

Focus: Work Culture

Work Related Variables and its Relationship to Work Life Balance

Relationship between Ethical Climate and Deviant Workplace Behavior

Study of Motivation 3.0 on Indian IT Workforce

Gender Dimensions of expenditure in India

Workmen Safety and Health: A Rethinking on Mines Safety

Motivation to Lead among Police Personnel in India

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Relationship between Ethical Climate and Deviant Workplace Behavior

GARIMA MATHUR, RICHA BANERJEE, KAJAL SHARMA AND HARVINDER KAUR

The research mainly explores the effect of perceived ethical climate on deviant workplace behavior. The behavior of the employees always affects the climate of the organization. Due to the unethical behavior of the employees at the workplace, organizations are not able to maintain an ethical climate. Organizations are trying their level best to ensure that deviant workplace behavior improves through their performance. This study is conducted to show how organizational ethical climate impacts deviant workplace behavior.

1. Introduction

1.1 Ethical climate

The concept of Ethical climate remains as a popular means of understanding the right brain-based ethical atmosphere in enterprises. For the purpose of our discussion, we will use Ethical climates as identified by Victor and Cullen (1987, 1988). In their opinion, an institutional normative system can be considered as an element of culture, although enterprise culture is more comprehensive and includes the patterns of behavior, artifacts, ceremonies, and special language. Ethical climate discusses only those organizational norms that concern practices and procedures with ethical consequences, which is only a segment of their organizational culture.

Victor and Cullen (1987, 1988). describe the enterprise climate as perceptions that “*are psychologically meaningful molar descriptions that people can agree characterized a system’s practices and procedures*”. Further, the authors argue that the prevailing perceptions of typical organizational practices and procedures that have ethical content constitutes the ethical work climate. In their opinion, ethical climate is conceptualized as a general and pervasive characteristic of an organization, affecting a broad range of decisions.

Work climates are the beliefs and values of individuals in the organization. Therefore, Victor and Cullen (1987) defined ethical climate as the shared perceptions of what are ethically correct behavior and proper process for handling ethical issues. The ethical dimension item developed by Victor and Cullen in the survey laid emphasis on the description of climates instead of the feelings at the workplace.

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Victor and Cullen (1988) defined ethical work climate (EWC) as the collective perceptions of what ethically exact behavior is and how ethical issues should be handled in the organizations. It is also defined as the predominant perceptions of typical organization practices and measures that have ethical content. It may differ in an organization because of the alterations in individuals, work groups, employment history, and individual's position. It ought to be noted that EWC is not considered as a normative concept to measure how ethical an association is instead it is established as a descriptive indicator of the prevailing mode of ethical thought within an organization.

The ethical climate of an organization is connected straight forwardly to the positive practices of representatives furthermore to a scope of negative work practices including lateness, absenteeism, and social loafing (Peterson, 2002a,b). Negative work practices likewise are connected to decrease in job satisfaction and organizational commitment, bring down levels of innovativeness, stagnated profitability, expanded introverted conduct, and in addition expanded worker turnover (Appelbaum *et al.*, 2007; Morrison, 2008; Peterson, 2002a, 2002b). The detailed financial implications of these practices are hard to catch; however, the effect to all that really matters can likewise be overwhelmingly obvious.

Approx. 25 years ago, the influencing work was conducted by Victor and Cullen, 1987 on ethical climate. They introduced this concept and also defined it as "*the shared perception of what is correct behavior and how ethical situations can be handled in an organization.*" (Victor & Cullen, 1987). Although, customary framework proposed that qualities of people drive their behavior, this work gave a special point to the business ethics writing by highlighting the part of the organizational environment on representatives' unethical behavior.

Wong (1998) they found that the abnormal amounts of client contact inside administration ventures, consumer satisfaction relies on accomplishing high Ethical benchmarks and proper behavior by representatives. The best approach to enhance benefit quality levels in the business is to urge representatives specifically to act ethically through their own drive. Workers' Ethical behavior can be additionally impacted by the making of a positive Ethical environment inside the organization instead of depending on the quality of

every individual representative Ethical values. This study demonstrated solid Ethical model at the organization level would be of esteem to prompt the sought worker Ethical result inside the association.

1.2 Deviant Workplace Behavior

Robinson and Bennett (1995) portrayed workplace deviant behavior (WDB) as "*deliberate Behavior of organizational individuals that disregards important authoritative standards and in doing as such debilitates the prosperity of an association, its individuals, or both*". WDB can take various structures from minor acts, for example, spreading rumors and humiliating colleagues to genuine acts, for example, burglary and damage.

Workplace deviance is defined as the intentional desire to harm an organization, more precisely a workplace. The idea has become an instrumental factor in the field of organizational communication. More precisely, it can be seen as "voluntary Behavior that violates institutionalized norms and in doing so threatens the well-being of the organization".

Employee deviance is willful in that workers either do not have the inspiration to adjust to regularizing desires of the social setting or get to be inspired to disregard those desires (Kaplan, 1975). Authoritative standards, or those recommended by formal and casual authoritative approaches, standards, and systems, are determined here since deviance must be characterized as far as the gauges of a predetermined social gathering as opposed to in reference to an arrangement of supreme good gauges (Kaplan, 1975). We concentrated on the violation of standards upheld by the prevailing regulatory coalitions of associations instead of the standards of work gatherings or subcultures.

The investigation of work place deviance is unmistakable from the investigation of ethics in that the previous spotlights on behavior that damages authoritative standards, while the last spotlights on behavior that is correct or not when judged in terms of equity, law, or other societal rules deciding the profound quality of conduct (Lewis, 1985). Subsequently, in spite of the fact that a specific conduct can be both deviant and unethical, the two qualities are not unavoidably connected. For instance, dumping toxic waste in a river is not deviant in the event that it acclimates with the approaches of one's association. However, the vast majority would probably agree that this act is unethical. Alternately, reporting this

dumping to powers might be an ethical act, but it would also be deviant act in this specific example it violated organizational norms.

2. Literature Review

Lewin (1975) found that the behavior of people is a component of the psychological field subjectively experienced by them. It was not important to comprehend or examine past occasions as simultaneous estimation of the psychological field was all that fundamental. Operationalization of one's psychological field inside the workplace includes distinguishing proof of the arrangement of elements of the social environment influencing one's behavior and decision making. This has been named as organizational climate.

Moran and Volkwein (1992) defines organizational climate as a persisting component which embodies representative aggregate view of elements including development, independence, support, cohesiveness, trust, acknowledgment, and reasonableness. This review demonstrated organizational climate as being produced by interaction of members, affecting and molding behavior, and as giving a premise to the understanding of situational standards, qualities and states of mind of the association. This technique gave a score on each of the organizational climate measurements, for every person inside that environment.

Peterson (2002) & Victor and Cullen (1987) tried contending models including the first from the earlier hypothetical Nine measurements proposed initially. Although none of the Models try to fulfill all the integrity of fit criteria utilized as a part of their examination. The outcomes demonstrated that the estimated nine-measurement gave a superior fit to the information than the empirically revealed models. It additionally endeavored to fit the information to the nine unique hypothesized measurements. Studied resulted three to be supported by their information, self-intrigue, social duty and law proficient codes.

Cohen (1995) suggests that associations might be put along a uni-dimensional '*moral continuum*'. It is useful to consider Moral Climate as a continuum. Toward one side of the continuum is the positive good atmosphere, or Moral atmosphere, in which authoritative standards always encourage specialist conduct that merits the trust of hierarchical partners. On the other side is the negative moral climate, or unethical atmosphere which on the other

hard, is never helpful for such behavior. Obviously, these are the extremes, with the ethical atmosphere of most business firms falling somewhere in the middle.

Hollinger & Davis (2003) and KPMG Forensic (2004, p.378-379) found deviant behaviors within the workplace are becoming an increasingly prevalent problem in today's society. These types of Behaviors have cost Organizations millions of dollars. In the United States alone, it has been reported that retailers lose \$15.1 billion per year as a result of theft from employees in Australia, fraud committed by organizational members cost organizations an average of \$2.1 million for each incident of fraud. Workplace deviance also leads to increased healthcare costs, absenteeism, and turnover as well as decreased performance, commitment, and satisfaction. Dunlop & Lee (2004) found that despite the human and economic costs of deviance in the Workplace, few researchers have examined characteristics of employees who are less likely to engage in deviance. The examined whether employee spirituality acts an individual difference variable that serves to prevent or reduce one's tendency to display deviant behaviors while at work.

Performance is characterized as those activities and practices that are under the control of the individual and add to the objectives of the association' by Rotundo and Sackett (2002). As per recent analysis there are three unique segments of work behavior in the job performance circle and these are undertaking execution, Organizational Citizenship Behavior (OCB), and Workplace Deviant Behavior (WDB). Undertaking execution has for a while been seen by specialists as the most basic piece of work practices, and has rarely been seen as being synonymous with general occupation execution. The importance of the two non-undertaking behavior (OCB and WDB) in choosing general employment execution, regardless, has similarly been all around recorded.

Motowidlo and Van Scotter (1994 p.475-480) found that OCB plays as important a role as task performance does in determining employee's overall job performance. They showed findings were report decently with respect to WDB. The implications that OCB and WDB may have to social surroundings in which core task activities should occur, overall business unit performance is likely be strongly influenced not only by task performance of each individual but also by non-task performance. Researchers have examined the link between unit-level OCB and business unit performance, which is briefly reviewed in the following section. Very little research to date, they examined such

links involving unit-level WDB. Ethical climate helps to better understand the association between the degree of involvement of a family in an enterprise and its influence on enterprise core values, culture and Ethical climate as the constitutional elements of enterprise Ethical behavior.

Cullen, Victor and Bronson (1993) defined organizational culture as *the "basic assumptions and beliefs that are shared by members of the organization."* Organizational climate is, however, distinct from the organizational culture. Organizational climate are the *"psychological environments in which behavior of individuals occur"*.

Individual norms operate in the organizational climate and evolve into institutional systems that are well known by organizational members. An organizational ethical climate is the *"collection of shared perceptions on what ethically correct behavior is and how Ethical issues should be handled"*. The linkage between the organizational culture and organizational ethical climates in public administration organizations is the central focus of this study.

Bennett and Robinson (2003) & Giacalone and Greenberg (1997) have proposed these behaviors with many different names including workplace deviance, counterproductive behavior, and antisocial behavior. In essence, behavior is deemed deviant when an *"organization's customs, policies, or internal regulations are violated by an individual or a group that may jeopardize the well-being of the organization or its citizens"*.

Ethical climate express that organization assume into liability for any Ethical or Unethical moves that makes put among their representatives and in like manner can start and execute ethical work climate. "Ethical climate are conceptualized as general and inescapable qualities of associations, influencing an expansive scope of choices (John B, Victor & Cullen, 1988, p.101).

The study of public and private organizations by Witmer & Coursey (1996 p. 559-572) gives an outline on public organizations illuminating a greater ethical alertness and obligations. Public responsibility sees lesser Ethical climate than Private association. The relationship between moral awareness and ethical climate is explained in the research whereas in other research studies moral awareness and ethical climate are always compared or combined. From these studies, this Research envisions that association establishments will uncover huge impact on Ethical climate.

Coccia (1998) & Mangione and Quinn (1975) found that Workplace is a forum where a variety of different behaviors are expressed, each with a different consequence to the individuals within the organization as well as the entire Organization. These behaviors usually fall within the constructs of the norms of the organization. Organizational norms are a grouping of "expected behaviors, languages, principles and postulations that allow the workplace to perform at a suitable pace".

According to Van Sandt (2001) & Victor & Cullen (1998) Ethical Criterion and Ethical decision making are the two dimensions of theoretical typology of Ethical climates. The Ethical Criterion dimension covers three major classes of Ethical theory i.e. egoism, generosity and principle.

Egoism is characterized as *"the augmentation of self-intrigue"*. This implies a man has confidence in themselves, regardless of restricted circumstances from society or opinions of other individuals to save its respect as a person. The useless is consideration, where *"individuals have a tendency to be less conscious of laws and controls and may likewise be amiable to contentions utilizing guidelines or standards"* (Van Sandt, 2001). This clarifies a contention or examination with a man who has lesser learning or numbness of the law or guidelines may be inadequate. The legitimate and steadfast representative makes some move by announcing the other worker to the administration with no doubts the length of they realize that there is an infringement of the arrangement.

Another part of the Ethical Work Climate is the locus of investigation measurement. This measurement speaks to the distinctive sources of impacts and inspiration where a man may consider its own observations on moral or dishonest issues. Victor and Cullen (1988) additionally expressed that it *"is a referent gathering distinguishing the source of good thinking utilized for applying moral criteria to authoritative choices or the cutoff points on what is viewed as the moral investigations of hierarchical choices"*. Individual, local, and cosmopolitan are the classes that includes the second measurement. This locus of investigation exhibits that ethical climate is an authoritative idea.

Fritzsche (2000 p. 125-140) Sims and Keon (1999) in this study are to demonstrate relationships between public organizational Culture and public organizational ethical climates. It has already been determined that in organizations where there is a higher level of moral

development represented in ethical climates, decisions are more Ethical. On the basis of above review following hypothesis was framed:

Ho: There is no impact of ethical climate on deviant workplace behavior.

3. Research Methods

3.1 Sample of the study:

The study was empirical in nature. Population includes entire sales person from Gwalior region. Sample size includes 120 sales person. Individual respondent was the sampling element. A purposive non-random sampling technique was used to carry out the research study.

3.2 Measures:

Standardized questionnaire of ethical climate designed by Schwepker, Good (2004, p.20) and Alexander (2011, p.76-82) and Standardized questionnaire of Deviant Workplace Behavior designed by (Sara Roberts 2011, p.14) was used to collect data for the present research. Item to total correlation was used to check the consistency of the questionnaire. The scale comprises of 5 point Likert scale ranging from 1 (very inaccurate) to 5 (very accurate). It is considered that the reliability value more than 0.7 is good and it can be seen that in all almost all the reliability methods applied here the reliability value of first questionnaire is 0.887 and for second the value is .717, which is higher than 0.7 so all the items of this questionnaire were considered reliable.

4. Results & Discussion

The data has been subjected to KMO and Bartlett test for checking sampling adequacy. Further data was also checked for Sphericity and Chi square value is significant indicating that the data is not spherical and can be used for further analysis. The KMO value is higher than 0.7 in both cases. The Kaiser-Meyer-Olkin Measure of sampling adequacy value for Ethical climate and Workplace deviance was 0.781 and 0.845 respectively indicating that the sample size was adequate to consider the data as normally distributed. The Bartlett's Test of Sphericity was tested through Chi-Square Value 116.522 and 893.945 significant at 0% level indicating that the inter-item correlation matrix was not an identity matrix and therefore the data was suitable for factor analysis.

Factor analysis has been conducted for both the variables but the Deviant workplace behaviors resulted in

to unidimensional scale. The scale was developed and extracted and various factors were emerged namely political deviance, property deviance, productivity deviance, personal aggression and publically embarrases. These factors are suggested as important types of Organizational deviance (Litzky, Eddleston, & Kidder, 2006).

In this study the data emerged in following factors:

4.1 Political Deviance: This factor emerged as the first important determinant of the research with a total variance of 3.728 and Percentage of variance explained was 19.621. This includes the rude behavior of employees and the negligence of employees towards their boss. Further, they litter the environment and use illegal drugs. The speed of the work is slow and along with that they discuss the confidential reports with others.

4.2 Property Deviance: This factor emerged as the next important determinant of research with a total variance of 2.969 and percentage of variance explained was 15.268. This includes the representation of false receipts to get reimbursement of more money and taking of property from workplace without the permission. The Employees play a mean prank and also curse someone at work.

4.3 Productivity deviance: This factor emerged as the next important determinant of research with a total variance of 2.121 and percentage of variance explained was 11.165. This includes the daydreaming or fantasizing of employees during worktime. The employees put little effort in the work and along with that drag out the work in order to get the overtime.

4.4 Personal Aggression: This factor emerged as the next important determinant of research with a total variance of 1.740 and percentage of variance explained was 9.155. This includes making fun and saying hurtful things to other employees at work and make an ethnic, religious and racial remark at work.

