the existing contract at reduced bill rates
4.		Reduction in bill rates at the time of renewal of customer contract for the same scope & volume of work
5.		Project gave Volumetric Discount to the customer
6.		Year-On-Year Efficiency clause quantum remaining the same inspite of the reduced bill rates in additional work scope / renewed contract
7.		Year-On-Year productivity gain passed on to the customer while scope of work remaining the same
8.		Reduction in service volumes / scope of work
9.		Quarter-on-Quarter Reduction in revenue leading to reducing trend in actual GM
10.		Extremely low / negative Gross Margin of one / few segments of the project has caused aggregate Gross margin of the project to remain low
11.		Project decides not to bill certain components of costs to the customer in order to maintain customer relationship
12.		Strict data security requirements not allowing Offshoring of services
13.		Higher count of manpower to be deployed due to 24*7 service availability mandated by the contract, even though the service volume is low
14.		Reduction in billable manpower as mandated by customer contract hence Project not able to bill for all the manpower deployed, inspite of work volume / efforts involved remaining the same
15.		Ambiguity in contract regarding procedure and methodology of billing, resulting in disputed billing
16.	Delayed collection from Customers	Frequent delays in the payments received from the customer resulting in Bad Debt Provisions
17.		Project did not follow up for the old receivables pending from the customer
18.		Project has not done Reconciliation between billing done and



		payment received from customer and incorrect & unreconciled accounts were carried forward for a very long time, making it difficult to track pending collections from the customer
19.		Project adopted an unscientific and adhoc style to reconcile accounts and improper treatment of differences found during reconciliation
20.	Improper Billing to Customer	Inconsistent revenue and Gross Margin due to: 1. accumulated / carry forward / delayed / over billing from previous accounting period 2. adjustments of previous billing errors 3. credit / debit Notes settled after unduly long time gap
21.		Incorrect billing done to customer due to: 1. a portion of billable services not included in the bill 2. volumetric details (forming basis of billing) are not calculated correctly 3. bill rates revised upwards still billing done with previous lower rates 4. undue credit note extended to the customer 5. computerised system of billing not followed, making it difficult to track pending billing
22.	Manpower Costs	Adequate controls not exercised on eligibility of people taken on roll of the project
23.		Budgeted manpower as well as service volumes being Underestimated
24.		Project did not claim corresponding increase in revenue when manpower was increased inspite of billing being based on Headcount
25.		Increase in manpower deployed due to increased service volumes, without any proportionate increase in revenue
26.		Manpower deployed in Governance and non-billable positions not yielding revenue
27.		FERLO impact
28.		Additional manpower due to attrition / replacement and additional work expected, adding to cost
29.		Due to high service volumes, Project unable to reduce its manpower inspite of reduction in bill rates
30.		Existing employee replaced by the employee of higher grade, thus increasing the project cost while revenue remains the same
31.		Projects do not plan to manage the expected rise in cost due to foreseeable promotions of team members



32.		Project not able to realign/replace the team member due to customer being sensitive about change in resources
33.		Non-availability of manpower possessing requisite skill set, hence Project compelled to take expensive local hire at on-site customer location
34.		Cloud technology being new, Projects are still in the process of understanding it. After understanding the technology and migration towards it, they will be able to release the resources and reduce costs
35.		Additional allowances being paid as per nature of job e.g. Night Shift Allowance
36.		High proportion of senior staff, incurring huge costs
37.		Vacant Positions, directly leading to the Billing loss every month
38.	Incorrect allocation / apportionment of costs & revenue	Incorrect allocation / apportionment of costs, e.g. Transport, Facility, Administration costs etc and Credit / Debit notes
39.		Revenue and costs belonging to one single service unit, have been allocated to different cost/profit centres
40.		Manipulation/deliberate distribution of revenue/profits across project locations/segments/accounting period to show desired state of affairs
41.	Onsite deployment costs	Unable to leverage offshorability due to: 1. highest level of data security needs to be maintained 2. Nature of work requires physical presence of the employees at onsite 3. Customer mandated physical presence of the employees at onsite
42.	Travel & Transport Costs	Project team's travel to customer site due to escalations
43.		Local transport cost optimization not done



VIRTUAL WATER TRADE POSITION OF INDIA WITH THE DEVELOPING COUNTRIES ON PRIMARY AND ITS DERIVED CROPS DURING 2013-14 TO 2017-18: AN EVALUATION

Goutam Bhowmik
Saikat Dutta

Abstract:

At present, water economy is getting almost equal importance with oil economy all over the world. As a result, 'water foot print' and 'virtual water trade' have emerged as burning issues for economic and political debates. In literature, the quantity of water used to produce per unit of a product is termed as water foot print. On the other hand, hidden flow of water that is transferred during the course of international trade is coined as virtual water trade. In view of the increasing importance of water as a resource and its efficient use, virtual water trade position with other countries of the world need to be evaluated and addressed at length. On this backdrop, the present study seeks to estimate and analyze the virtual water trade of crop products (Primary and Derived¹) which were traded by India with the developing countries² during the course of international trade for the period 2013-14 to 2017-18 and to quantify the volume of net virtual water trade for that period. The study also evaluates the international trade position for the aforesaid period by combining two parameters (virtual

¹According to Global Water Foot Print Network, each and every product and its derived product are classified into various categories, like: primary product, bio product, animal product and industrial product. These products are also codified in FAOSTAT code by the Food and Agricultural Organization of the United Nations.