4.5 Publically Embarrasses: This factor emerged as the next important determinant of research with a total variance of 1.206 and percentage of variance explained was 6.345. This includes publically embarrassing someone at work.

A few researches have suggested a wide range of reasons why employees engage in deviant behavior. Such studies includes S.H. Appelbaum (2007), G.M. Spreitzer (2004), S.P. Robbins (2007), T.B. Lawrence (2007), Robinson and Bennett's (1995), Wright, Johnson & Dorr (2006), Tobin (2000), Mangione and Quinn (1974), Hollinger

and Clark (1982), Everton et al. (2007)

The regression is calculated by taking the total of sales person workplace Deviance and Ethical climate towards the organization by using SPSS software. In this

the Ethical climate is independent and Workplace Deviance towards Organization is the dependent variable. Therefore, regression is calculated by taking dependent variable and independent variable.

Table 1: showing results of KMO and Bartlett's Test for Ethical Climate

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.781
Bartlett's Test of Sphericity	Approx. Chi-Square	116.522
	Degree of Freedom	15
	Significance	.000

Table 2: showing results of KMO and Bartlett's Test for Workplace Deviance

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.845
Bartlett's Test of Sphericity	Approx. Chi-Square	893.945
	Degree of Freedom	171
	Significance	.000

Table 3 Showing results of Factor Analysis of Workplace Deviance

	Factor name	Eigen value		Statement	Loading value
		Total	Variance		
1.	Political Deviance	3.728	19.621	Q.6. Act rudely	.778
				Q.14. Neglect Boss	.726
				Q.13. Litter environment	.717
				Q.16. Discuss confidential information	.700
				Q.15. Work Slower	.592
				Q.17. Using Illegal Drug	.509
2.	Property Deviance	2.969	15.628	Q.10. Reimbursed for wrong money	.726
				Q.5. Prank on work	.675
				Q.8. Property take without permission	.625
				Q.4. Curse at work	.579
				Q.12. Come late	.513
				Q.11. Longer break	.491
3.	Productivity Deviance	2.121	11.165	Q.18. Little effort your work	.833
				Q.19. Drag out	.780
				Q.9. Daydreaming at work	.437
4.	Personal Aggression	1.740	9.155	Q.2. Say hurtful	.736
				Q.3. Religious at work	.656
				Q.1. Make fun	.601
5.	Publicly embarrasses	1.206	6.345	Q.7. Publicly embarrasses	.843

The linear regression was applied on ethical climate (independent variable) and workplace deviance (dependent variable). The results of regression indicates that independent variable have significant impact on dependent variable. Ethical climate has an impact signified by beta value of ($\beta_1 = .324$, $p = .000$). The value

of adjusted r square (.105) indicates that independent variable explaining (10.5%) variance in dependent variable (workplace deviance). In the model view of regression showing good impact as F value (13.839), p value of (.000). As F value is more than 10. It is indicating high predictability of the model.

Table 4: showing the results of Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
dimension 01	.324 ^a	.105	.097	11.19912	.105	13.839	1	118	.000

a. Predictors: (Constant), ethical climate

The relationship between the independent variable and dependent variable is indicated by standardized coefficient of beta value i.e. for ethical climate ($\beta_1 = -.324$, $p = 0.000$). The variables are showing the negative relationship. This indicates that if the climate is considered

as ethical then there will be lesser deviant behaviors. A similar study by Vardi (2001) also reported the relationship between climate and deviance at workplace. However, they have considered the mediation effect of work alienation and burnout on deviance.

Table 5: showing the results ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1735.697	1	1735.697	13.839	.000 ^a
Residual	14799.603	118	125.420		
Total	16535.300	119			

a. Predictors: (Constant), Ethical climate b. Dependent Variable: Workplace deviance.

Table 6: showing the results of Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	56.168	6.139		9.150	.000		
Ethical climate	-.987	.265	-.324	-3.720	.000	1.000	1.000

Dependent Variable: workplace deviance.

The findings of other researchers such as Appelbaum, Deguire, Lay, (2005); Peterson, 2002; Bulutlar & Öz, E.Ü. 2009; Vardi, 2001; Avey, Palanski & Walumbwa, 2011; Neubert, *et al.*, 2009) also showed a negative relationship between ethical climate and deviant workplace behavior.

Ethical work climates which are illustrative of the common discernments about ethically rectified practices in associations are considered to have a noteworthy impact upon different employee behavior. Victor and Cullen (1988) presenting the term ethical work climate,

contended that the sorts of ethical climate in associations changed with respect to the ethical thinking utilized by the representatives and their referent sources of activity. Empirical research confirmed that these distinctive sorts of ethical work climates may have determinant impacts of various sets of practices. There has been various studies that proposed that kind of ethical work climate can be a decent indicator of the type of deviant behavior that is probably going to turn out (Appelbaum *et al.*, 2005; Appelbaum, Iaconi and Matousek, 2007; Peterson, 2002a; Vardi, 2001).

Although, effects of ethical work climates on deviant workplace behaviors (Appelbaum *et al.*, 2005; Appelbaum *et al.*, 2007; Peterson, 2002a), antisocial behavior (Robinson & O'Leary-Kelly, 1998), organizational misbehavior (Vardi, 2001), counterproductive behavior (Wimbush & Shephard, 1994), and dysfunctional behavior (Martin & Cullen, 2006) is investigated in various studies, there had not been any study unequivocally connecting the expression "workplace deviance" to "ethical work climate". In this sense, this exploration cases to be among the primary studies to inspect this relationship.

Trevino (1986) guaranteed that both authoritative and situational variables can impact the state of mind and behavior of the organizational membership. As per Webber (2007) it is the executed behavior of the people in the association that deliver the organizational climates. The ethical climate of an association is connected straightforwardly to the positive behaviors of representatives and also to the scope of negative work behavior including lateness, absenteeism, and careless execution (Peterson, 2002a, 2002b). In his studies Peterson (2002b) found that the Ethical climate Questionnaire made by Victor and Cullen was a partial indicator of deviant workplace behavior. Particularly, the ethical measurements were predictive of many sorts of behaviors including deviant workplace behavior.

Morrison (2008) suggested that negative workplace relationship will affect the level of job satisfaction, turnover goals, authoritative responsibility, and attachment experienced by organizational individuals. She reasoned that *"those (participants) with at least one negative relationship at work were altogether less fulfilled, reported less authoritative duty, were a piece of less durable workgroups and were essentially more prone to want to leave their employment"* (Morrison, 2008, p. 340). Besides, expanded anxiety, in the end prompting to worker burnout, was another anticipated result of negative workplace relationships. One suggestion for countering deviant behavior is the foundation of a solid hierarchical culture, particularly a culture concentrated on central ethical values (Appelbaum *et al.*, 2007). Moreover, it is basically essential that these ethical values are likewise conveyed and strengthened to all representatives in the association and strengthened by the behavior of the supervisors and leaders in the foundation of the authoritative policies and applicable social standards.

Ethical Work Climate and Deviant Behavior happens frequently in associations portrayed by instrumental climates. Full of feeling reactions (such as responsibility) to the association are adversely identified with view of instrumental climates. Empirical outcomes have demonstrated that instrumental climates were most predictive of creation deviance including working on an individual matter. Organizations in which people are basically worried about their self-interest are well on the way to be influenced by such deviance. A study has demonstrated that buying administrators will probably compensate merchants for endowments or favors when they see the ethical climate of their association to be focused on the self-interest. In caring climates more elevated amounts of ethical thinking and more ethical decision making are predominant. Full of feeling reactions (such as responsibility) to the association are emphatically identified with view of such climates. Benevolent climates are contrarily identified with production deviance, political deviance, and individual hostility.

5. Conclusion

The study has been done to evaluate the relationship between the ethical climate and workplace deviance. All the measures are reliable as indicated by the reliability measure which is higher than 0.7 which is acceptable. If there is work place deviance in the organization it can be an obstacle to organization growth. The review also indicates that in general individuals have negative relationships with at least one another but if it is justified by the climate or considered that the system is fair while dealing with both the parties then situation remains under control and employees try to limit their deviant behaviors. Since there are further consequences of deviant behaviors such as lack of interest, job dissatisfaction it is better that the organizations control them at initial stage. The findings also support the notion that all the organizations must practice ethical behaviours as the behavior of top management is considered as a guiding principle for lower management. This ultimately creates an environment full of negative people. On the contrary if the environment is considered as righteous in the eyes of employees as they will develop a sense of responsibility towards organization and its members. Furthermore they will also avoid counter-productive behaviors.

Implications of the study

This research would be useful for further studies where researchers wish to understand the effects of ethical climate and workplace deviance behavior. This study will also be useful for organizations to solve issues related to showing negativity towards work and other employees which is really prevalent in sales staff. The study is also helpful for the organizations to understand that management must communicate that organization is ethical and henceforth the employees should also be ethical. This will help them to control awful and undisciplined behavior of employees at workplace.

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Productivity depends on many factors, including our workforce's knowledge and skills and the quantity and quality of the capital, technology, and infrastructure that they have to work with.

– Janet Yellen

The Gender Dimensions of Expenditure in India: Some Policy Issues and Concerns

DEVINDER SINGH

Majority of governments have articulated their promise towards gender equality goals but there are often inconsistencies between policy statements and the ways in which public finances are raised and spent. This paper states that a lot of effort has been taken in gender budget statement (GRB) over the last decade in India. The paper reviews the trends of gender budget in India over the last decade. On the basis of Indian experience, the paper attempts to assess the GRB initiatives in the country taking into consideration few critical questions: first, did GRB result in increased investments and budgetary resources to encourage gender equality? Second, did GRB make governments accountable for their commitments towards gender equality? third, has GRB been able to bring about changes to policies and budgets that would raise the social and economic status of women and further gender equality commitments? And fourth, given the degree of deprivation that exists in India, did GRB, as a tool of fiscal policy, contribute to the creation of an agenda to study budgetary priorities for the most marginalized women? Identifying imperative issues that are limiting the potential of the approach, the paper also recommends important points that the government needs to take into concern.

1. Introduction

Majority of governments have articulated their promise towards gender equality goals but there are often inconsistencies between policy statements and the ways in which public finances are raised and spent. Participation and consultation in the formulation of a country's budget is still often limited, however, different priorities of women are not fully reflected in the way finances are actually allocated and used. This concise discusses gender dimensions of expenditure with the aim of identifying approaches that are likely to move on equality between different groups of women and men. It examines how public money can be used in more gender equitable ways. Although various countries are making tempo in eradicating gender disparities, women still lag behind men in access to education and proper health care, paid employment opportunities, and political participation. Gender disparities are found throughout the world, but they are particularly prominent in parts of developing countries. The international community has committed itself to achieving gender equality and the advancement of women. The United Nations Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), adopted by the United Nations General Assembly in 1979, and India became a signatory of the CEDAW on July 30, 1980, emphasized the significance of gender equality and girls' and women's development, as a means to strengthen prosperity, and as a matter of basic human rights (Elson, 2006). It has gained prominence in recent years, and was given further impetus by the fourth World Conference on Women, held in Beijing in 1995, whose "Beijing Platform for Action" called for ensuring the consideration of a gender perspective and women's needs in budgetary policies and programs (Sarraf, 2003). Amartya Sen's capability approach, a new social welfare theorem, is also highly

compatible with the human development framework since it enables us to deal with gender empowerment issues in a more holistic manner (Sen, 1999; Martha, 2000). Many other studies also provided evidence that eliminating gender disparities and promoting girls' and women's development are beneficial to societies (World Bank, 2011, Duflo, 2012). The study presents evidence of ways in which women's development and the reduction of gender inequality lead to rapid economic growth, improved labor productivity, healthier children, and more responsive government (Stotsky, 2016). The empirical studies highlighted that improvement in rural women's access to productive resources could increase agriculture productivity as much as one-fifth in Africa (Saito and Spurling, 1992; World Bank, 2002).

The probability of children being enrolled in school increases with their mother's educational level, and the extra income going to mothers has a more positive impact on household investment in nutrition, health and education of children than the extra income going to fathers (World Bank, 1995). Budgetary expenditure is highly significant in improving different women empowerment indicators. The government social sector spending (which comprises of more than 85 percent expenditure on education, health, family welfare, water supply and sanitation) significantly improved the Gender Development Index in India (Singh D. 2013).

Gender budgeting efforts are intended to commit public budgeting to assess the benefits and costs of policies that would promote gender equality and girls' and women's development; and then taking action in response to this appraisal. Consequently, gender budgeting efforts take many different forms, with some countries focusing their efforts on fiscal policy changes that encompass budgetary allocations or the structure of fiscal policies, while others have focused mainly on administrative changes to expenditure tracking and monitoring systems. However, a majority of these gender budgeting efforts seem to have not gone far, reflecting several factors, including a lack of commitment from fiscal policy makers and governments.

2. Origin and Spread of Gender Budgeting

The original approach to gender budgeting was developed in Australia in the 1980s (Sharp & Broomhill, 2002; Chakraborty, 2016). Australia's landmark gender budgeting initiative in 1984 required government ministries and departments to analyze the impact of the annual budget

on women and girls, with a focus on public expenditures. The discourse on analyzing public expenditure in India from the gender perspective is usually traced back to the report of the committee on the status of women "towards equality" brought out by the Government of India in 1974. However, it was only in the Seventh Five Year Plan (1985-90) that specific consideration was given to allocations for programs/schemes which directly benefited women. The adoption of Women's Component Plan (WCP) is also traced back to the Seventh Plan which witnessed the initiation of a mechanism for identifying and monitoring schemes that extended benefits directly to women. In 1986, the Department of Women and Child Development (DWCD), under the Central Government's Ministry of Human Resource Development (MHRD), was entrusted the responsibility of monitoring 27 beneficiary oriented schemes under various sectors which directly benefited women.

In the Economic Survey of 2000-01, for the first time, a separate section on gender inequality was included in the chapter on Social Sector. The DWCD, Ministry of Human Resource and Development, Government of India in collaboration with UNIFEM, had commissioned the initiative of Gender Budgeting in India and a study was entrusted to the National Institute of Public Finance and Policy (NIPFP) to analyse the Union Budget for 2001-02 from the gender perspective. This was pursued soon by the creation of the first gender budget statement (GBS) in 2005-06 budget by including 10 demands for grants, an effort that has since earned immense attention the world over. This not only assisted put GRB work "out" in the public domain but in a way, situated the gender agenda in the serious business of budget making.

Since then the GRB work in India has grown and matured in exciting ways. Even as it is difficult to capture the GRB initiatives in all their diversity, three broad trends are noticeable. The first is the work around it, where much debate has taken place around the numbers reflected therein. Over time, figures depicted in the GBS have been challenged and resurrected. The focus has been on assessing the quantum of funds reported as well as the quality of information captured in the GBS. The second pertains to the deepening of the GRB at the state level. Though it is difficult to specify the accurate number of states that have initiated GRB, as per the records of the MWCD, sixteen states and two union territories adopted GRB in some form or the

other. However, unofficial estimates point to a much higher number. Finally, the third captures the initiatives undertaken by sectoral and line ministries to constitute gender budget cells (GBCs). At present, 57 ministries and departments at the central government level have established these cells, with the Department of Revenue, Ministry of Finance (MoF), being the latest entrant in 2014. It would be no amplification to state that a lot of efforts have been taken in GRB over the last decade. Given that we have done 10 years, the important question to create at this juncture is: what changes (if any) have taken place after so many years of engaging in GRB, and at what levels? These are questions that its practitioners have consistently grappled with in different contexts. However, the methods for assessment and the criteria for review have varied. For instance, Sharp and Broomhill's (2002) appraisal of the Australian initiative provides another important framework. In their analysis, they produce three critical questions: (i) Has the GRB been able to raise awareness of the gendered impacts of the budget and policies it funds? (ii) Has it made governments accountable for their commitments to gender equality? And (iii) Has it been able to bring about changes to policies and budgets that would raise the social and economic status of women and further gender equality?