² Here 'Developing Countries' means countries which are considered to be developing by the APEDA (Agricultural & Processed Food Products Export Development Authority) of India. According to APEDA, developing countries include communist block of countries (Russia, Cuba, and China etc.), South East Asian nations (Malaysia, Indonesia, Thailand etc.) and Arab World (UAE, Saudi Arab and Katar etc.).



water trade and balance of trade) along with the presence of any association between these two important parameters.

Keywords:

Virtual Water Trade, Water Foot Print and Sustainable Development

“India today exports more than 10 trillion liter of virtual water through export of Basmati rice”

Amitabh Kant (2019), CEO, NITI Aayog

I. Introduction

Virtual water trade and water foot print are the two emerging concepts in the arena of geopolitics. These two concepts are associated with international trade. The concept of ‘Water Foot Print’ was first introduced by Arjen. Y. Hoekstra in 2002. Water foot print of a product is the total volume of water used to produce the product and summed over the various steps of the production process. Actually water foot print is an indicator of water use that looks at both direct and indirect water use of a consumer or producer (Water Foot Network Glossary, 2018). For example, to produce one metric ton paddy requires 1673 cubic meter of water, one metric ton wheat requires 1827 cubic meter of water and about 3200 liter water is required to produce thirty two megabyte of computer chip of two grams (Mekonnen and Hoekstra, 2011). Here the amount of water consumed during the production chain of a product is almost not physically contained within the

product. It virtually exists within the product. That’s why water foot print of a product is called as the virtual water of that product. Therefore, virtual water trade may be defined as the hidden or virtual flow (inflow and outflow both) of water in the context of any type of trading activities.

Naturally, virtual water flow is getting prominence with the passage of time and now it has reached such a stage that a lot of economic and political attention all over the world is devoted on it. In 1990, *Ismail Serageldin*, the then Vice President of the World Bank opined that the wars of this century were fought over oil; the wars of the next century will be fought over water. Tony Allan, a social scientist at King’s College London and the School of Oriental and African Studies (SOAS) in London, argued, “if you run out of water you reach for a Kalashnikov or summon the air strike” (Barnaby, 2009). Galloping increscent of population all over world creates a huge demand of fresh water not only for drinking purpose but also for



every economic activity. As per global average, a person typically drinks one cubic meter of water per year, and use 100 cubic meters per year for washing and cleaning. Each of us also accounts for 1,000 cubic meters per year to grow the food we eat (Barnaby, 2009). In 2009, the then UN Secretary General *Ban Ki Moon* noted that water scarcity will be transformed into violence chapter in near future. Then the world will witness a war named water war. But as of now, countries do not go to war over water; they solve their water shortages through trade and international agreements. Basically, the direct and physical flow of water (as a raw material) in a huge volume is much costly and almost impossible in international trade scenario due to complexity involved in the process and international legal framework. But virtual flow of water cannot be stopped without proper strategy and policy intervention. So, many countries are taking a strategy to stop exporting their high water consuming product to the other countries. For example, Israel discourages the export of Oranges (relatively heavy water guzzler) to different parts of the world. Most of the developed countries are practicing to import heavy water consuming products from developing countries and under developed countries in exchange of export of low water consuming products to those countries to keep their virtual water flow favourable. In this context, huge amount of virtual water outflow in the context of international trade would be fatal for the developing countries like India, where water crisis for drinking and irrigation is

facing tremendous challenge in the recent years.

Classically, success or otherwise of international trade is measured in monetary term through balance of trade. But recent developments on water front rapidly recognize the virtual water trade as a parameter to be incorporated to evaluate the international trade position along with classical measure like balance of trade. In the case of India, there are very few studies on virtual flow of water and its component-wise³ analysis in the course of international trade. Such analysis is crucial in the days to come for making several policy decisions relating to international trade. On this backdrop, the present paper is going to highlights the virtual water flow in relation to India's international trade with developing countries during the period 2013-14 to 2017-18 and to evaluate the international

³The water foot print of a product has three components, such as:

- **Green Water Foot Print** – It refers to the rain water consumed by the product or service.
- **Blue Water Foot Print** – It refers to the volume of surface and groundwater consumed (or evaporated) as a result of the production of a good or rendering service.
- **Grey Water Foot Print** – It refers to the volume of freshwater that is required to assimilate the load of pollutants based on existing ambient water quality standard. Simply speaking, it is the summation of pollutant water produced during the production process plus the volume of water needed to nullify the effect of such pollutant.



trade scenario through a newly introduced framework which combines two parameters – balance of trade and virtual water trade.

II. Literature Review and Research Gap

A good number of research works have been done at international level and a few at domestic level on virtual water trade and water foot print. A review of the relevant literature is described chronologically under the following paragraphs:

Hoestra and Hung (2002) estimated the amount of water foot print of crops in different countries of the world and quantify the volume of virtual water trade flows among nations during the period 1995-1999. The study put the virtual water trade balance of nations in the context of national water needs and water availability. They recommended to start working on other products than crops as well, for instance livestock products such as meat. The study suggested how governments can deliberately interfere in the current national virtual water trade balance in order to achieve higher global water use efficiency.

Singh *et al.* (2004) have observed that dairy based rural livelihoods systems are now threatening the limited water resources of arid and semi-arid areas of Gujarat. The paper analysed the virtual water exports and imports by some of the leading dairy cooperatives of Gujarat.

Yang *et al.* (2007) analyzed the complexity involved in evaluating the efficiency gains in the international virtual water trade. The findings of the study call for a greater emphasis on rain fed agriculture to improve the global food security and environmental sustainability.

Ansink (2010) used the Heckscher–Ohlin trade model and refuted two prominent but incorrect claims on virtual water trade. These claims were the levels of uneven water distribution and reduce the potential for water conflict. Both claims are based on an incorrect understanding of comparative advantage in the production of water-intensive goods.

Mekonnen and Hoekstra (2011) measured the green, blue and grey water footprint of global crop production in a spatially explicit way for the period 1996 – 2005. The study is based on primary crops and their derived crops. The said study has concluded that green water plays a prominent role in the global crops production.

Reimer (2012) developed new theoretical results that place the virtual water concept on a firm economic foundation which correct several misconceptions within the existing literature on virtual water economics.

Gerbens-Leenes *et al.* (2013) studied the water footprint of poultry, pork and beef in different countries and in different production systems. In general, beef has larger total water consuming than pork,



which in turn has larger water consuming than poultry, but the average global *blue* and *grey* water footprints are similar across the three meat products.

Vanham, D. (2013) pointed out the difference between the water footprint of consumption and the water footprint of production for agricultural products. He assessed the virtual water balance for agricultural products in river basins located in the EU28 (European Union and Croatia).

Zhang *et al.* (2013) promoted the application of Water Footprint Assessment (WFA) by sharing some recent examples of how the water footprint concept and WFA are being used to build a better understanding of the link between the water uses for production and the increasing problems of water scarcity and water pollution.

Hoekstra *et al.* (2017) emphasize that ‘Sustainable Development Goal (SDG) number 6⁴ of the United Nations lacks any target on using green water more efficiently and also lacks a target on equitable sharing of water for sustainable & efficient use of water, , the latter issue is receiving limited attention in research. They have asserted that understanding of water problems and proposed solutions will likely to remain unresolved because focus is primarily on water-use efficiency

⁴Sustainable Development Goal number 6 is one of the important 17 Sustainable Development Goals outlined by the United Nations in 2015. It calls for clean water and sanitation for all people.

in farming and industries and the broader aspect (issues regarding equitable water use) are largely being ignored.

Chukalla *et al.* (2017) developed a methodology to find out the most cost-effective way to reduce the water footprint in irrigated crop products. He considered three crops (maize, tomato and potato); four types of environment (humid⁵ in UK, sub-humid⁶ in Italy, semi-arid⁷ in Spain and arid⁸ in Israel); three hydrologic years (wet, normal and dry years) and three soil types (loam, salty clay loam and sandy loam). Their study has noted that water footprint reduction requires improvement in irrigation strategy, mulching practice and finally the irrigation technique.

Betsie *et al.* (2017) investigated the ability of water footprints and water resource management of Steenkoppies Aquifer⁹, South Africa. They calculated a water balance and developed a water footprint structure. The results of the study indicate that current irrigation on the Steenkoppies Aquifer is unsustainable. The report suggests that the water footprint methodology can be applied to other water-stressed aquifers around the world

⁵Humid means relatively high level of water vapour in the atmosphere.

⁶Sub humid means having humidity in typical of grassland and prairie.

⁷Semi-arid means a climate has little rain but is not completely dry

⁸Arid means a climate having little or no rain; or too dry or barren to support vegetation.

⁹An aquifer is an underground layer of water-bearing permeable rock, rock fractures or unconsolidated materials (gravel, sand, or silt).



and highlights the sustainability of catchment scale¹⁰ water use in order to meet sustainability targets.

Verge *et al.* (2017) have indicated that grey water is an indicator of pollution in water footprint assessments. In this study, the grey water footprint for corn and soybean were calculated on daily to yearly time steps¹¹. The researchers found that the grey water footprint varied significantly when it is calculated for different time interval. The study suggested that in order to reconcile this situation, grey water calculation pathways should be reconsidered and standardized.

Bhowmik and Dutta (2019) estimated and analyzed the product-wise virtual water trade of primary crops, derived crop products and animal product which were traded by India with the 'developed countries'¹² during the course of international trade for the period 2008-09 to 2017-18. They proposed an evaluation framework for the international trade position by incorporating two parameters

¹⁰Catchment scale means river drainage system

¹¹ As per researchers, daily to yearly time step means the incremental change in time for estimation of range of water use.

¹²Here 'Developed Countries means countries which are considered as developed by the APEDA (Agricultural & Processed Food Products Export Development Authority) of India. The names of these countries are: USA, UK, Netherland, Germany, Canada, Singapore, Australia, Belgium, New Zealand, Korea Republic, Poland, Sweden, Switzerland, Portugal, Greece, Italy, Hong Kong, Israel, Japan, Spain, Luxembourg, France, Ireland, Estonia, Austria, Slovenia, Czech Republic, Slovak Republic, Iceland and Finland.

– balance of trade and virtual water trade and using the same for the purpose of evaluation of India's international trade position with developed countries for the aforesaid period of time.

Above mentioned review clearly shows that there was no study on virtual water trade arising out of India's international trade with developing countries. The present study aims to fulfill this research gap.

III. Objectives of the Study

The prime objective of the study is to examine the virtual water trade position of India with developing countries on the basis of export and import of primary and its derived crop products and to evaluate the international trade position. The specific objectives are as under:

- To estimate the amount of water needed to produce primary crops and its derived crops which were traded by India with the developing countries during the period 2013-14 to 2017-18.
- To quantify the volume of net virtual water trade flows during the period 2013-14 to 2017-18.
- To compare year-wise net virtual water flow with the amount of trade balance during the period 2013-14 to 2017-18 for the purpose of evaluation of international trade situation.