3. Outline of Assessment

The appraisal of gender responsive budgeting in India reveals a mixed picture. There are number of constructive developments, such as changes in select planning and budgeting processes and creation of gender budgeting cells. However limited reach of GRB and stagnant or even turn down allocations for the gender development are stumbling blocks. The paper reviews the trends of gender budget in India over the last decade. On the basis of Indian experience the paper attempt to assess the GRB initiatives in the country taking into consideration the critical questions: First, has the GRB resulted in increased enough investments and budgetary resources for encourage gender equality? Second, how successful has the GRB been as a tool for influencing sectoral plans and budgets? A distinctive feature is that it is not limited to women-specific programme, but concerns equally to reviewing gender-differentiated impact of mainstream expenditures which constitute the bulk of the total budget. Third, has the GRB resulted in changes in the planning and budgeting processes? National efforts to institutionalize it are usually escorted by certain changes

in the planning and budgeting processes. These changes enable integration of a gender perspective across the budget cycle, right from the planning stage to the audit. It is thus crucial to assess whether it has caused any changes/revisions in rules and procedures to facilitate the inclusion of a gender perspective across the budget cycle. And, fourth, how effective has GRB been in engendering the macroeconomic framework? As Sharp and Broomhill (2002) state, the ability of a new generation of gender budgets to advance gender equality remains dubious unless they find new ways and means within the structures of the state to contest the macroeconomic policy. It would thus be imperative to study this aspect in the Indian context.

4. Data Analysis

The paper begins with the first question. It analyses budgetary outlays at three levels: (i) allocations accounted in the GBS; (ii) allocations for the MWCD; and (iii) allocations for the selected women specific schemes.

Magnitude of the Gender Budget: In India, the only instrument available to review the quantum of allocations flowing to women across ministries and departments is the Gender Budget Statement (GBS). Though several issues with the quality of information given (Das & Mishra, 2006; Mishra & Jhamb, 2007) in the absence of other alternatives, the GBS remains critical to this analysis. A review from 2005-06 to 2016-17 shows that there have been no significant improvements in the overall allocations flowing to women. In fact, the latest budgets shows a stagnant or even turn down allocation for gender development. As Table 1 crystal clear that the magnitude of gender budget, that is, the allocations for women (as mentioned in the GBS) as a proportion of the total government budget were almost stagnant at 5.5 percent until 2013-14. However, not only has the proportion of allocations for women as a percentage of the total budget declined from 5.5 percent to 4.5 percent this year, there is also a significant decline in absolute numbers. As per the latest GBS, there is a sharp decline from the budget estimate of Rs. 854,954 million for 2013-14 to Rs. 819,837 million in 2014-15 and stagnant thereafter. This point out to a grave paradox which is that while on the one hand, there have been a slew of the GRB initiatives across the country, on the other hand, there appears to be a sluggish or even declining trend in allocations for women as demonstrated by the GBS (Jhamb, Mishra and Sinha, 2013).

Table 1: Magnitude of Gender Budget(In Rs. Millions), (2007-08 to 2016-17)

Year	No. of Demands for Grants	Total Allocations under Part- A	Total Allocations under Part- B	Magnitude of the Gender Budget of Total Outlay (Percentage)
2005-06 (RE)	10	82,739	159,666	4.7
2006-07 (RE)	18	46,190	176,325	3.8
2007-08 (RE)	33	84,287	139,194	3.1
2008-09 (RE)	33	148,752	347,482	5.5
2009-10 (RE)	33	154,809	408,133	5.5
2010-11 (RE)	33	184,733	486,014	5.5
2011-12 (RE)	33	204,966	564,495	5.8
2012-13 (RE)	33	188,785	592,330	5.5
2013-14 (RE)	33	242,851	612,103	5.4
2014-15 (RE)	36	174,263	645,574	4.9
2015-16 (BE)	34	166,571	626,007	4.5
2015-16 (RE)	34	113,884	698,607	4.5
2016-17 (BE)	31	174,120	732,128	4.5

Source: Expenditure Budget, Vol. I, Various Issues, Government of India

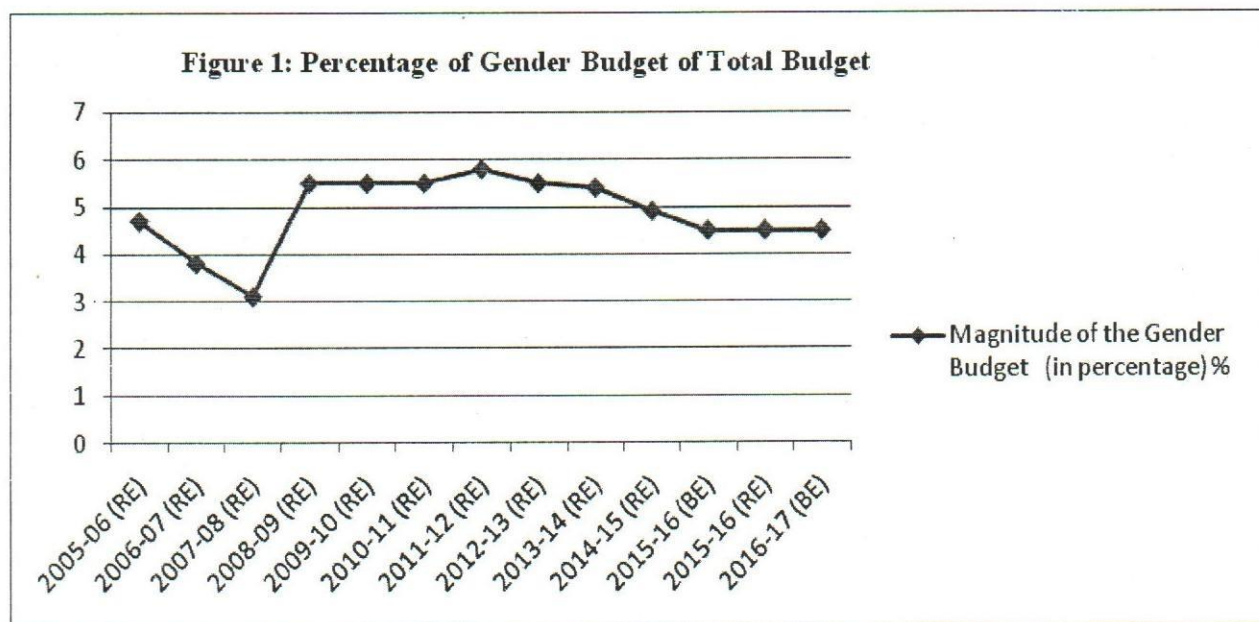


Figure 1. Percentage of Gender Budget of Total Budget

Allocations for the Ministry of Women and Child Development (MWCD):

The picture remains severe when the paper reviews the budgetary allocations for the MWCD and Women welfare. The budget allocations for the MWCD have been halved

from Rs 211,940 million in the budget estimates of 2014–15 to Rs 102,867 million in 2015–16. Table 2 also indicates that expenditure in the schemes of women welfare have almost stagnant from 2011-12 to 2013-14 and declined thereafter continuously.

Table 2: Budget Allocations for MWCD and Women Welfare, 2010-11 to 2016-17

(In Rs. Millions)

Years/ Schemes	2010-11 BE	2011-12 BE	2012-13 BE	2013-14 BE	2014-15 BE	2015-16 BE	2016-17 BE
MWCD	110,000	126,500	185,500	203,500	211,940	102,867	173,000
Women Welfare	6,535	9,305	8,587	9,147	3,380	2,585	NA

Source: Expenditure Budget, Vol. II, Various Issues, Government of India

Table 3: Selected Women Specific Schemes(In Rs. Millions)

Schemes	2014-15 (BE)	2014-15 (RE)	2015-16 (BE)	2015-16 (RE)	2016-17 (BE)
Beti Bachao Beti Padhao Campaign	900	450	970	280	400
Indira Gandhi Matritva Sahyog Yojna (IGMSY)	4,000	3,600	4,380	2330	4,000
Hostels for working women	225	80	270	150	280
Nirbhaya fund for safety of women*	10,000	10,000	10,000	—	5,000
Support to Training and Employment	180	60	270	153	300
Comprehensive scheme for Combating Trafficking	144	109	180	180	350
National Commission for Women	184	273	231	251.50	256
Umbrella Scheme for Protection and Development of Women	2,350	400	780	1,095	2,500
(i) National Mission for Empowerment of Women (NMEW)	900 1,150	100 300	250 500	265 520	500 1,000
(II) SAAHAS (Swadhar Greh)	100	—	10	175	250
(III) SAAHAS (Women's Helpline)	200	—	20	130	750
(IV) SAAHAS (One Stop Crisis Centre) Condensed courses for women education	27	—	—	—	—
SAAHAS (Assistance to States for implementation of PWDVA, 2005)	500	—	—	—	—
SAAHAS (restorative justice for rape victims)	300	—	0.10	0.10	—

*The notes on Demands for Grants, 2015–16 for the MWCD mention that the Nirbhaya Fund will be used to fund One Stop Crisis Centres. Nirbhaya Fund figures in the budget for the Department of Economic Affairs, MoF.

Source: Expenditure Budget, Vol. II, MWCD, Various Issues, Government of India (www.indiabudget.nic.in).

Allocations for Women-Specific Schemes: Table 3 reviews the some important women-specific schemes. With respect to women exclusive schemes of the MWCD, there are few “big budget” schemes, namely, the Indira Gandhi Matritva Sahyog Yojana (Conditional Maternity Benefit Scheme) and Nirbhaya Fund. Budget allocations for several other important interventions have either seen only a marginal increase or have been slashed. For instance, as shown in Table 3, allocations for a majority of schemes, such as Swadhar Greh, Women’s Helpline and the National Mission for Empowerment of Women (NMEW), have declined. Even interventions such as working women’s hostels which find an explicit mention in the Bharatiya Janata Party’s (BJP) election manifesto have seen only a marginal increase in budget allocation.

As per the MWCD (2013), there is little more than one hostel per district with a concentration in select states. The most disturbing aspect is the ‘zero’ allocations for certain extremely important interventions, the Assistance to States for Implementation of Protection of Women from Domestic Violence Act, 2005 and Condensed courses for women education being the cases in point. The scheme, which was launched as a result of a tireless advocacy effort of the women’s movement, got a token allocation of Rs 500 million in 2014-15 BE about five years after the enactment of the domestic violence law. However, despite this token allocation, the scheme was never implemented as revised estimates for successive years showed “zero.” Since the budget estimate figure for the scheme is set at zero this year, it is evident that this critical intervention has been discontinued. This is especially discouraging given that the BJP had emphasized stricter implementation of laws related to women in its election manifesto. Utilization of budgets continues to be an equally important concern. In fact, one of the main reasons cited in the report of the department-related standing committee on human resource development for under utilization of funds was non-approval of a number of important interventions proposed by the ministry. These included, among others, interventions such as Restorative Justice for Rape Victims, Women’s Helpline and assistance for construction of shelter homes for single women. Furthermore, Swadhar Greh, One Stop Crisis Centres and NMEW were in the process of appraisal which contributed to delay in utilization of funds.

Even with regard to the Nirbhaya Fund, though the total budget for the scheme is Rs 10,000 million in 2015–

16 and a decline in 2016-17(BE) to Rs. 5,000 million. But there are serious concerns regarding utilization of funds. As noted by the department-related standing committee on human resource development that scrutinized the budget of MWCD, “The Fund has been lying un-utilized for the last four years. No clear strategy has come up to ensure proper utilization of the fund allocated” (Parliament of India 2015). This year, there is an indication that the money will be utilized to implement a scheme for “women’s safety on public road transport” and setting up of One Stop Crisis Centres. The picture that emerges at the level of the states is equally discouraging. Although, no comprehensive assessment of the GRB initiatives at the state level is available, in states like Madhya Pradesh (MP) and Rajasthan, which produce a GBS, the review suggests that increase in the magnitude of the gender budget has not been commensurate with increase in the number of departments reporting in the GBS. It must be stated here that low allocations for GE/WE in 2015–16 are not an anomaly but the norm. Irrespective of the government in power, the gender agenda has remained consistently under funded.

Considering the low level of investments, the Committee on Elimination of Discrimination against Women (2014) in its review of the fourth and fifth periodic reports submitted by the GoI emphasized the need for increased investments for the MWCD and for gender budgets across ministries. It also reiterated the need for strengthening institutions such as the National Commission for Women (NCW) and the state commissions. Recently, cuts in budgetary allocations across important sectors, including the MWCD, have been justified by the increase in devolution of funds from the central tax pool to the states. As stated in the budget documents, in the spirit of “cooperative federalism,” the government has accepted the Fourteenth Finance Commission’s recommendation to raise the states’ share of the divisible pool of central taxes from 32 percent to 42 percent.

However, as Jhamb and Mishra (2015) argued, the net increase in the spending capacity of the state governments, as a result of greater devolution of funds to the states, is at best modest. The centre not only intends to discontinue most forms of untied assistance for plan spending by states, but meeting expenses on account of revenue expenditure on the plan schemes is also set to become the prime responsibility of state governments. Therefore, in light of the increased burden on the states to

meet expenditures of important social sector programmes which have been transferred to state governments (either entirely or which require increased sharing of resources by the states), it is doubtful that the constantly under funded gender agenda will be accorded priority.

5. A Sectoral Shift in GRB initiatives

The paper tries to answer the second question. Over the years, a number of evaluation studies have been undertaken globally to review gender mainstreaming efforts. In India, an important mechanism institutionalized by the Government of India to ensure that all ministries integrate gender concerns in their plans and programmes has been setting up of the GBCs. The Ministry of Finance played an essential role by laying out the specific roles and responsibilities of these cells in a comprehensive charter issued in 2007. As mentioned earlier, 57 ministries/ departments have been set up GBCs till date, the latest addition being the Department of Revenue.

6. Gender Mainstreaming in Agriculture

Initiatives taken by the Department of Agriculture and Cooperation (DAC), Ministry of Rural Development (MoRD), Department of Science and Technology (DST) and Department of Telecommunications (DOT) are especially noteworthy. Although, the MoA states in its annual report that the foremost goal and directive of the DAC is to enhance productivity and production of agricultural commodities, it also states that the effort is also to ensure that women contribute to this effectively. To this effect, it reveals that suitable measures will be taken to build their capacities and improve their access to inputs, technology, marketing and other farming resources (MoA 2013).

A National Gender Resource Centre in Agriculture (NGRCA) was set up in the Department of Agriculture and Cooperation, MoA, in 2004–05 under the scheme “Extension Support to Central Institutes.” Since its establishment, the GBC located in the NGRCA of the Directorate of Extension, has undertaken several key initiatives to ensure engendering of the ministry’s schemes and programs. Some of them are: (a) At least 30 percent funds earmarked for women farmers across all beneficiary-oriented schemes, (b) Gender coordinators/nodal officers identified in every division, (c) Women’s representation to be ensured in decision-making committees, (d) Various research studies started to assess existing schemes from a gender perspective (women friendly tools, study on existing policies and their impact on Women’s access to

land, etc), (e) Review of financial sanction of all beneficiary-oriented schemes of DAC so as to ensure integration of gender at the planning stage.

Gender Mainstreaming in Department of Telecommunication (DoT) and information and communication technology (ICTs)

The “Sanchar Shakti”, a pioneering initiative by the Department of Telecommunications aimed at using information and communication technology (ICTs) to promote GE/WE. The Department of Telecommunications has initiated several projects such as VANI, Vyapaar SEWA, V-Stri-IT and Sochna Shakti, among others, that aim to enhance livelihood opportunities for women in creative ways. The Gender Budget Cell of the DoT and the Universal Service Obligation Fund of DoT launched a programme of pilot projects aimed at facilitating SHGs’ access to ICT-enabled services in 2011. Several projects have been initiated under Sanchar Shakti project, SHGs as the core of the initiative, the key stakeholders of the initiative include NABARD, non-governmental organisations, mobile service providers, handset/ modem manufacturers and application service providers. The VANI project, for instance, aims at empowering women entrepreneurs in the handicrafts sector by providing end-to-end market linkage data through mobile value added services.