IV. Methodology of the Study

The present study is both descriptive and analytical in nature. It describes the conceptual issues relating to virtual water trade. Besides, it aims at analyzing the product-wise and year-wise virtual water trade flow from India. The study is based on secondary data which have been collected from Agricultural & Processed Food Products Export Development Authority (APEDA) of India and the Glossary of Water Foot print Network. It is basically focusing on estimation of net virtual water flow of primary crops and

their derived crops which were traded by India with the developed countries during the period of 2013-14 to 2017-18. The data of developing countries are analyzed by using descriptive statistics like mean, Standard deviation and correlation coefficient. For the estimation purpose, global average water foot print of each primary crop and its derived crop are considered. Some dummies or proxies have been taken into consideration due to unavailability of exact data of global average water foot print. The details of such dummies used in the study are given in Table 1:

TABLE 1
Dummy used to calculate virtual water trade of India during 2013-14 to 2017-18

Products on which water foot print data are not available	Dummy Product taken into consideration
Basmati Rice	Non Basmati Rice
Guargum	Ordinary Gum
Other processed Fruits and vegetables, Dried and preserved vegetables, Fresh vegetables and Fruits and Vegetables seeds	Vegetables
Other Cereals	Cereals

Proposed Evaluation framework of international trade situation

<u>Favourable in Water Savings</u>	<u>Most Favourable Situation</u>
Negative Balance of Trade Positive Virtual Water Trade	Positive Balance of Trade Positive Virtual Water Trade
<u>Most Unfavourable Situation</u>	<u>Favourable in Monetary Term</u>
Negative Balance of Trade Negative Virtual Water Trade	Positive Balance of Trade Negative Virtual Water Trade



In order to evaluate the international trade position on primary and its derived crops with developing countries, we are going to use the evaluation framework as proposed by Bhowmik and Dutta (2019). They suggested a two by two matrix for evaluation of international trade by incorporating virtual water trade along with classical measure (balance of trade). The suggested framework is presented above. There are four possible cases that a country may experience when two parameters are considered simultaneously – balance of trade and virtual water trade. These are – favourable in water savings, favourable in monetary term, most favourable situation and most unfavourable situation.

V. Data Analysis

We primarily focused our attention on calculation of year-wise balance of trade and virtual water flow of India in the context of international trade with ‘developing countries’ by using water footprint of each primary and derived crops. The detailed calculation is attached in Annexures 1 to 5 at the end. The end results, i.e. the quantum of virtual water trade and balance of trade during 2013-14 to 2017-18 are presented in Table 2. From Table 2, we can observe that India’s balance of trade was favorable but the net virtual water flow was unfavourable in each of the year during 2013 – 14 to 2017-18. The correlation coefficient between two parameters (balance of trade and net virtual water flow) for the years under consideration is -0.97 , which implies very

strong negative correlation between the said two parameters.

Further analysis reveals that average value of trade balance was favourable but mean value of net virtual water flow was unfavourable during the period under consideration. But the range and standard deviation over the years depict wide variation both in the case of trade balance and net virtual water flow which is quite natural because the results were based on autonomous nature of transactions involved. In view of all these observations, we can say that the magnitude of trade balance and net virtual water trade reveal a negative association pattern for the period under consideration.

VI. Findings and Conclusion

The above discussion indicates significant negative relationship between balance of trade and net virtual water flow arising out of India’s international trade with developing countries on primary crops and derived crops for the period under consideration. It also clearly showed (Table 2) that during the course on international trade with ‘developing countries’, India suffered heavy net outflow of virtual water from trading of primary crops and derived crops, with cumulative value of 79095923591 Quebec meter from the year 2013-14 to 2017-18. It has serious implications from India’s international trade policy with the ‘developing countries’ perspective.



Table 2: Summary of Year-wise Balance of Trade and Virtual Water Flow of Primary Crops and Derived Crops Registered under APEDA of India

Year	Export value (Rs. Crore)	Import value (Rs. Crore)	Trade Balance (Rs. Crore)	Virtual Water Out Flow (Quebec meter)	Virtual Water in Flow (Quebec meter)	Net Virtual Water Flow (Quebec meter)	Annexure
2017-18	48476.5	10723.9	37752.6	18208844299	10802458183	-7406386117	1
2016-17	47078.37	14899	32179.4	18803545354	13160189115	-5643356239	2
2015-16	44860.49	8062.5	36798.0	19367659003	5590858722	-13776800281	3
2014-15	58244.37	6271.7	51972.7	28494308942	3681527528	-24812781414	4
2013-14	54158.22	4874.1	49284.12	30154350930	2697751390	-27456599540	5
Total	252818.0	44831.2	207986.8	115027808528.4	35932784937.9	-79095023591	
No. of Years	5	5	5	5	5	5	
S.D	5498.72	3972.08	8562.24	5812087190	4575474905	9934686925	
Mean	50563.6	8966.2	41597.4	23005561705.7	7186556987.6	15819004718.1	
Min.	44860.5	4874.1	32179.4	18208844299.4	2697751390.0	27456599540.0	
Max.	58244.4	14899.0	51972.7	30154350930.0	13160189115.0	-5643356239.0	
Range	13383.9	10024.9	19793.3	11945506630.6	10462437725.0	21813243301.0	

Source: Authors' calculations as enclosed in Annexures 1 to 5 at the end

CHART 1: Evaluation of India's International Trade Position with Developing Countries during 2013-14 to 2017-18

<p><u>Favourable in Water Savings</u> <i>Negative Balance of Trade</i> <i>Positive Virtual Water Trade</i> <i>Nil</i></p>	<p><u>Most Favourable Case</u> <i>Positive Balance of Trade</i> <i>Positive Virtual Water Trade</i> <i>Nil</i></p>
<p><u>Most Unfavourable Case</u> <i>Negative Balance of Trade</i> <i>Negative Virtual Water Trade</i> <i>Nil</i></p>	<p><u>Favourable in Monetary Term</u> <i>Positive Balance of Trade</i> <i>Negative Virtual Water Trade</i> <i>(From 2013-14 to 2017-18)</i></p>

It is true that the international trade with developing countries is crucial for India's foreign policy due to geopolitical

compulsion. Being a promising super power, India will have to counter the so called world super powers in every



respect. That is why strategically maintaining a good bi-lateral relationship in terms of trade with developing nations is very much important from Indian point of view. It is also true that continuous huge negative virtual water flow during the course of international trade cannot be accepted because of its adverse effect on the Indian water security and sustainability of livelihood of a sizeable population of the country. So, Indian international trade policy should strike a balance between international trade relations with developing countries and its water security. That is possible only when equal weight age is given on water use efficiency and virtual water trade during the course of international trade. It is suggested that Indian international trade policies should be realigned by recognizing virtual water trade as a decision input.

VII. Limitation of the study

The present study on this important subject is an initial attempt of its kind. So, it has certain limitations. These are as follows:

- The study is based on those primary crops which are registered under the APEDA of India. There will be some other primary crops (though very few) which are traded by India in the context of international trade. Accordingly, the scope of the study can be increased when data are available in future.

- The animal products, industrial products, bio products are not taken into consideration for this study.
- The Blue Water, Green Water and Grey water calculations are not done separately in this study.
- Due to data unavailability some dummies and proxies in relation to water footprints are used, so the results are approximate, in nature.
- The effect on employment is not taken into consideration in this study.

In spite of the above noted limitations, the study highlights the importance of considering the net virtual water trade of India and compares it with the classical monetary value, namely, balance of trade. Such kind of inputs should be taken into consideration while framing policy decisions relating to export and import of crop products to and from developing countries especially in view of negative correlation between them.



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Annexure 1: Computation of Virtual Water Trade and Balance of Trade on Indian international Trade with the Developing Countries with respect to primary and derived crops in the year 2017-18

Sl. No (1)	Product (2)	Global Avg. Water Foot Print [Quebec meter per ton] (3)	Export			Import			Net Virtual Water Inflow (Quebec meter) -(10=9-6)	Trade Balance (Rs. Crore) (11=5-8)
			Qty (Metric Ton) (4)	Value (Rs. Crore) (5)	Virtual Water Out Flow (Quebec meter) (6=3x4)	Qty (Metric Ton) (7)	Value (Rs. Crore) (8)	Virtual water Inflow (Quebec meter) (9=3x7)		
1	Basmati Rice	1700.0	3356818.2	22268.0	5706591008.0	0.0	0.0	0.0	-5706591008.0	22268.0
2	Non Basmati Rice	1700.0	4175789.0	11239.8	7098841368.0	1030.4	5.1	1751680.0	-7097089688.0	11234.7
3	Groundnuts	2782.0	467437.4	3141.3	1300410735.5	1597.4	12.6	4443827.7	-1295966907.8	3128.7
4	Fresh Onions	272.0	1114281.2	2254.5	303084497.3	6556.6	11.8	1783392.5	-301301104.8	2242.7



5	Processed Fruits, Juices & Nuts	967.0	171300.5	1329.2	165647573.8	35511.1	356.5	34339262.7	-131308311.1	972.7
6	Other Fresh Vegetables	322.0	326087.5	1191.5	105000181.4	644.8	8.0	207612.7	-104792568.7	1183.5
7	Pulses	4055.0	126887.8	1088.0	514530150.7	1681963.7	4053.8	6820362844.1	6305832693.4	-2965.8
8	Other Fresh Fruits	967.0	180502.0	1013.2	174545385.7	577471.3	2712.5	558414718.1	383869332.4	-1699.3
9	Guargum	13748.0	91713.8	868.3	1260881184.9	347.6	0.9	4778804.8	-1256102380.1	867.4
10	Maize	1222.0	0	0	0.0	24429.0	78.7	29852238.0	29852238.0	-78.7
11	Processed Vegetables	322.0	91616.8	727.0	29500609.6	9359.8	81.6	3013862.0	-26486747.6	645.4
12	Fresh Grapes	608.0	67580.0	645.2	41088633.9	2967.8	33.2	1804428.5	-39284205.4	612.0
13	Cocoa Products	19928.0	13447.0	605.2	267972413.8	48640.5	878.6	969308481.8	701336068.0	-273.5
14	Mango Pulp	1800.0	72065.4	377.9	129717738.0	0	0	0.0	-129717738.0	377.9
15	Milled Products	4478.0	137863.1	369.1	617351051.4	2954.3	10.6	13229176.3	-604121875.1	358.5
16	Maize	1222.0	176879.0	339.5	216146125.8	0	0	0.0	-216146125.8	339.5
17	Fresh Mangoes	1800.0	34002.7	272.8	61204824.0	12.1	0.2	21852.0	-61182972.0	272.6
18	Cucumber and Gherkins	353.0	45702.6	234.6	16133024.9	394.3	2.4	139177.3	-15993847.6	232.2
19	Other Cereals	1644.0	97097.1	225.2	159627665.3	205934.7	280.2	338556564.6	178928899.3	-55.0
20	Fruits & Vegetables Seeds	322.0	6724.8	225.0	2165369.5	12969.9	536.0	4176307.8	2010938.3	-311.0
21	Wheat	1800.0	19490.9	40.3	35083566.0	1104233.5	1547.7	1987620246.0	1952536680.0	-1507.3
22	Walnuts	4818.0	689.3	20.8	3321191.9	5947.2	113.6	28653706.0	25332514.0	-92.8
21	Wheat	1800.0	19490.9	40.3	35083566.0	1104233.5	1547.7	1987620246.0	1952536680.0	-1507.3
Total			10773976.2	48476.5	18208844299.4	3722965.9	10723.9	10802458182.9	-7406386116.5	37752.6