7. Gender Mainstreaming in Rural Development

The focus of the Ministry of Rural Development (MoRD) has been to ensure that the specific schemes being implemented by it respond to specific gender concerns. Since the inception of GBC in 2013, the Ministry of Rural Development has undertaken several initiatives for gender issues. One of the areas which have received continued focus is engendering the flagship schemes of the ministry. The ministry, in its various publications, including the Outcome Budget and even as a separate note, provides detailed information on the actions taken by it to make existing schemes more gender responsive. For example, documents provide information on schemes such as the Mahatma Gandhi National Rural Employment Guarantee Scheme, Indira Awaas Yojana, Indira Gandhi Widow Pension Scheme, National Rural Livelihoods Mission and Mahila Kisan Sashaktikaran Pariyojana mention the specific policy measures, physical and financial data. The ministry continues to place emphasis on revisiting the schemes and making them more responsive to the specific needs and concerns of women.

In other ministries/departments also, exciting deliberations have started taking place through the mechanism of the GBC. For instance, recently, the Ministry of Tribal Affairs held a meeting on 2 April 2014, where various important issues received attention. The long-pending issue of lack of data on women and girls belonging to Scheduled Tribes (STs) across different schemes/programmes was discussed at length and it was decided that the ministry will make rigorous efforts to collect sex disaggregated data on achievements and gaps across all beneficiary-oriented schemes. An important outcome of the meeting was the ministry's decision to undertake a thorough analysis of the ST women's issues related to education, health, water supply and sanitation.

Even in ministries/departments where the GBCs have existed, their functioning continues to be a challenge. There are several factors that hamper the effective functioning of the GBCs. Lack of dedicated human resources to implement the interventions identified by the GBCs continues to be one of the biggest challenges. Interestingly, across the ministry/department, the evidence indicates that increasingly the GRB is seen as the sole responsibility of the individuals associated with the GBC with little engagement of other departments/divisions. Therefore, for nourishment and effectiveness of the GRB in a sector, it is important to involve officials across divisions and across levels in implementing interventions identified by the GBC.

Another important challenge pertains to monitoring of initiatives being undertaken by the GBCs. Although, the MWCD works closely with the GBCs to provide technical support as well as to monitor their functioning, given the unique position of the MoF vis-à-vis the budgets, a greater engagement by the MoF to implement the GBC charter would be crucial. In conclusion, although there are certain challenges that impede their effective functioning, the GBCs have taken some small yet significant steps that can go a long way in ensuring that women's needs and concerns are adequately addressed by the sectoral policies and programmes.

8. Changes in Planning and Procedures

The application of the GRB as a tool to promote the gender empowerment demands changes in planning and procedures across different stages of the budget cycle. The first concrete change that has taken place is at the stage of budget making or when the budgets are prioritized. Since 2005–06, the Budget Call Circular (BCC) explicitly

requires all ministries/departments to scrutinize their detailed demands for grants and identify programmes/schemes that are entirely meant for women or are pro-women. It further specifies the format in which the ministries/departments are required to categorize their programmes/schemes. Further, the BCC in India particularly requires ministries to prepare a statement to highlight the quantum of public expenditure earmarked for women-specific programmes (100% provision), and pro-women allocations (at least 30% provision) for gender-neutral programmes.

Certain efforts have also been made to assess gender equality outcomes. An emerging area of work is that of gender audit. In India, the MWCD has played the lead role in developing gender audit guidelines and is currently in dialogue with Comptroller and Auditor General's office on the need to formalize the guidelines. In addition to the MWCD, sectoral, ministries, such as the MoRD, have taken steps to institutionalize gender audits. It is committed to conducting gender audit both at the institutional level as well as at the level of specific schemes, which include flagship programmes/schemes like the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme, National Rural Livelihoods Mission, Pradhan Mantri Gram Sadak Yojana, Indira Awaas Yojana and National Social Assistance Programme. To institutionalise the gender audit process, the constitution of a gender team/advisory group comprising senior-level government officers is envisioned. To begin with, the MGNREGA has been selected for a detailed assessment from a gender lens. At the state level too, innovative ways of incorporating gender concerns are being explored. The Karnataka government, for instance, is in the process of completing a study on introducing gender markers in the regular process of audit at the state level.

Further, although the introduction of outcome budgets cannot be endorsed to the GRB, it is important to highlight the significance of outcome budgets as tools for reporting achievement of gender equality outcomes and challenges therein. Initiated with the global push towards performance-based budgeting (Sharp, 2003), outcome budgets were introduced in 2005 in India to build a clear link between allocations and achievement of outputs and outcomes. However, the applicability of the outcome budgets as a tool of accountability in general and to gender equality outcomes in particular has been severely limited (Jhamb and Mishra, 2015).

There are several instances where despite availability of data, the indicators in the outcome budget are not gender sensitive. For example, in the case of Sarva Shiksha Abhiyan (SSA), there is no indicator to show progress with respect to the education in the dropout rate of girls despite the fact that one of its specific objectives is to bridge the gender and social category gaps. Outcome budgets can become extremely vital tools of accountability if they are made more comprehensive, the indicators are made gender sensitive, they are produced in a timely manner and are available easily in public domain for discussion.

Now, the paper attempts to answer the last question. Usually, the objective of a Macro-economic policy is to push the economy as a whole towards realizing sustainable developments in national output and incomes. Exchange rate policy, fiscal policy and monetary policy comprise the three key forms of macro-economic policy. However, as Budlender (2002) argues, experience of the GRB across the globe reveals immensely focus on the budget since gender concerns are more visible in fiscal than in monetary policy. This analysis applies for India too, whereby the focus has been only on fiscal policy. Moreover, even in the domain of fiscal policy, efforts towards analyzing the gendered impact of tax incidence remain limited. With the goods and services tax set to replace the value added tax, it will be important to analyse its gender implications.

9. Conclusion

As discussed in the earlier section, the paper reflects a mixed picture, with certain positive developments besides some worrying trends. The constitution of the GBCs in as many as 57 ministries/departments is a notable job. Further, the budgetary allocations for gender development have remained stagnant or even declined point to an alarming trend. The engagement with other forms of macroeconomic policy also remains severely limited. It is important to know the reasons underlying the limited application of the GRB. Although there is a gamut of factors that play a role, the paper discusses some of the main concerns that need to be addressed on a priority basis as follows: (i) *Lack of a strong Coordination/Monitoring Mechanism*: The MoF was at the forefront during the initial phase of the GRB and led the efforts around the introduction of the GBS and development of the charter for GBCs. However, the subsequent years witnessed a steady withdrawal of the MoF and a more vital role taken

by the MWCD as the nodal ministry. Global experiences clearly suggest that the GRB is more effective, when the MoF along with the MWCD steers it, as one of the main drivers (Jhamb and Mishra, 2015). Monitoring remains one of the weakest links in the GRB work globally. There is no designated mechanism for monitoring it at the national level as well as state level. At the state level, for the first time, after persistent efforts of the DWCD and UN Women in Madhya Pradesh, a GRB monitoring committee was constituted in 2014 to hold periodic deliberations on the trajectory of the GRB in the state. A similar model can be followed at the union government level which will make sure monitoring of GRB initiatives in the country, (ii) *Lack of Dedication*: The GRB continues to remain an under-prioritised concern. As Sen (2000) notes, it is political will rather than institutional arrangements that ultimately govern successful mainstreaming of gender concerns. Drawing from global evidence, Hewitt and Mukhopadhyay (2002) also emphasise the significance of government commitment and leadership and broad country ownership for effective formulation and implementation of the GRB initiative. The "success stories" with respect to the GRB interventions in India, at national and state levels, are primarily a result of individual motivation rather than broader institutional ownership and commitment to the GRB. A closely-related issue is the lack of individual and institutional capacities. There exist huge differences with respect to the level of engagement with the GRB at the state level. A well-tailored and systematic capacity building strategy thus needs to be formulated, (iii) *Lack of Participation*: An important aim of the GRB is to encourage participation of women in planning and budgeting. Thus, by creating and giving space to women to participate in budget decisions either at the national level or local level will be an important step in ensuring that women's voices are heard. Till now, overt centralization in centrally-sponsored schemes has meant very little money at the disposal of states (Das and Mitra, 2013) and hence low level of decentralization of funds, functions and functionaries. With the recent thrust towards more untied funds to states, it remains to be seen if greater devolution of funds to states will also enable creation of mechanisms for involving communities in planning and budgeting.

To conclude, the paper suggests following steps that the government can consider: (a) GRB needs to be given space at the time of prioritization of budgets. It is only then that there will be a move from "reporting" to "meaningful

planning,” (b) The MoF and MWCD need to coordinate for the smooth functioning and much needed direction for the GRB in the country, (c) Special efforts need to be made to ensure inclusion of the most marginalized groups of women in the decision-making processes.

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When more women enter the workforce it spurs innovation, increases productivity and grows economies.

– Hillary Rodham Clinton

An Exploratory Study on Motivation 3.0 among the Indian IT Workforce

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The paper revolves around an exploratory study of three driving forces namely Autonomy, Mastery and Purpose (AMP) put forward as Motivation 3.0, which has off late gained relevance in several organizations comprising of knowledge workforce. Given the challenge of retaining talent in the Indian Information Technology (IT) industry, the exploration is confined to employees working in Indian IT sector. Furthermore, the study focuses on comprehending the relationship between the explanatory variables identified under each of the three categories of AMP to that of the career span of knowledge workforce. The key finding is that Indian IT workforce experiences certain level of mastery and purpose with no autonomy at workplace.

1. Introduction

The Indian Information Technology (IT) industry, since its inception has gradually grown into a globally competitive industry by entwining services, products, solutions and platforms. While the industry created job opportunities and multiplied its exports by 10.2 percent during the financial year 2012-2013 (NASSCOM, 2014), IT firms have been witnessing high attrition rates. Given the rise in attrition by 100-200 basis points over the year 2013 and extrapolation by NASSCOM (2014) that attrition of 65 percent in small firms is likely to add by 200 basis points, IT firms find a pressing need to focus on retention, career paths and succession plans. However, the global engagement report by a global consulting firm, Blessings White, projects that younger employees in India are least engaged (Blessing White, 2011). Since India stands as a country comprising of younger age groups as the largest proportion of its population (Government of India report, 2011); retention remains to be a massive challenge. Furthermore, elements such as market competition, incentivizing methods and talent acquisition tend to add more impediments to the challenge.

In this context, our paper attempts to understand the role of Motivation 3.0 on retention of IT employees in India. The paper is organized as follows: the first section is the introduction, followed by section on literature review wherein we reviewed the literature relating to issues and challenges of IT employee engagement and retention. Subsequent section elaborates Job Characteristic Model (JCM) and Motivation 3.0 and critiques the two models in the context of Indian IT workforce. This is followed by objective of the study, the methodology adopted, analysis of data and inferences drawn from the study. The penultimate segment discusses on the plausible rationale

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behind the findings. We conclude by highlighting some of the major findings and areas of future research.

2. Literature Review

In this section, we introduce the fundamentals of employee retention, engagement models, and bring into picture the association between them based on review. This is followed by the significance of Motivation 3.0 to the context of the study.

2.1 Employee retention

Employee retention is a process in which the employees are encouraged to remain with the organization for the maximum period of time. The failure of retention impacts the organizations with manifold costs related to replacement and their training and development (James & Mathew, 2012). A study by Gallup organization (Buckingham & Coffman, 2000) across 2500 business units from 12 distinct industries indicates employee retention as an important business outcome apart from productivity, profitability and customer satisfaction.

Considering the strategic importance of retention (Bode *et al.*, 2014) several Indian IT giants have incorporated novel strategies. A recent research on Employee Retention in developing countries underlines flexible work practices as one of the retention strategies (Idris, 2014). This includes flex time, job sharing, flex leave, flex career and flex place. Wipro Ltd, the IT consulting and outsourcing company has introduced a retention strategy by introducing opportunities for employees to pursue master programs at top engineering and management institutes (Sood, 2014). The number counts to around 50 employees which by three years is expected to touch 5000 (NASSCOM, 2014). Infosys after having witnessed 20.1 percent attrition in the second financial quarter, announced 100 percent variable bonus payout as a strategy to retain its employees (Infosys Ltd., 2014).

2.2 Workforce engagement

To understand retention better, one has to deep dive into the linkages between retention and employee engagement also called workforce engagement (Wiley, 2010). As per Kahn (1990) an engaged employee is one who remains physically, cognitively, and emotionally present at the workplace. Aon Hewitt, the human capital and management consulting services firm, defines engagement as the psychological and behavioral outcomes that lead

to better employee performance and identifies employee engagement as one of the crucial indicators of a company's growth (AON Hewitt, 2013). A simple social interaction tool that boosts engagement can retain talent says Tillott (Tillott, 2013), a lecturer at University of Wollongong, Australia. Jack Welch, former Chief Executive Officer (CEO) and chairman of General Electric said "*Employee engagement first. It goes without saying that no company, small or large, can win over the long run without energized employees who believe in the mission and understand how to achieve it. That's why you need to take the measure of employee engagement at least once a year through anonymous surveys in which people feel completely safe to speak their minds*" (Kotni, 2011).

2.3 Retention and engagement models

During the last few decades, several engagement models have emerged. The human resources and financial services consulting firm Towers Perrin now called Towers Watson composed two models of engagement, where Model 1 claims that employees are engaged with cognitive think, affective feel, and behavioral act; and Model 2 projects that employees are engaged with rational think, emotional feel and motivational act (Kotni, 2011). Aon Hewitt designs engagement model in terms of engagement drivers and engagement outcomes. The drivers comprise quality of work, people, opportunities, rewards, company practices and quality of life as part of the organizational work experience. These eventually result in three engagement outcomes - say, stay and strive; that highlights the extent to which employees say positive about the organization, have a desire to stay with the organization and willingly make an effort towards success at individual and organizational level (AON Hewitt, 2013). Blessing White constructs engagement model based on individual's contribution to company's success and personal satisfaction in the respective role. The model categorizes employees into four groups - '*the engaged*' who are high on contribution and high on satisfaction, '*almost engaged*' who range between medium a high on contribution and satisfaction, '*honeymooners and hamsters*' who stay low on contribution but high on satisfaction, '*crash and burners*' with low satisfaction and high contribution, and '*the disengaged*' who are low on both contribution and satisfaction (Blessing White, 2011). David Zinger's pyramid model of engagement constitutes blocks starting with achieve results, maximize performance, path progress, build relationships, foster recognition, master

moments, leverage strengths, make meaning, enhance wellbeing, and enliven energy (David Zinger Associates, 2012).

Although multiple engagement models exist, less has been done on designing models according to the nature of the task performed by individuals. While monetary rewards are considered to motivate employees performing simple tasks, non-monetary rewards are vital towards engaging and retaining employees performing complex tasks (Pink, 2011).

2.4 Job characteristics model

$$MPS = \left(\frac{\text{Skill variety} + \text{Task identity} + \text{Task significance}}{3} \right) \times \text{Autonomy} \times \text{Feedback}$$

Higher the MPS, higher is the motivation quotient of an employee.

2.5 Motivation 3.0

To identify precisely the drivers of motivation, a study by Pink (2011) was performed to discover whether or not monetary rewards motivate employees. The experiment categorized employees into two sets: One, performing simple jobs that are mundane and the other performing complex jobs that require creative thinking and problem solving abilities. The results surprisingly threw light on intrinsic motivation, which is named Motivation 3.0 and is unlike motivation 1.0 that revolves around the survival instinct and motivation 2.0 that is centered on external rewards and punishments. Motivation 3.0 emphasizes that it requires Autonomy, Mastery and Purpose (AMP) to motivate workforce involved in complex tasks in contrast to motivating on the basis of financial rewards. Autonomy is to have a choice over task, time, team and technique, Mastery is to realize full potential and persistently excel in the field of interest, and Purpose is to savor meaningful experiences and live for a greater cause. The key aspect of Motivation 3.0 is that it is relevant to individuals performing creative tasks. Our study probes Motivation 3.0's applicability upon knowledge workforce in India.

Inspired by Motivation 3.0, Chief Human Resource Officers (CHROs) of some organizations have adapted the version to create better work environments. muSigma (muSigma, n.d.), one of the world's largest decision sciences and analytics firms employs the levers of AMP to instill a happy workplace. Mphasis, one of the leading IT solutions provider has also framed its people strategy

The Job characteristics model (JCM) was introduced more than six decades ago. Unlike the generic job design models, JCM is a framework for understanding person-job fit through the interaction of core job dimensions with critical psychological states within a person (Nelson *et al.*, 2012). The model predominantly comprises of five core job characteristics: skill variety, task variety, task significance, autonomy, and feedback that collectively contribute to the motivating potential score (MPS) that indicates a job's potential for motivating workforce.

on Motivation 3.0 (Mphasis, 2013) and positioned itself as the 10th best IT-BPM employer of India according to NASSCOM (2014). Symphony Services Corporation, a software service provider has also realized the importance of AMP as the three steps to enchant employees towards superior contribution (Mahalingam, 2011).

2.6 A critique and synthesis of JCM and Motivation 3.0

Number of IT organizations in India have adapted Motivation 3.0 model to assess employee engagement. This prompted us to examine the importance of this model in Indian IT industry. However, there are several similarities between Motivation 3.0 and JCM. According to the JCM, skill variety, task variety, and task significance constitute the level of meaningfulness an employee experiences at workplace, which is the '*purpose*' aspect of Motivation 3.0. While '*autonomy*' of Motivation 3.0 highlights employee freedom in the JCM, '*feedback*' of JCM stands in relevance to the '*mastery*' aspect of Motivation 3.0 where continuous improvement acts as a driver for higher performance.

While one side of research claims that extrinsic rewards aren't very significant to leverage motivation, other side of research asserts that monetary rewards are essential (Kuvaas, 2006). A recent study on how rewards affect performance in a developing country indicates a positive association of rewards with performance and job satisfaction (Fareed *et al.*, 2013). So does the hygiene factors of Herzberg's two factor theory that includes compensation as one of the factor that influences an

employee's discontent and willingness to work (Nelson *et al.*, 2012).

3. Research Objective

Since JCM of motivation has been vastly studied over the years (Sharp *et al.*, 2009), our attempt is to evaluate the impact of Motivation 3.0 on employee retention. Apart from the variables existing in motivation 3.0, we also added a few variables relating to incentives and compensation to examine the impact of those variables along with Motivation 3.0 related variables on the career span of employees working with Indian IT firms.

4. Research Methods

The research question of the study examines the dependency of explanatory variables such as task, time, team, technique, accountability, flow, mindset, pain, asymptote, inquiry, goal, policy, and pronoun (Pink, 2011) on the career span of Indian IT work force. The variables task, time, team, technique, and accountability fall under autonomy; flow, mindset, pain, asymptote, and inquiry belong to mastery; and goal, policy, and pronoun correspond to purpose. Table 1 below depicts each variable used in the study with its elucidation.

TABLE 1: List of Explanatory variables

Motivation 3.0	Explanatory Variable	Elucidation
Autonomy	Task	Subject is considered to experience autonomy if he/she has a say on the task to be performed.
	Time	Subject is considered to experience autonomy if he/she decides on the task to be performed.
	Team	Subject is considered to experience at least some amount of autonomy over the team with which he/she works.
	Technique	Subject is considered to experience autonomy if allowed to accomplish a task in his/her own way.
	Accountability	Subject is expected to discern that by experiencing autonomy, accountability is not discounted.
Mastery	Flow	Subject is considered to experience mastery if he/she is engrossed in the task allotted.
	Mindset	Subject is considered to experience mastery if he/she believes that excellence is possible.
	Pain	Subject is considered to experience mastery if he/she willingly puts effort on even mundane and tedious tasks.
	Asymptote	Subject is considered to experience mastery if he/she believes that the current best is always better than the previous best.
Purpose	Inquiry	Subject is considered to experience mastery if he/she has an inquiring mind to seek challenges and formulate new solutions.
	Goal	Subject is considered to experience purpose if he/she claims to be socially responsible by working in the organization.
	Policy	Subject is considered to experience purpose if the policies of the company stay in congruence with his/her values.
	Pronoun	Subject is considered to experience purpose if he/she uses the word "We" (Team Player) rather than "I" (Individual Player).

The cut-off for career span is set to five years on the basis of The Payment of Gratuity Act, 1972 and the average deal tenure per contract in the IT - Business Process Management (BPM) sector. According to The Payment of Gratuity Act, employees are offered gratuity upon completion of five years of full time service with an employer(Government of India, n.d.). Close to this time line is the average deal tenure of contracts, which is four years seven months (NASSCOM, 2014). Therefore, an employee with five or more years with current organization is classified as a long timer.

The whole of this study took place from October 2014 to February 2015 and the software package IBM SPSS Statistics 21 has been used to derive statistical results.

4.1 Model description

As career span is categorical; logistic regression model has been identified after evaluating other statistical models.

$$E\left(\frac{Y}{X}\right) = \frac{e^{\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_{13} x_{13}}}{1 + e^{\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_{13} x_{13}}}$$

$E\left(\frac{Y}{X}\right)$ is the probability that career span of an employee is greater than five years given the values of X (x_1, x_2, \dots, x_{13}), that are the explanatory variables as given in Table 1. In the equation above, β is the regression coefficient and X forms the set of predictor variables x_1, x_2, \dots, x_{13} . The logit model of regression is incorporated to fit data into the logistic function (Aczel *et al.*, 2012).

TABLE 2: Characteristics of Respondents

Characteristic		Percentage of Sample
Gender	Male	81 %
	Female	19 %
Organization	TCS	20 %
	HP	15 %
	Tata Elxsi	11 %
	SLK	4 %
	Infosys	2 %
	Oracle	2 %
	Sasken	2 %
	Tech Mahindra	2 %
	Accenture	1 %
	CTS	1 %
	iGate	1 %
	Mindtree	1 %
	Mphasis	1 %
	SAP Labs	1 %
	VMware	1 %
	Others	33 %
Educational Background	Engineering	65 %
	Business management	21 %
	Science	7 %
	Arts & Commerce	7 %

4.2 Data collection

The paper used primary data where inputs were obtained from respondents with relatively higher industry experience. Since the approach towards data collection is based on random and snowball sampling, a survey to capture respondent's viewpoints on AMP was administered. Viewpoints of 89 respondents holding positions under IT divisions of organizations such as Accenture, Cognizant Technology Solutions, Ericsson, Hewlett Packard, Honeywell, IGATE, Infosys, Intuit, KLA Tencor, Mindtree, Novel, Oracle, Samsung, Sasken Communication Technologies, SLK Software Services, Tata Consultancy Services, Tata Elxsi, Tech Mahindra, Texas Instruments, and UST Global were acquired.

Apart from the variables of AMP, profile based information such as educational qualification, gender, marital status, pay scale, role and location are also recorded to draw insights from the respondents. Although

the study takes into account Indian IT employees working on onsite assignments, it does not consider the viewpoints of non-resident Indians working in IT organizations abroad. Employees currently working in non-IT organizations holding prior experience in IT are not considered as well.

4.3 Descriptive statistics

Only 19 percent of the total respondents are females whereas more than 80 percent of the respondents are males. The survey comprises of employees holding titles from junior executives to directors with a span of control ranging from zero to 400, and with total work experience extending from 1.5 years to 28 years. Respondents working with the same organization for more than five years count to 55, constituting nearly 62 percent of the total sample. The characteristics of respondents are depicted in Table 2.

TABLE 3: Logistic Regression Results

	Variables	Sig.	Exp(B)
	Gender	.577	1.486
	Marital_Status	.257	3.248
	Educational_Qualification	.801	.970
	Compensation	.021	1.824
Autonomy	Task	.666	1.118
	Team	.610	.877
	Time	.889	.973
	Accountability	.620	.852
	Mindset	.676	.913
Mastery	Flow	.900	1.053
	Pain	.574	1.163
	Asymptote	.449	.839
	Inquiry	.028	.389
	Policy	.493	1.275
Purpose	Technique	.867	.969
	Pronoun	.053	3.377
	Goal	.632	1.097
	Constant	.577	.073

5. Results

The regression results depict that the two variables inquiry and pronoun, which represent mastery and purpose respectively, have an impact on the career span of workforce (refer to Table 1). While the variable pronoun implies that team players experience more purpose than individual players; inquiry states that higher the inquiring nature of a person, higher is the level of mastery

experienced. Hence, mastery is more from inside than from the organization outside that offers learning opportunities to the individual. None of the variables corresponding to autonomy are significant.

Surprisingly, the regression result contradicts Motivation 3.0 by depicting the influence of compensation upon career span. The regression results are described in the Table 3.

TABLE 4 : Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	88.921*	.288	.384

On considering the critical value as 0.01 and the variables with (listed in the column as Sig.) values less than 0.01 as significant, it is observed that only the variable inquiry from mastery and the variable pronoun from purpose are significant leaving no variables from autonomy. Contradicting the paradigm of Motivation 3.0, compensation on the other hand seems to be significant holding a value of 0.021 which is less than the critical value. Taking into account the odds (listed in the column Exp (B)), Motivation 3.0 is 3.377 times more likely to be explained by the variable pronoun than any other variable. In other words, purpose explains Motivation 3.0 more than autonomy and mastery.

We also know of organizations applying the broadbanding systems to compensation and salaries, wherein organizations structure pay scales based on experience rather than position profile (Buckingham & Coffman, 2000) and this may have disadvantage of paying the high performers less and a relatively modest pay out to the poor/ average performers thereby raising issues of fairness among the employees. The likeliness of implementing broad banding in an organization depends upon the performance management structure, managerial empowerment, top management commitment and organizational readiness says HR focus (HR focus, 1994). Also, if these broad banding salary structures are out of sync with the market structures or if these salary structures are too wide, issues of fairness tend to affect the employees.

The influence of AMP on career span is explained by 28.8 percent and 38.4 percent by the R Square values of Cox & Snell and Nagelkerke respectively. The Model Summary is represented in Table 4.

The second premise is about India as an emerging economy with almost no social security in place to take care of her citizens during their post-retirement age. Since the Indian IT industry predominantly falls under the private sector that pays no pension to its employees post retirement, financial security is still a long standing concern (Bali, 2014). This is perhaps the reason as to why employees consider compensation as the key motivator in order to take care of the inflationary tendencies of the economy and protection during the later period of their lives. This is essentially based on the social exchange and equity theory (Nelson *et al.*, 2012), which states that employees contribute to organization's demands only when they experience a sense of belonging and fulfillment. Similar viewpoint has been derived from a research work performed at Zambia (Machungwa & Schmitt, 1983). It has also been proven that pension schemes have been successful in retaining and motivating workforce (Terry & White, 1997).

6. Discussion

6.1 Monetary rewards

One of the fundamental premises in Motivation 3.0 is the fact that money (compensation) plays the role of meeting the basic needs of people. Employees look for internal and external fairness when it comes to compensation and if not paid enough, organizations may lose people. This applies to knowledge workers also who look for AMP once their basic needs are met (Pink, 2011). Our survey results may be suggesting that employees seem to feel that they are not paid fairly particularly at the entry levels (Srikanth, 2013). A study by global recruitment service provider MyHiringClub.com reveals that Indian IT companies are among the 10 worst paymasters in the world (PTI, 2012).

6.2 Autonomy

As per Hofstede's model, India is high on Power distance (Nelson *et al.*, 2012) followed by Venezuela and Mexico where supervisors hold more power and authority. This may possibly be a reason why our respondents considered autonomy to be less important. The Indian IT industry is only about 20 years old and hence the processes and management practices have not transcended from the industrial economy to the rigors of the relatively new knowledge economy that comprises of multigenerational workforce with baby boomers, Gen X and Gen Y (Srinivasan, 2012) holding different perspectives at work. It might still have the hangover of the old style of management by personnel who started their careers managing industrial labor. For tech savvy Gen Y to coexist with Gen X, Gen X has to cast away the traditional role of a manager and play the role of a coach, mentor and team player says the CEO of global Talent Track (Ganesh, 2014). Since workplaces currently witness a sort of open culture with new belief systems, it is vital for organizations to set new work values say management professionals from the Mahindra group (Augustin *et al.*, 2014). Therefore it is important to encourage Gen Y leadership as organizations have begun to understand that those who challenge the status quo are creating the greatest value (Kanoria & Seth, 2014).

6.3 Mastery

Regression results depict that inquiry nature of an individual is a significant variable to explain longevity with an organization. While inquisitiveness fosters craving for knowledge, there also lies a challenge for organizations to provide more opportunities and open venues since employees tend to quit otherwise. However, the relationship between mastery and the tendency to stay with an organization also varies with intrinsic motivation of the individual (Dysvik & Kuvaas, 2010). Also, it is not merely the personal initiative of an individual that makes his or her supervisor delegate challenging tasks, but also the control orientation of the individual which is a combination of three self-regulation concepts – desire to control, expectation to have control and confidence in one's ability (Frese *et al.*, 2007). Studies in the area of team learning suggest that one's learning at workplace depends upon the stability of the team where the individual belongs to, since the camaraderie promotes knowledge sharing and eventually leads in honing skills (Edmondson *et al.*, 2007). In other words, the perspective of

occupational socialization that brings in a change within an individual due to work situation (Frese, 1982) has to be considered.

6.4 Purpose

It is identified that respondents of this study have a sense of belonging with their respective teams. However, there exists a gap in aligning personal and professional goals and looking from the standpoint of social contribution at large. The possible reason behind this is failing to understand the difference between job satisfaction and workplace meaning. While satisfaction involves conformance to standards, needs and expectations; meaningful workplace embraces mission, possibility and fulfillment. Holding a purpose is not only reliant on an individual but also on the organization, which needs to frame a compelling vision that brings people towards a common goal (Terez, 1999). Organizations need to combine their purpose with profits by working upon basic organizing principles since it provides employees with pro-social goals where goals are defined for a common cause there by motivating employees to work for accomplishing beyond self-interest and monetary rewards (Birkinshaw *et al.*, 2014). More to this, work is considered a necessity by many. Therefore, people opt for jobs that are instrumentally valuable rather than those which are personally fulfilling (Michaelson, 2008).

7. Conclusion

Despite the fact that AMP plays a significant role in motivating knowledge workforce, much of their willingness to work still comes from external rewards for the Indian IT employees. This is reliant primarily on the socio-economic conditions of India and upon the management processes of organizations in creating a suitable environment for the creative workforce. While human resource professionals in the IT industry are making best of their efforts, the industry is still witnessing the early days of Motivation 3.0.

Another approach towards understanding the impact of Motivation 3.0 could be by analyzing the workforce above 35 years of age, by holding an assumption that this set of employees are likely to feel financially secure relative to rest of the workforce.

Furthermore, one can probe Motivation 3.0 by eliminating the compensation variable and observing the

most significant of the three factors – AMP and focusing upon the variances and co-variances. This will be a source of insight for Indian IT service providers as they hold limitations in terms of structuring compensation unlike a few of their peer multinational IT firms.

Also, a comprehensive study on start-ups may be useful to better understand the factors of Motivation 3.0 which make employees quit their current jobs and turn into entrepreneurs.

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*If you want a more productive economy, you need to
invest in the skills of our workforce.*

– Jeremy Corbyn

Motivation-to-lead among Police Personnel in India: Does Rank Matter?

MAHESH KUMAR MAURYA

The present study was conducted with the objective of investigating the level of motivation-to-lead among police personnel across different ranks. The study was conducted on a sample of 350 (205 constables, 30 head constables, 85 sub inspectors and 30 inspectors) non-gazetted police personnel. The data have been collected on the police organization at the state of Uttar Pradesh in Republic of India. Participants' responses were obtained on questionnaires which measured motivation-to-lead (Dubrin, 1998) on five point scale. Statistical analysis of the data through F test showed among the motivation-to-lead dimensions, while there was no significant difference between the constables, head constables, sub inspectors and inspectors participants with regard to providing solutions, there were significant differences in managing group activity and providing encouragement reported by constables, head constables, sub inspectors and inspectors. Results of the mean reveals that constables, head constables, sub inspectors and inspectors have strong managing group activity, providing encouragement, providing solutions and total motivation-to-lead. Findings have important implications for award of promotions and giving responsibility to police personnel in duties which needs motivation-to-lead.