Source: Compiled from (i) APEADA annual report, (ii) Mekonnen, M.M & Hoestra, A.Y (2011) and (iii) Authors, calculations.



Annexure 2: Computation of Virtual Water Trade and Balance of Trade on Indian international Trade with the Developing Countries with respect to primary and derived crops in the year 2016-17

Sl. No (1)	Product (2)	Global Avg. Water Foot Print [Quebec meter per ton] (3)	Export			Import			Net Virtual Water Inflow (Quebec meter _ (10=9-6)	Trade Balance (Rs. Crore) (11=5-8)
			Qty (Metric Ton) (4)	Value (Rs. Crore) (5)	Virtual Water Out Flow (Quebec meter) (6=3x4)	Qty (Metric Ton) (7)	Value (Rs. Crore) (8)	Virtual water Inflow (Quebec meter) (9=3x7)		
1	Basmati Rice	1700	3371977.52	18066.28	5732361784	0	0	0	-5732361784	18066.28
2	Non Basmati Rice	1700	4132560.53	10432.58	7025352901	406.76	2.35	691492	-7024661409	10430.23
3	Groundnuts	2782	674390.27	5043.2	1876153731	162	0.88	450684	-1875703047	5042.32
4	Fresh Onions	272	1382467.62	1882.85	376031192.6	0	0	0	-376031192.6	1882.85
5	Other Fresh Vegetables	322	501325.31	1559.3	161426749.8	419.77	6.18	135165.94	-161291583.9	1553.12
6	Processed Fruits, Juices & Nuts	967	162614.66	1274.31	157248376.2	30613.24	298.34	29603003.08	-127645373.1	975.97
7	Cereal Preparations	1644	133505.3	1260.29	219482713.2	22785.81	242.02	37459871.64	-182022841.6	1018.27
8	Other Fresh Fruits	967	194040.37	1078.51	187637037.8	690435.45	3259.88	667651080.2	480014042.4	-2181.37
9	Miscellaneous Preparations		167967.09	1015.19	0			0	0	1015.19
10	Pulses	4055	101771.62	914.13	412683919.1	1203521.17	4262.84	4880278344	4467594425	-3348.71
11	Processed Vegetables	322	75737.77	728.68	24387561.94	8255.12	68.11	2658148.64	-21729413.3	660.57
12	Guargum	13748	84600.72	660.49	1163090699	115	0.17	1581020	-1161509679	660.32
13	Fresh Grapes	608	58505.81	588.58	35571532.48	1786.79	24.08	1086368.32	-34485164.16	564.5
14	Mango Pulp	1800	84895.97	491.01	152812746			0	-152812746	491.01
15	Cocoa Products	19928	9405.24	454.32	187427622.7	49774.1	1086.26	991898264.8	804470642.1	-631.94
16	Milled Products	4478	136219.45	364.74	609990697.1	2880.35	11.28	12898207.3	-597092489.8	353.46
17	Fresh Mangoes	1800	36640.17	335.05	65952306	5.04	0.05	9072	-65943234	335
18	Maize	1222	139300.9	267.39	170225699.8	78260.98	142.89	95634917.56	-74590782.24	124.5
19	Other Cereals	1644	101664.44	245.73	167136339.4	146605.77	201.66	241019885.9	73883546.52	44.07
20	Cucumber and Gherkins	353	37029.91	172.63	13071558.23	23.17	0.37	8179.01	-13063379.22	172.26
21	Fruits &	322	3105.14	164.55	999855.08	9739.84	432.07	3136228.48	2136373.4	-267.52



	Vegetables Seeds									
22	Wheat	1800	34396.79	67.04	61914222	3438644.04	4840.76	6189559272	6127645050	-4773.72
23	Walnuts	4818	536.76	11.52	2586109.68	919.45	18.33	4429910.1	1843800.42	-6.81
Total			11624659.36	47078.37	18803545354	5685354	14899	13160189115	-5643356239	32179.85

Source: Compiled from (i) APEADA annual report, (ii) Mekonnen, M.M & Hoestra, A.Y (2011) and (iii) Authors, calculations

Annexure 3: Computation of Virtual Water Trade and Balance of Trade on Indian international Trade with the Developing Countries with respect to primary and derived crops in the year 2015 – 16