1. Introduction

1.1 Motivation-to-lead

The present study has examined motivation-to-lead of police personnel across different ranks. Leadership is an important factor which influences the work environment of police organizations. Police departments have adopted the quasi-military organization model characterized by a rigid rank hierarchy of authority, impersonality, and an authoritarian command system in India. This model is intended to foster strict and unquestioned discipline for rapid mobilization in emergency and crisis situations (Sandier, Bennett & Mintz, 1974). This encourages “*keep your mouth shut and listen*” and “*conformance to authority*”. It involved taking a closer look at the military ideology which has shaped police organizations and guided administrative behaviors by assessing the validity of the “leader as commander” image. This image implies that police prefer an impersonal, highly directive, authoritative leader and routine tasks. The duty of police leaders has often been described as a duty to evoke “*a spirit of performance*” (Whisenand & Rush, 1998). Building such a performance culture rests on an understanding of the motivational factors. Police leaders must know their subordinates in order to motivate them. Police leaders with an awareness of the give-and-take involved in any leader-follower relationship take cues from their employees as to the best way to motivate them in both individual and team situations. Effective leadership requires congruence between ideals and actions. Pearson-Goff and Herrington (2014) asserted that there is some consensus as to what characterizes effective police leaders: ethical behavior, trustworthiness, legitimacy, being a role model, communication, decision-making and the ability to think critically, creatively and strategically. Five key activities

emerged as important for leaders to engage in: creating a shared vision, fostering organizational commitment, looking out for subordinates, driving and managing change and problem-solving. Motivation-to-lead is leadership responsibilities related to managing group activity, providing encouragement, providing solutions. Motivation-to-lead is predicted by personality, sociocultural values, leadership experience, competency and self-efficacy.

Among the motivational theoretical perspectives, fear and punishment theory proposes that employees can be motivated with punishment. Reward theory posits that employees can be motivated with reward like money, good work conditions, giving him prestige. Carrot and stick theory posits that employees should be rewarded (carrot) after doing good work and must be punished (stick) after doing bad work. Maslow (1970), a psychologist and the first theorist to develop a theory of motivation based upon human needs, these needs can be classified according to a hierarchical structure of importance from the lowest to highest as physiological needs, safety needs, belongingness and love needs, esteem needs and the need for self-actualization.

Theory X, Y and Z all play a role in how an organization should be managed effectively. Theory X and theory Y proposed by McGregor (1960), are based on contradictory assumptions of human nature. The assumptions of theory X is that employees dislike work, are lazy, dislike responsibility and must be coerced to perform while the assumptions of theory Y is that employees like work, are creative, seek responsibility and can exercise self-direction. In the context of this study, theory Y is more related with motivation-to-lead because it depends upon fulfillment of higher order needs. Theory Z is a name applied to three distinctly different psychological theories (Maslow, 1970; Ouchi's, 1981; Reddin, 1970). Theory Z is based upon team spirit. Its components are trust, subtlety, intimacy, group responsibility and group decision making. Herzberg (1959) proposed the two-factor theory known as motivation-hygiene theory. When people have no satisfaction with their job they always think of the surrounding psycho-social and physical environment like mode of supervision, policies and administration, working conditions, interpersonal relations status, wages, security as hygiene factors. In contrast when people feel good, they think about achievement, recognition, advancement, responsibility, growth and development, work itself and challenging work as motivational factors which are intrinsically rewarding. The theory of needs was developed

by McClelland and his associates (1961). The theory focuses on three needs defined as follows: need for achievement (nAch): is the drive to excel, to achieve in relation to a set of standards, to strive to succeed, need for power (nPow): is the need to make others behave in a way in which they would not have behaved otherwise, need for affiliation: (nAff) is the desire for friendly and close interpersonal relationships.

It is universally accepted that duty of managers is to create an organizational atmosphere where employees become self-motivated. To do this the leaders must understand the specific drives and sources of motivation for each of their employees. The nature of police work includes sharing of duties and supportive leadership which is part of the satisfaction that officers derive from their work (Maurya & Agarwal, 2015). Aragon (1993) asserted that when the major motivating influence is an intrinsic drive to achieve, supported by the right organizational environment, morale will be high and this in turn will enhance performance. In this context, Densten (2003) found in his that each rank of senior officers had unique set of leadership behaviors that influence the perception of leader effectiveness and motivation to exert extra effort. Maurya and Agarwal (2012) find in his study that PAC and civil police reported strong motivation-to-lead while traffic police showed some uncertainty about their motivation-to-lead. Findings from an associated study by Maurya and Agarwal (2013) showed that male police reported stronger motivation-to-lead and female police have some uncertainty about their motivation-to-lead. Maurya and Agarwal (2017) find in his study that motivation-to-lead was significantly positively correlated with job satisfaction of male police constables only. Psychological wellbeing exercised partial mediator effects on the positive relationship between '*motivation-to-lead*' and job satisfaction in male police constables only. Johnsen et al. (2017) found that motivation mediated for operational duties on performance satisfaction and perceived strain. Rowe (2006) conducted an ethnographic study in Britain on police officers. He reported that frontline officer's place great value on being led by senior officers who have considerable direct experience of street level police work. Those officers who have rapidly climbed the promotion ladder, without "*servicing their time*" on the streets, are regarded with some suspicion. In 2007 the New Zealand Police conducted a survey of a total sample of 4880 police officers. The results showed that New Zealand police were strongly motivated by a sense of camaraderie and a sense

of commitment to victims of crime but were largely disengaged and held little trust in the organization. The survey showed that police were largely de-motivated by a lack of recognition and praise from their superiors for work done well and that this general low level of motivation continued to decrease with advancing tenure (Featherstone, 2008).

1.2 Police services in India

India, with an area of 3.287 million km² and population of around 1.33 billion, is a union of 29 states and 7 union territories (As of 1 January, 2017). A state police force has three components- civil police, provincial armed constabulary (PAC) and traffic police. The primary function of the civil police is to control crime, while the armed police mainly deal with law and order situations. The function of traffic police is traffic management including traffic engineering, understanding violations, enforcement, accident investigation, driver training and post-accident management. The powers and responsibilities of the union and states are demarcated in the Constitution of India. Article 246 of the Constitution distributes the legislative powers between the Parliament and the State Legislative Assemblies. It refers to three lists of subjects given in the Seventh Schedule of the Constitution: List 1: Union List - includes subjects in respect of which the Parliament has the sole power to make laws; List 2: State List - includes subjects in respect of which the State legislature has exclusive powers to make laws; List 3: Concurrent List - consisting of subjects on which both the Parliament and the State Legislatures have concurrent powers to make laws.

Article 246 of the Constitution of India places the police, public order, courts, prisons, reformatories, borstal and other allied institutions in the State List. It is important to discuss a few important *characteristics of the system* before explaining the organization and working of the police in India.

As most police organizations, the Uttar Pradesh police is a hierarchical organization. The department consists of highly structured rank hierarchy starting from the lower most rank of constable, head Constable, head constable promoted (equivalent to assistant sub inspector), sub-inspector (in-charge of a smaller police station or Chouki), inspector (in-charge of a police station), deputy superintendent of police (in-charge of a sub-division in the district), additional superintendent of police (Addl. SP), superintendent of police (in-charge

of the district), senior superintendent of police (in-charge of the bigger district), deputy inspector general of police (in-charge of a range, which comprises a group of districts), inspector general of police (in-charge of a zone, which comprises few ranges), additional director general of police (Addl. DGP) and the highest rank of the director general of police (in-charge of the state police force). It is also important to note that not all officers start their careers at the rank of constable, the lowest rank, but most do. Most police organizations in India, including the Uttar Pradesh Police, have four hiring ranks—constable, sub-inspector, deputy superintendent of police, and assistant superintendent of police. Different qualifications are prescribed for entry at these four ranks. For instance, at this time, a person would need to have passed intermediate (10+2) or an equivalent examination for selection as a constable (high school before some time), while an undergraduate degree is required to apply for a sub-inspector rank or higher. Promotions are made according to merit and seniority; however, most officers hired at the rank of constable rarely rise above the rank of sub-inspector or inspector. The leadership of the Indian police is provided by Indian Police Service (IPS) officers. IPS officers are selected by holding annual competitive examination conducted by the federal government. Most ranks from superintendent of police to director general of police are occupied IPS officer. The largest numbers of officers are at the rank of Constable, and there are fewer officers at each rank going up the Indian police hierarchy chart. The basic administrative unit of policing in India, including the Uttar Pradesh Police, is the district which is headed by an IPS officer with the rank of superintendent of police. The superintendent of police functions basically as the police chief for the district. The district unit is responsible for all policing activities including investigations, patrol, traffic, security of important government officials, and intelligence gathering.

2. Objectives of the Study

The present study was conducted with the objectives of investigating the levels of motivation-to-lead among police personnel across different ranks. The research question explores the following: Do different rank have unique set of motivation-to-lead; what changes observed their abilities related to motivation-to-lead after promotions? In India, superintendence over the civil police force in the state is exercised by the State Government. The primary function

of the civil police is to control crime, while the armed police mainly deal with law and order situations.

3. Research Method

3.1 Sample of the study

The study was conducted on a sample of 350 (205 constables, 30 head constables, 85 sub inspectors and 30 inspectors) non gazetted police personnel (refer table-1 for demographic profile). The data have been collected on the police organization in the state of Uttar Pradesh in India at seven districts namely Varanasi, Mirzapur, Allahabad, Lucknow, Sitapur, Barabanki and Bhadohi. Mean age of the sample in the civil police organization was 40.67 years, mean experience of the participants is 18.41 years and mean salary of the participants is 36588.08 Rupees. The minimum age of participants in the sample in the civil police organization was 21 years and maximum age was 60 years. The minimum experience of the participants is 1 years and maximum experience of the participants was 40 years. The salary drawn by the civil police ranged from Rs. 21,000 per month to Rs.80000 per month.

3.2 Measures

The following instruments were utilized to measure the variables under study:

Demographic variables: Six items were used for getting information about the participants' age, experience, salary, gender, education and rank.

Motivation-to-lead: Original scale consists of 14 items which was developed by Dubrin (1998). The items are written in Likert-style format using a scale of one (1) to five (5) (1=strongly disagree and 5=strongly agree). On the basis of item total correlation analysis 12 items were selected. The selected items were those which had positive correlation with the total. Following the pilot study, the original scale which was in English was modified to suit the motivation-to-lead in the police organizations in India and then it was translated in Hindi, the national language of India. The response score range is 12-60. Cronbach's Alpha reliability co-efficient for the factor 'managing group activity' was .84, for the factor 'providing encouragement'.69, for the factor 'providing solutions'.43. The reliability coefficient of the total scale was .86. The Table 1 below presents the range and interpretation of scores obtained for motivation-to-lead.

Table 1: Demographic Profile of Police Personnel

	Total (N=350)	
	(n)	(%)
Sex		
Male	248	70.90
Female	102	29.10
Age Groups (In Years)		
20-30	83	23.70
30-40	102	29.10
40-50	93	26.60
50-60	72	20.60
Experience Groups (In Years)		
1-10	107	30.60
10-20	99	28.30
20-30	79	22.60
30-40	65	18.60
Salary		
20001-35000	213	60.90
35001-50000	100	28.60
50001-65000	20	5.70
65001-80000	17	4.90
Rank		
Constable	205	58.60
HC	30	8.60
S.I.	85	24.30
Inspector	30	8.60
Education		
H.S.	18	5.10
Intermediate	79	22.60
Graduation	166	47.40
P.G.	87	24.90

3.3 Procedure

Police personnel participants were approached by the researcher after obtaining permission from the authorities. Participants were allowed to complete the survey privately and were instructed to return their results to the researcher. All 350 subjects voluntarily completed and returned the survey while the researcher maintained confidentiality. A disproportionate stratified random sampling method was used.

4. Results and Discussion

The data obtained was analyzed through computation of the one-way ANOVA for examining the significance of the differences on the mean scores of the variable by four ranks, which are constables, head constables, sub inspector and inspectors.

Demographic Variables: Table 3 shows that difference between the mean scores on age, gender, experiences, salary and education were significantly different among

Table 2: Interpretation of scores on measure of motivation-to-lead

Dimensions	Score	Interpretation
Managing Group Activity	6-11	Low managing group activity.
	12-23	Some uncertainty over their managing group activity.
	24-30	A strong managing group activity.
Providing Encouragement	4-7	Low providing encouragement.
	8-15	Some uncertainty over their providing encouragement.
	16-20	A strong providing encouragement.
Providing Solutions	2-3	Low providing solutions.
	4-7	Some uncertainty over their providing solutions.
	8-10	A strong providing solution.
Total Motivation-to-lead	12-23	Low motivation-to-lead.
	24-47	Some uncertainty over your motivation-to-lead.
	48-60	A strong motivation-to-lead.

the four groups of police personnel. While the participants from the inspectors were highest on age, experience, salary and education on the other hand constables were highest on gender. It's show that inspectors are well educated, well equipped and experienced person. It's also show that at the middle of their carrier constables were promoted on head constables and at the end of their carrier sub inspectors were promoted on the rank inspectors.

Motivation-to-lead: Table 3 indicates that among the motivation-to-lead dimensions, while there was no significant difference between the constables, head constables, sub inspectors and inspectors participants with regard to providing solutions, there were significant differences in managing group activity ($t=8.25$; $p<.001$) and providing encouragement ($t=8.72$; $p<.001$) reported

by constables, head constables, sub inspectors and inspectors.

Table 3 also reveals that constables, head constables, sub inspectors and inspectors have strong motivation-to-lead on three dimensions managing group activity, providing encouragement and providing solutions (score represented in table 3). Overall constables, head constables, sub inspectors and inspectors these four groups have strong motivation-to-lead. Results also show that participants from the head constables were highest on managing group activity and providing solutions and constables were lowest. However, participants from the inspectors were highest on providing encouragement and constables were lowest. Mean score also shows that head constables

Table 3: One-way ANOVA for significance of the difference between means of Demographic variables and dimensions of motivation-to-lead by the rank of police personnel (N=350)

Demographic	Constables (N=205)		Head Constables (N=30)		Sub-Inspectors (N=85)		Inspectors (N=30)		F
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	
DEMOGRAPHIC VARIABLES									
Age	38.76	9.46	48.43	9.39	38.20	11.27	53.00	9.57	25.75***
Gender	1.35	.47	1.10	.30	1.25	.44	1.16	.37	3.94***
Experience	17.01	9.69	27.83	10.15	14.15	12.45	30.66	9.38	27.84***
Salary	30806	6486	39383	7932	38971	8202	66557	11957	197***
Education	2.64	.76	2.56	.89	3.43	.56	3.66	.47	37.73***
MOTIVATION-TO-LEAD									
Managing Group Activity	25.98	5.28	29.06	1.43	27.61	3.12	28.90	1.84	8.25***
Providing Solutions	7.70	2.16	8.46	1.69	7.85	2.04	8.43	2.01	1.95
Total Motivation-to-lead	49.09	9.63	55.43	3.43	51.50	6.48	55.36	5.04	9.34***

and inspectors have higher on motivation-to-lead dimensions, managing group activity, providing encouragement and providing solutions than constables and sub inspectors. It's show the role of experience, public dealing and promotion in achieving motivation-to-lead abilities. It's also show entry level post have less motivation-to-lead, after experience and promotion, their leadership abilities have enriched.

5. Conclusion and Future Implications

Findings indicate that constables, head constables, sub inspectors and inspectors have strong motivation-to-lead on three dimensions that is managing group activity, providing encouragement and providing solutions. Results also show that participants from the head constables were highest on managing group activity and providing solutions and inspectors were highest on providing encouragement. Personnel having the desired levels of motivation-to-lead can then be promoted or given responsible ranks. The measures of motivation-to-lead provided in this study could be utilized by police agencies for selecting the right personnel before assigning responsibility among police personnel.

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The whole secret of existence is to have no fear. Never fear what will become of you, depend on no one. Only the moment you reject all help are you freed.

– Swami Vivekananda

Work Related Variables and its Relationship to Work Life Balance - A Study of Police Personnel of Himachal Pradesh

POONAM KAUSHAL AND JAI SINGH PARMAR

Individuals encounter more conflict between work life and personal life as they continue to engage in the quality life that they need. Thus, successfully balancing work and family life is one of the major issues being faced by the employees in this global epoch. The present study was designed to assess the relationship between work related variables and work life balance, and sought to determine the most significant predictors of work life balance among police personnel in Himachal Pradesh (HP). The study was conducted through the sample of 166 Non-gazetted Police Officers (NGOs) of Grade-I employed in HP (India). Data collected was analyzed with the help of SPSS 21 and statistical tools viz. Pearson correlation coefficient and Independent sample t-test were used. The findings of the study showed that there is significant correlation between various work-related variables and work life balance of police personnel. Work support and work role overload were the most influential factors in explaining the work life balance of police personnel followed by work ambiguity, task variety, work autonomy and work schedule flexibility.

1. Introduction

The work for a traditional employee begins and ends within the work timing but in the current 24*7 economy, the work extends beyond the normal working hours. Employees are complaining that the line between work and non-work time has become blurred which is creating personal conflict, stress and causing health issues (Robbins *et al.*, 2009). Organisations also have observed that their employees find work demands get in the way of their non-work commitments thereby resulting in negative fall outs in the work environment (Fischlmayr and Kollinger, 2010). They also recognize the need to address work-life balance issues proactively. In an effort to resolve these issues, it is increasingly vital for organizations to recognize and devise effective policies for its employees. The employers need to understand that the work-life balance practices can influence organizational performance, improved productivity, cost savings and reduced the turnover of the employees (Tanushree, 2013). Thus, the organizations need to be proficient enough to create a high potential talent management programmes to retain its employees.

Work life balance is a term that refers to an individual's perception of the degree to which he/she is experiencing positive relationships between the work and family roles, where the relationships are viewed as compatible and at equilibrium with each other (Kossek & Lambert, 2005). David *et al.*, (2012) define work life balance as "a self-defined, self-determined state of well-being that a person can reach or can set as a goal that allows them to manage effectively the multiple responsibilities at work, at home and community". Greenhaus and Beutell (1985) defined "work-family conflict" as "a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect". There are two directions of work-family interference,

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namely, work-to-family conflict (WFC) and family-to-work conflict (FWC). Work family conflict occurs when work role expectations interfere with family role expectations and family work conflict occurs when family role expectations interfere with work role expectations.

Although pollsters have predominantly focused on the conflict perspective of the work-family interface, yet many pollsters have also examined the positive aspects of work-family interface. "Positive work-family interface have been explained by concepts" such as positive spill over, work-family facilitation, work-family enhancement and work-family enrichment". Work family enhancement is a term that refers to "the extents to which work resources meet family demands and family resources meet work demands such that participation is effective in both domains" (Voydanoff, 2002). Therefore, like work-family conflict, work-family enhancement has two directions, viz., work-to-family enhancement and family-to-work enhancement.

2. Literature Review

During the past decades a large number of studies have been carried out to examine the work life balance of employees of various organizations. These studies have explored the relationship between various work related variables and work life balance. Walia, P. (2014) in his study found that employees with high task variety showed lesser interference of work with personal life, lesser personal life interference with work and higher overall work-life balance than the employees with low or average task variety. The employees with high task autonomy also showed higher work-life balance.

Suresh et al. (2013) in their study "Sources of Job Stress in Police Work in a Developing Country", considered that the organizational and Social aspects of their job were more stressful especially round the clock duty, irregular working hours, insufficient time for family, political pressures from outside and inadequate facilities and less salaries, negative interaction with friends and colleagues, outdated equipment, no recognition and appreciation after achievement, less work force and lot of harassment. The researchers indicated that while doing their job, police personnel felt more stress due to organizational factors than physical hazards.

Achour, Nor and Yusoff (2013) in their study examined the relationship between work-family demands and role of supervisory support in moderating work-family demands. The study found that there was a positive and significant

correlation between work-family conflict and work-family demands and a negative and significant relationship of supervisory support with work-family conflict and work-family demands.

Bhargava and Baral (2009) examined the antecedents and outcomes of work family enrichment among Indian managers. It was found that core self-evaluations, family support and supervisor support were positively related to family-to-work enrichment where job characteristics (autonomy, skill variety, task identity, task significance) and supervisor support were positively related to work-to-family enrichment.

Ryan, Emily and Cathy (2009) assessed the effect of role ambiguity, role conflict and work schedule on university foodservice managers' perception of work-family conflict. The study found that about 26% variability in work-family conflict was determined by role conflict, role ambiguity and work schedule. In addition, the study reported role ambiguity as the most crucial determinant for work-family conflict.

Schieman and Glavin (2008) in their study found that schedule control is associated positively with the frequency of receiving contact and bringing work home, although those effects are stronger among men. Job autonomy is associated positively with contact among men only, but it is associated positively with bringing work home among both women and men. Schedule control and job autonomy also modify the association between these forms of role blurring and work-to-home conflict: (i) contact is associated positively with work-to-home conflict among individuals with low job autonomy; and (ii) bringing work home is associated positively with work-to home conflict among individuals with greater schedule control.

Breaugh and Frye (2008) examined the use of four family-friendly employment practices (i.e., telecommuting, ability to take work home, flexible work hours and family leave) and its correlation with work-family conflict. The study found that flexible hours and work-family conflict were negatively correlated with each other.

Voydanoff (2004) studied the effects of work demands and resources on work-to-family conflict and facilitation. The study revealed that the work-family organizational support (supportive organizational culture and supervisor work-family support) was negatively associated with work-to-family conflict and positively associated with work-to-family facilitation.

Greenhaus *et al.*, (1989) explored different types of work domain pressures as sources of work-family conflict amongst two career couples. The study reported that work role stressors (role conflict and role ambiguity) accounted for significant portion of the variance in time-based and strain-based work-family conflict for both men and women. Role overload was the most consistent predictor of both forms of work family conflict. Work ambiguity was found as a stronger source of work family conflict for men than for women. In addition, task characteristics (autonomy and complexity) were found to be associated with work family conflict and were more strongly related for women than for men.

From the studies reported above, it can be concluded that a significant relationship exists between work related variables viz., role overload, work ambiguity, work autonomy, work support, work schedule flexibility, task variety and work life balance (and its dimensions).

3. Scope of the Study

Policing is considered as one of the most stressful occupations, exposing staff to occupational, organizational and personal stressors (Alexander, 1999; Paton and Violanti, 1999; Anshel, 2000). Police in India are the first organization of the Government to respond to any need of the people. Police is always at the forefront; be it a terrorist or insurgent attacks, normal crimes law and order situations, natural and man-made disasters or provision of emergency humanitarian assistance. Police forces around the country thus provide the most fundamental duty of a government towards its citizens, that of providing a peaceful environment to enable all members of society to live meaningful lives. Policing in India cannot go on as it is. A major cause of poor policing lies in the blurring of lines between the political executive and the police establishment. The intrusion by elected politicians and bureaucrats into the everyday management and functioning of the police weakens its leadership, creates uncertainty of direction, breaks chains of command, obscures accountability, destroys discipline and divides loyalties all down the line (CHRI, 2014).

Though the nature of police work is very demanding, police organizations and family members cannot lessen most demands inherent with the job; they can offer support to lessen the potentially negative effects that go with the job. Abbott, De Cieri and Iverson (1998) found that the organizational costs of ignoring the personal commitments and responsibilities of employees included high

absenteeism and turnover. It follows that policies designed to enhance employees' autonomy and integration of their work and non-work lives will be beneficial to organizations (De Cieri *et al.*, 2005). Carless and Wintle (2007) proposed that the provision of flexible solutions such as flexible hours, career paths and telecommuting can make organizations more attractive to prospective employees. Thus it is in the best interests of organizations to provide the ways by which employees can manage incongruent responsibilities, in order to attract and retain skilled personnel. However, for the general usage of such benefits, policies and programs, organizations need to create a more family-friendly workplace culture (Baral & Bhargava, 2009). Allen (as cited in Lu, 2007) pointed out that the implementation of family friendly policies may not have the effect intended if employees do not perceive the organization environment as generous to their efforts to seek a balance between their work and family lives. Thus, it is important that the employees should feel positive and be encouraged to use the facilities.

In Himachal Pradesh (H.P.), the civil policemen strength per lakh of population was 146.8 as on 1/1/2010 which was decreased to 131.66 as on 1/1/2015 (BPR&D, Data on Police Organizations in India, 2010, 2015). There is a 5% rise of estimated population of Himachal Pradesh from 2010 to 2015 (CHRI, 2016). Antisocial activities are also increasing. The pressure of work has been intensifying and it has effects on the work as well as life beyond work of the police personnel and there are times when work begins to dominate life and a sense of work-life imbalance seeps in.

From the above, it is evident that work and life balance is a significant concern for individuals and organizations and society. In the context of existing studies conducted on work life balance with reference to police force, it can be stated that this issue has been explored in various countries but there seems to be very limited research studies in this field in India and specifically in Himachal Pradesh. This study aims to contribute to the research of work-life balance by examining the relationship between various work related variables and work life balance (and its dimensions) of police personnel. Through this study an effort has been made to understand whether these work related variables viz. work autonomy, work ambiguity, task variety, work schedule flexibility, work support and work role overload have any relationship with work life balance and its dimensions.

4. Objectives of the study

The study would be undertaken keeping in view the following research objectives:

Research Objective 1: To study the relationship between work-related variables and work life balance of police personnel of H.P.

Research Objective 2: To find out the most influential factors which determine the work life balance of police personnel of H.P.

Research Objective 3: To study the difference in work related issues among male and female police personnel working in H.P.

5. Hypotheses

In order to achieve the objectives of the present study the following alternate hypothesis were formulated:

H1: There is significant correlation between task variety and work life balance of police personnel.

H2: There is significant correlation between work autonomy and work life balance of police personnel.

H3: There is significant correlation between work ambiguity and work life balance of police personnel.

H4: There is significant correlation between work support and work life balance of police personnel.

H5: There is significant correlation between work role-overload and work life balance of police personnel.

H6: There is significant correlation between work schedule flexibility and work life balance of police personnel.

6. Research Methods

The study is mainly based on primary data which was collected through the respondents consisting of 166 non gazetted police personnel (NGOs) of Grade I, i.e., Inspector, Sub-Inspector and Assistant Sub-Inspector employed in various police establishments of Himachal Pradesh. In order to get the required information a well designed questionnaire was prepared and administered among respondents. There are twelve districts in the state of Himachal Pradesh. When selecting the districts proper care was taken so that the provinces selected had an adequate representation of the respondents. Therefore, the provinces with the highest number of police personnel (NGOs Grade-I) viz., Shimla, Solan, Kangra and Mandi were selected for the study. 228 police personnel (NGOs-

Grade I) were selected for the study on the basis of convenience and judgment sampling. Questionnaires were distributed among 228 police personnel out of which 182 questionnaires were returned. Out of these 182 questionnaires, 166 were considered for the analysis purpose owing to the treatment of missing data values and omitting 16 questionnaires due to reasons of incompleteness and irrelevance yielding a response rate of 72.80%. The data thus collected have been analyzed with the help of SPSS 21. The various statistical tools viz. Pearson correlation coefficient and t-test were used to analyze the data.

Reliability

Work Life Balance: Work life balance was measured with 15-item scale modified from an instrument developed by Fisher-McAuley, Stanton, Jolton and Gavin (2003). Their original scale consisted of 19 items was developed to measure three dimensions of work life balance: work interference with personal life (WIPL), personal life interference with work (PLIW), and work/personal life enhancement (WPLE). The scale used in the present study is the scale developed by Hyman (2005) in which 19 items have been modified to 15 items but retains all three dimensions. The respondents were asked to indicate the frequency with which they have felt in a particular way during the past three months using a seven point related scale e.g. 1 = Not at all, 4 = Sometimes and 7 = All the time. The scale was scored as 7,6,5,4,3,2,1 (7 = Not at all, 4 = Sometimes, and 1 = All the time) for the dimensions of work interference with personal life (except item 7, which was reverse coded) and personal life interference with work. Higher scores indicated low interference and lower levels of interference were interpreted as higher levels of work-life balance. For work/personal life enhancement dimension scoring was as 1,2,3,4,5,6,7 (1 = Not at all, 4 = Sometimes and 7 = All the time) as the items were positively stated. The overall work life balance score was calculated by adding the score on three dimensions. In this study, the overall WLB (work life balance) scale had a reliability of $\alpha = .88$. The dimensions of WLB i.e. WIPL (work interference with personal life) scale had a reliability of $\alpha = .92$, PLIW (personal life interference with work) subscale had a reliability of $\alpha = .86$ and WPLE (work personal life enhancement) subscale had a reliability of $\alpha = .83$.

Work Autonomy: The scale of Van Valdhoven *et al.* (1994) was used to determine work autonomy of the respondents. The scale included 11 items, asking respondents to indicate

the extent to which they could control their work situation, for example "Can you decide how your work is executed on your own?" Items were answered on a five point response scale, ranging from 0 (0=Never) to 4 (4= Always). In this study, the scale had a reliability of $\alpha = .85$.

Task Variety: The scale of Van Valdhoven *et al.* (1994) was used to measure the task variety of the respondents. The scale consisted of 6 items, asking respondents to indicate the extent to which their work requires the use of different skills and talent, for example "In your work, do you repeatedly have to do the same things?" Items were answered on a five point response scale, ranging from 0 (0 = Never) to 4 (4 = Always). Item one was reverse coded. Internal consistency reliability (Cronbach's Alpha) for this scale was reported as $\alpha = .74$.

Work Ambiguity: The scale of Van Valdhoven *et al.* (1994) was used to measure work ambiguity of the respondents. The scale included 5 items, asking respondents to indicate the extent to which they are clear about the expectations or responsibilities associated with their positions, for example "Do you know exactly what other people expect of you in your work?" Items were answered on a five point response scale, ranging from 0 (0 = Never) to 4 (4 = Always). In the present study, internal consistency reliability coefficient for this scale was reported as $\alpha = .79$.

Social Support: In the present study, the scale of Caplan *et al.* (1975) was used to measure the work support. This study measured perceptions of respondents related to supervisor support and co-workers support. The overall work support was measured by adding up the scores on supervisor support and co-worker support. There were four items in each of the two sub-scales. A five-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree) was used. Respondents were asked

to state the extent of support they received from each source. In this study, internal consistency reliability coefficient (Cronbach's Alpha) for the support from supervisor was reported as $\alpha = .71$ and from co-worker was reported as $\alpha = .97$.

Role Overload: Role overload was measured by using a three-item scale developed by Beehr *et al.* (1976), where a five point Likert-type scale ranging from "Strongly agree" to "Strongly disagree" was used. Items were answered ranging from 5 (5 = Strongly disagree) to 1 (1 = Strongly agree). Item 2 was reverse coded. In the present study the scale had a reliability of $\alpha = .64$.

Work Schedule Flexibility: The scale of Staines and Pleck (1986) was used to measure work schedule flexibility. The responses were taken on a five-point Likert type scale ranging from "not at all difficult" to "very difficult". Scoring was done as 5 "not at all difficult" to 1 "very difficult". The items used were "How hard/difficult do you think it would be to get the days you worked changed permanently if you wanted them changed?", "How hard/difficult do you think it would be to get the hours you begin and end work changed permanently if you wanted them changed?" The scale used in the present study had a reliability of $\alpha = .88$.

Results and Discussion

7.1 Demographic profile of the respondents

The demographic profile of the respondents is presented in Table 1. The average age of the police personnel (NGOs Grade-I) worked out in the study was 35.33 years (S.D. =7.78). 91.6% of the police personnel were male and 8.4% were female. In terms of marital status, 49.4% of respondents were married and 50.6% were single, widowed, or divorced.