Sl. No (1)	Product (2)	Global Avg. Water Foot Print [Quebec meter per ton] (3)	Export			Import			Net Virtual Water Inflow (Quebec meter _ (10=9-6)	Trade Balance (Rs. Crore) (11=5-8)
			Qty (Metric Ton) (4)	Value (Rs. Crore) (5)	Virtual Water Out Flow (Quebec meter) (6=3x4)	Qty (Metric Ton) (7)	Value (Rs. Crore) (8)	Virtual water Inflow (Quebec meter) (9=3x7)		
1	Basmati Rice	1700	3400926.78	18924.9	5781575526	371.33	2.18	631261	-5780944265	18922.76
2	Non Basmati Rice	1700	3808771.94	9025.26	6474912298	0	0	0	-6474912298	9025.26
3	Groundnuts	2782	498164.33	3748.43	1385893166	0	0	0	-1385893166	3748.43
4	Fresh Onions	272	838205.48	1855.95	227991890.6	0	0	0	-227991890.6	1855.95
5	Other Fresh Vegetables	322	402029.86	1401.51	129453614.9	0	0	0	-129453614.9	1401.51
6	Pulses	4055	225097.81	1386.19	912771619.6	994183.23	3591.75	4031412998	3118641378	-2205.56
7	Cereal Preparations	1644	132097.31	1268.71	217167977.6	0	0	0	-217167977.6	1268.71
8	Processed Fruits, Juices & Nuts	967	144251.59	1084.62	139491287.5	25371.41	260.31	24534153.47	-114957134.1	824.31
9	Other Fresh Fruits	967	175070.16	1022.64	169292844.7	473566.66	2088.5	457938960.2	288646115.5	-1065.86
10	Guargum	13748	97805.94	841.04	1344636063	24.02	1.56	330226.96	-1344305836	839.48
11	Milled Products	4478	285317.79	663.57	1277653064	2646.8	11.76	11852370.4	-1265800693	651.81
12	Processed Vegetables	322	61284.15	599.64	19733496.3	9638.53	68.31	3103606.66	-16629889.64	531.33
13	Cocoa Products	19928	11624.55	519.15	231654032.4	39162.17	899.54	780423723.8	548769691.4	-380.39
14	Mango Pulp	1800	91030.25	510.19	163854450	5.84	0.1	10512	-163843938	510.09
15	Other Cereals	1644	202608.57	402.11	333088489.1	25836.7	229.49	42475534.8	-290612954.3	172.62



16	Fresh Grapes	608	39178.72	386.16	23820661.76	2132.84	32.56	1296766.72	-22523895.04	353.6
17	Maize	1222	161549.15	299.9	197413061.3	180554.71	286.4	220637855.6	23224794.32	13.5
18	Wheat	1800	151296.21	246.51	272333178	1064.53	1.83	1916154	-270417024	244.68
19	Fresh Mangoes	1800	24640.36	246.31	44352648	0.17	0	306	-44352342	246.31
20	Cucumber and Gherkins (Prepd. & Presvd)	353	47382.02	207.15	16725853.06	0.73	0.03	257.69	-16725595.37	207.12
21	Fruits & Vegetables Seeds	322	6344.29	202.73	2042861.38	10926.16	482.08	3518223.52	1475362.14	-279.35
22	Fresh Onion	272	0	0	0	34362.15	92.29	9346504.8	9346504.8	-92.29
23	Other Fresh Vegetables	322	0	0	0	408.18	4.87	131433.96	131433.96	-4.87
24	Walnuts	4818	373.79	17.78	1800920.22	269.38	8.93	1297872.84	-503047.38	8.85
Total			10805051.1	44860.49	19367659003	1800526	8062.5	5590858722	-13776800281	36798

Source: Compiled from (i) APEADA annual report, (ii) Mekonnen, M.M & Hoestra, A.Y (2011) and (iii) Authors, calculations

Annexure 4: Computation of Virtual Water Trade and Balance of Trade on Indian international Trade with the Developing Countries with respect to primary and derived crops in the year 2014-15

Sl. No (1)	Product (2)	Global Avg. Water Foot Print [Quebec meter per ton] (3)	Export			Import			Net Virtual Water Inflow (Quebec meter _ (10=9-6)	Trade Balance (Rs. Crore) (11=5-8)
			Qty (Metric Ton) (4)	Value (Rs. Crore) (5)	Virtual Water Out Flow (Quebec meter) (6=3x4)	Qty (Metric Ton) (7)	Value (Rs. Crore) (8)	Virtual water Inflow (Quebec meter) (9=3x7)		
1	Basmati Rice	1700	3192958.11	23706.9	5428028787			0	-5428028787	23706.89
2	Non Basmati Rice	1700	4609628.97	11849.6	7836369249	615.82	3.44	1046894	-7835322355	11846.13
3	Groundnuts	2782	695905.96	4592.07	1936010381	21	0.15	58422	-1935951959	4591.92
4	Maize	1222	2113332.43	3011.7	2582492229	5874.98	27.65	7179225.56	-2575313004	2984.05
5	Wheat	1800	1607824.33	2798.68	2894083794	1038.62	1.76	1869516	-2892214278	2796.92
6	Other Fresh Vegetables	322	540355.03	1493.75	173994319.7	755.03	4.74	243119.66	-173751200	1489.01
7	Guargum	19928	169809.89	1341.49	3383971488	20.5	0.32	408524	-3383562964	1341.17
8	Fresh Onions	272	668940.45	1292.22	181951802.4	150	0.34	40800	-181911002.4	1291.88



9	Cereal Preparations	1644	122472.93	1097.63	201345496.9	18116.88	195.16	29784150.72	-171561346.2	902.47
10	Pulses	4055	191262.17	1010.59	775568099.4	518732.65	1956.99	2103460896	1327892796	-946.4
11	Other Cereals	1644	575146.46	1004.11	945540780.2	1551.2	2.7	2550172.8	-942990607.4	1001.41
12	Processed Fruits, Juices & Nuts	967	128952.19	903.87	124696767.7	22020.05	232.98	21293388.35	-103403379.4	670.89
13	Other Fresh Fruits	967	127466.19	732.37	123259805.7	519216.08	2271.98	502081949.4	378822143.6	-1539.61
14	Milled Products	4478	312525.43	702.62	1399488876	2522.68	11.27	11296561.04	-1388192315	691.35
15	Processed Vegetables	322	64612.13	576.81	20805105.86	7023.21	59.3	2261473.62	-18543632.24	517.51
16	Mango Pulp	1800	113474.53	552.4	204254154			0	-204254154	552.4
17	Cocoa Products	19928	8229.08	405.2	163989106.2	49819.97	1059.25	992812362.2	828823255.9	-654.05
18	Cucumber and Gherkin	353	79975.64	356.2	28231400.92	78.72	0.79	27788.16	-28203612.76	355.41
19	Fresh Grapes	608	34547.83	334.44	21005080.64	1854.44	27.82	1127499.52	-19877581.12	306.62
20	Fresh Mangoes	1800	34745.17	263.17	62541306			0	-62541306	263.17
21	Fruits & Vegetables Seeds	322	6119.71	170.27	1970546.62	11415.25	413.61	3675710.5	1705163.88	-243.34
22	Walnuts	4818	977.66	48.32	4710365.88	64.15	1.42	309074.7	-4401291.18	46.9
Total			15399262.3	58,244.37	28494308942	1160891	6271.7	3681527528	-24812781414	51972.7

Source: Compiled from (i) APEADA annual report, (ii) Mekonnen, M.M & Hoestra, A.Y (2011) and (iii) Authors, calculations

Annexure 5: Computation of Virtual Water Trade and Balance of Trade on Indian international Trade with the Developing Countries with respect to primary and derived crops in the year 2013-14

Sl. No (1)	Product (2)	Global Avg. Water Foot Print [Quebec meter per ton] (3)	Export			Import			Net Virtual Water Inflow (Quebec meter _ (10=9-6)	Trade Balance (Rs. Crore) (11=5-8)
			Qty (Metric Ton) (4)	Value (Rs. Crore) (5)	Virtual Water Out Flow (Quebec meter) (6=3x4)	Qty (Metric Ton) (7)	Value (Rs. Crore) (8)	Virtual water Inflow (Quebec meter) (9=3x7)		
1	Basmati Rice	1700	3267044.5	25609.5	5553975650	0	0	0	-5553975650	25609.48
2	Non Basmati Rice	1700	3742007.7	9577.24	6361413090	411.88	2.27	700196	-6360712894	9574.97
3	Maize	1222	3163699.9	4715.3	3866041278	13381.88	77.46	16352657.36	-3849688620	4637.84



4	Wheat	1800	2507438.87	4288.71	4513389966	0	0	0	-4513389966	4288.71
5	Groundnuts	2782	497859.6	3110.58	1385045407	0	0	0	-1385045407	3110.58
6	Fresh Onions	272	995467.35	2107.15	270767119.2	2351.4	7.37	639580.8	-270127538.4	2099.78
7	Guargum	19928	173264.53	1959.83	3452815554			0	-3452815554	1959.83
8	Pulses	4055	309944.81	1538.58	1256826205	349759.56	1317.85	1418275016	161448811.3	220.73
9	Other Fresh Vegetables	322	620689.13	1525.8	199861899.9	301.11	2.1	96957.42	-199764942.4	1523.7
10	Cereal Preparations	1644	135786.22	1089.51	223232545.7	13133.38	123.07	21591276.72	-201641269	966.44
11	Other Cereals	1644	597789.78	1035.74	982766398.3	43.67	0.24	71793.48	-982694604.8	1035.5
12	Processed Fruits, Juices & Nuts	967	130361.5	894.13	126059570.5	19159.13	210.96	18526878.71	-107532691.8	683.17
13	Milled Products	4478	300186.84	679.83	1344236670	2301.42	10.23	10305758.76	-1333930911	669.6
14	Other Fresh Fruits	967	114419.19	588.64	110643356.7	476136.7	2015.75	460424188.9	349780832.2	-1427.11
15	Processed Vegetables	322	90410.04	540.34	29112032.88	10783.55	86.5	3472303.1	-25639729.78	453.84
16	Mango Pulp	1800	114799.28	515.46	206638704	33	0.12	59400	-206579304	515.34
17	Fresh Grapes	608	50781.09	457.17	30874902.72	1021.06	14.56	620804.48	-30254098.24	442.61
18	Cocoa Products	19928	7031.18	333.39	140117355	37308.79	694.16	743489567.1	603372212.1	-360.77
19	Cucumber and Gherkins	353	77857.37	301.36	27483651.61	1.1	0.02	388.3	-27483263.31	301.34
20	Fresh Mangoes	1800	31674.67	209.9	57014406	0.52	0	936	-57013470	209.9
21	Fruits & Vegetables Seeds	322	10387.72	178.17	3344845.84	5524.34	307.14	1778837.48	-1566008.36	-128.97
22	Walnuts	4818	2633.94	137.53	12690322.92	36.5	1.08	175857	-12514465.92	136.45
23	Guargum	13748	0	0	0	85.03	3.19	1168992.44	1168992.44	-3.19
Total			17376188.9	64158.22	30154350930	931774	4874.1	2697751390	-27456599540	59284.15

Source: Compiled from (i) APEADA annual report, (ii) Mekonnen, M.M & Hoestra, A.Y (2011) and (iii) Authors, calculations

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