TABLE 1: Demographic profile of the respondents

Gender		Marital Status		Age		
Male	Female	Married	Single/Widowed/Divorced	Min.	Max.	Mean
152(91.6)	14(8.4)	82(49.4)	84(50.6)	25	58	35.33

Note: Figures in parenthesis shows percentages

7.2 Relationship between work-related variables and work life balance

In order to find out the relationship between work related variables and work life balance (its dimensions) of police personnel (NGOs Grade-I) of Himachal Pradesh, Pearson

correlation coefficient was employed and the results are shown in Table 2. From the table, it is clear that four of the variables namely Task variety (TVAR, $r = .39^{**}$, $p < 0.01$), Work autonomy (WAUT, $r = .49^{**}$, $p < 0.01$), Work ambiguity (WAMB, $r = .51^{**}$, $p < 0.01$) and Work support (WS,

$r = .57^{**}$, $p < 0.01$) were significantly and positively correlated with work life balance. Work role overload (WRO, $r = -.37^{**}$, $p < 0.01$) was found significantly and negatively correlated with work life balance. Work schedule flexibility (WSF, $r = .10$, $p = n.s$) was found not correlated with work life balance of police officers (NGOs Grade-I). Hence, hypothesis H1 to H5 is accepted.

While correlations indicated prospective tendencies of significant effects of work related variables on work life balance of police personnel, more stringent test of hypothesis were conducted using stepwise multiple regression technique. This technique was used to frame

a trimmed model that determined the specific independent variables that contributed significantly towards the prediction of dependent variables. All the six work related variable were entered together to determine the most economical model with highest variance explained. As presented in Table 3, the final model retained all six variables: task variety, work support, work autonomy, work ambiguity, and work schedule flexibility. The final model explained 50% of the variability in work life balance of police personnel, $R^2 = .50$, Adjusted $R^2 = .48$ ($F = 26.13$, $p < 0.05$).

TABLE 2: Correlation coefficient between work related variables and work life balance

Work Related Variables	Work life balance
TVAR ^{***}	.39 ^{**}
WAUT ^{***}	.49 ^{**}
WAMB ^{***}	.51 ^{**}
WS ^{**}	.57 ^{**}
WRO ^{***}	-.37 ^{**}
WSF ^{***}	.10

^{**}Correlation is significant at the 0.01 level (2-tailed).

^{*}Correlation is significant at the 0.05 level (2-tailed).

^{***} TVAR- Task Variety, WAUT - Work Autonomy, WAMB - Work Ambiguity, WS- Work Support, WRO- Work Role Overload, WSF- Work Schedule Flexibility

Based on the standardized coefficients of each of the independent variable, the impact of each variable on the dependent variable was assessed. From table 3, it was noted that "Work support" ($\beta = .290$) and "Work role overload" ($\beta = -.204$) were the most influential factors in explaining the work life balance of police personnel. "Work ambiguity" ($\beta = .201$), "Task variety" ($\beta = .166$), "Work autonomy" ($\beta = .160$) and "Work schedule flexibility" ($\beta = .119$) followed the importance. In addition, the direction of variables was consistent with the prior expectations. As noted in Table 4, R^2 work life balance as dependent variable was .50, which indicated that approximately 50% of the variation in the work life balance of the police personnel could be explained by all the six factors combined. The significant F ratio ($F = 26.14$, $p < 0.05$) indicate that the results of the regression model could have hardly occurred by chance. Hence, Hypothesis 1 to 6 was selected.

The present study examined the differences in work related issues among male and female police personnel. The

TABLE 3: Predicting work life balance among police personnel: Multiple regression analysis (variables in the final model)

	Beta (β)	T	Sig.
Constant	-	5.125	.000
WS	.290	4.193	.000
WAUT	.160	2.345	.020
WRO	-.204	-3.409	.001
WAMB	.201	2.833	.005
TVAR	.166	2.727	.007
WSF	.119	2.074	.040

TABLE 4: Regression model summary

R Square	Adjusted R Square	F	Sig.
.50	.48	26.14	.000

Work related issues among male and female police personnel

series of t tests (Table 5) interpreted no significant differences in work autonomy, task variety, work ambiguity, work support, work role overload and in overall work life

balance among male and female police personnel. However, significant differences were observed in work schedule flexibility. The study further explained that female police personnel (M=2.50) had less work schedule flexibility as compared to male police personnel (M=4.11). A study by Wheatley (2016) reported that flexi-time, the most common flexible working arrangements (FWAs) among men has positive effects as it facilitates management of household responsibilities while maintaining full-time

employment. Part-time and home-working are also positive, consistent with men using FWAs with a greater degree of choice. The study further reported that women are constrained in their use of FWAs, often into working reduced hours. Consequently, FWAs have negative impacts for some women, on job (part-time when used for extended periods, flexi-time), leisure (job-share, flexi-time) and life satisfaction (job-share).

TABLE 5: Gender differences: Independent sample t-test

	Males			Females			df	t	Sig.
	N	M	SD	N	M	SD			
WLBT	152	60.60	15.53	14	62.21	15.88	164	-.372	.711
WAUT	152	21.10	7.77	14	21.57	5.79	164	-.219	.827
TVAR	152	14.27	4.63	14	14.43	4.50	164	-.118	.906
WAMB	152	11.33	4.37	14	11.14	2.74	164	.156	.876
WS	152	23.89	6.86	14	24.50	8.70	164	-.312	.756
WRO	152	10.14	2.55	14	9.29	2.78	164	1.195	.234
WSF	152	4.11	2.29	14	2.50	1.16	164	2.599	.001

8. Conclusions and Implications

The main objective of the study was to examine the relationship between various work-related variables and work life balance of non-gazetted police officers (NGOs) of Grade-I of Himachal Pradesh. The study found significant and positive correlation between task variety and work life balance. The finding is in consistency with the previous study of Jones & Butler (1980) who reported a negative association between task variety and work-family conflict i.e. more the varieties in a task; less the work-family conflict was reported. The present study also reported a significant positive correlation between work autonomy and work life balance. Hackman and Oldham (1980), Fried and Ferris (1987), Lee (1998), Pousette and Hansen (2002) all reported that there is a positive relationship between job autonomy and job satisfaction. Thus, it can be concluded that employees who have more job autonomy would be more satisfied with their job due to freedom to make decisions on their own and report less work-family conflict. The work ambiguity dimension and work life balance was also found to be significantly correlated, implying that more the employee is clear about duties and responsibilities associated with their work, higher is the work life balance. The result supports the findings of the studies by Carlson, Kacmar, & Williams (2000); Frone,

Yardley, & Markel (1997); Greenhaus, Bedeian, & Mossholder (1987) in which they reported that role ambiguity was directly and positively related to work-family conflict i.e. lesser the role ambiguity lesser will be the work-family conflict and higher will be the work life balance.

The study further elucidated that the works support is significantly and positively correlated with work life balance. This outcome is consistent with the study by Wadsworth *et al.*, (2007) which stated that the support from supervisor and co-worker is positively related to work enhancement of family and the support from supervisor is negatively related to work interference with family. Researchers have argued that peer support is especially significant to police officers because the nature of their work requires them to place their lives in the hands of fellow police officers in dangerous situations and because work-related stress may only be completely comprehensible to fellow police officers (Ellison & Genz, 1983; Graf, 1986). The study also demonstrated a positive relationship between work schedule flexibility and work life balance, even though the relationship was found in regression analysis only. This result is in congruence with the findings of the study of Schieman and Glavin (2008) who suggested that the scheduling practices that support

high level of flexibility were negatively associated with work-family conflict. Further, the study found a significant and negative correlation between work role overload and work life balance. The result is supported by a study made by Omar *et al.* (2015) in which it was reported that the work role overload have significant negative effects towards employees' work-life balance.

The study also identified the most influential work related variable that contributed significantly in prediction of work life balance of non-gazetted police officers of Grade-I. From the stepwise multiple regression analysis, the study identified work support and work role overload as the most influential predictors. Finally, the study explored the potential differences in work related issues and work life balance across genders. The series of t test revealed that both male and female police personnel (NGOs Grade-I) differed significantly on work schedule flexibility dimension of work life balance.

Through this analysis it is concluded that the work related variables have relationship with work life balance and these variables can cause imbalance between work and life. Equilibrium of work and life exist only when a person is able to perform their functions properly at work or at home with minimum role conflict. Work place culture constitutes an important factor in the acquisition and retention of employees. Existing literature on work life balance indicates that organizations can help individuals and families to achieve a balance between their work, family and life commitments by introducing work life programmes and policies which benefits both employees and organizations. Thomas & Ganster (1995) in their study reported that family-supportive work policies and practices might give significant benefits in terms of employee attitude and well-being. A number of barriers have been identified that limit the use of work-family policies including lack of communication about the policies, high workloads, management attitudes, career repercussions, influence of peers and administrative processes (Waters & Bardeel, 2012). Similarly, Sergerstrom *et al.* (2011) reported that it is the quality of relationship (e.g. warm, friendly, caring and supportive) and support from managers, supervisors and colleagues is important for buffering the negative effects of work-related stressors. Recent research also indicate that the mere presence of work family arrangements is not enough to facilitate a work family balance because few employees actually seem to use such arrangements (Kinnunen *et al.*, 2005). Legislation has to interfere on the requirements of working employees.

Its provisions have to establish a clear set of rules for both employees and employers in negotiating new work arrangements which is mutually helpful.

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"A strong economy begins with a strong, well-educated workforce".

– Bill Owens

Workmen Safety and Health: A Rethinking on Mines Safety in Mahanadi Coal Limited (MCL)

ASHIS KUMAR PRADHAN AND ASIS KUMAR SENAPATI

This paper purports to show the dismal performance of workmen safety measures provided to the MCL employees. It provides evidence of the way in which the company is found to hide information related to number of cases of Pneumoconiosis. The increase in trends of many diseases also questions the sustainable standards of health among the employees indulged with mining activities. The present study brings out likely concealment of information by the company. The work conditions are particularly hazardous in an unorganized sector and specific sectors are more prone to particular health and life hazards.

1. Introduction

Coal mining is a major contributors in the economic activity of the Talcher region, declared as a specific economic zone (SEZ) in the state of Odisha (India). The Talcher region is famous for its extensive coal reserves, however, lately it has been facing an unnoticed deterioration of health and safety standards among the workers employed in these coal mines. Organization safety, in general, is defined as freedom from accidental injury (Perrow, 1984; Roberts, 1990), related to the employee safety and other organizational stakeholders including customers. Data on occupational health and safety (OHS) as given by international agencies are saddening. According to United Nations (UN), nearly 180,000 workers die annually. Figures released by International Labor Organization (ILO), estimates about 160 million people suffer from work related diseases and 270 million from fatal and non-fatal work-related injuries and accidents. There are over 1,500 roof falls that occur every year in U.S. coal mines (Mark, 2001). In China, a methane gas explosion which occurred in 1942 at the Benxihu mine in Liaoning province killed 1,549 miners; in 1960, 682 miners died from an explosion at the Laobaidong mine in Shanxi province; and in 2005, a similar incident killed 214 miners at the Sunjiawan mine in Liaoning province,. On December 19, 1984 an explosion and fire ripped through the Wilberg Mine in Orangeville, Utah (US) killing 27 persons.¹

On 15th May, 2014 another 274 died in the Coal Mines in Turkey, according to Turkey's Natural Disaster and Emergency Coordination Directorate. Also, those who underwent autopsies died of carbon monoxide poisoning, said the Energy Minister, Taner Yildiz. The list of such incidents goes on. Official statistics claim that more than 250,000 coal miners have been killed by mining accidents

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since 1949. Unofficially, these numbers are sure to be higher (Jianjun, 2007).

Such events highlight an urgent need to restore occupational health and safety (OHS) standards and calls for organizations to re-examine their OHS initiatives. One of the biggest challenges is that OHS initiatives are still evaluated based on lagging metrics, such as fatality and injury rates, despite the growing acceptance that these failure-focused measures are less useful in driving organizations' continuous improvement efforts (Hubbard, 2004; Agnew, 2013). Although literature in this field provides various tools and techniques like surveys on safety opinions of the workers, perceptions on the safety standards, case studies and empirical research, yet studies lack rigorous theoretical frameworks. Spear (2010) refers to process indicators such as safety audits, behavior-based safety, safety perception surveys, safety training, and corrective action measurements as important methodology in the determination of key performance indicators of OHS. Hence, the research question of our study is not only on the provisions and/or schemes for improving OHS but to look into the enforcements of such OHS schemes and capture the perceptions of the workers indulged in the risky activities.

2. Literature Review

2.1 Practices of coal extraction in Talcher region

Coal India Limited is a Maharatna public sector company that operates and spreads over eight states of India, namely Odisha, Chhattisgarh, Jharkhand, Madhya Pradesh, West Bengal, Maharashtra, Uttar Pradesh & Assam. All the activities related to coal extraction and exports in Odisha is controlled by a subsidiary coal company, Mahanadi Coalfields Limited operating in Talcher and IB Valley Areas. Conventionally underground coal mining is practiced using Bord and Pillar method by blasting off the solid & coal evacuation by manual loading into mine cars hauled by rope haulages. Since its inception in the year 1992, Mahanadi Coalfields Limited (which consists of 16 open cast mines and 7 underground mines) preferred open cast mining which contributes to about 85% of the coal extraction using Shovel and Dumper combination. Open cast mining have been deployed with in-pit crushers, conveyor, tippers and draglines for transport of coal. Surface miners are some modernized alternative techniques that is used in place of blasting and drilling. The underground mines of MCL

have a largely equipped mechanized loading through SDLs/ LHDs⁴. Although an extensive open cast technique is adopted, still there have been a frequent fatalities and injuries occurring in these areas. Thus, the wide incorporation of these heavy machines creates unhealthy and hazardous working situations for the miners.

2.2 Legislations and statutes on coal mining safety

Rules and regulations on safety of coal mines in India are governed by the Mines Act (1957) that was superseded by First Indian Mines Act (1901) and New Indian Mines Act (1923). Apart from these there are many other statutes set up by the government of India. The Factories Act, 1948 and Rules framed thereunder; Dock Workers (Safety, Health and Welfare) Act, 1986 and Regulations and Rules framed thereunder; The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 and Rules framed thereunder; The Dangerous Machines (Regulation) Act, 1983 and Rules framed thereunder; The Insecticides Act, 1968 and Rules framed thereunder; The Shops and Establishments Act of State Governments; The Beedi and Cigar Workers' (Conditions of Employment) Act, 1966; The Municipal Solid Waste (Management and Handling) Rules, 2000 notified under the Environment (Protection) Act, 1986; The Manufacture, Storage & Import of Hazardous Chemicals Rules, 1989; The Electricity Act, 2003 etc. are some of the statutes. The Ministry of Labour & Employment, Govt. of India & Labour Departments of the States and Union Territories are responsible for the safety & health of the workers. Directorate General of Factory Advice Service & Labour Institutes (DGFASLI) and Directorate General of Mines Safety (DGMS) assist the Ministry in the technical aspects of Occupational Safety & Health in factories & port sectors and mines respectively.⁵

2.3 Status of occupational safety in MCL

Workers represent half of the global population and contribute greatly to the economic and social value of contemporary society. A substantial part of the general morbidity of the working population is related to work. We are concerned that despite the availability of effective interventions for occupational health, too many workers are rarely exposed to unacceptable levels of occupational risks and fall victim to occupational diseases and work accidents, lose their working capacity and income potential, and still too few have

access to occupational health services (Declaration on workers health, 2006 by WHO). Coal mining is a highly labor intensive industry (MCL employees as per 2012-13 sustainability report is 22065). Coal mining is the most arduous and hazardous operations. Miners through the day are exposed to dangers from mining hazards like explosions, inundations, roof falls, noxious gases etc., they are also prone to many mining hazards. Preventive action has to be taken against miner's diseases like pneumoconiosis, miningnystagmus, dermatitis, hook worms and the like. The day to day working environment is far from congenial. Below ground, the miner is exposed to perpetual darkness, forced ventilation, water logging, humidity and temperature etc. Even above ground living conditions and other social amenities are totally inadequate. Accidents leave a trail of misery on dependent families and sap the morale of co-workers who all live together. Post-accident care of victims and rehabilitation of disabled workers and bereaved families assume significance (Prasad, 2011).

MCL is one of the fastest growing subsidiary of coal India Limited with due diligence towards safety and conservation. MCL has a "Safety Policy" in place with the objective to achieve "Zero Harm Potential". To attain the Safety norms & standards, an Internal Safety standards Organization (ISO) functions at the corporate, Area and Unit Level. The company campaigns for safety and conducts various awareness programs at regular intervals among employees at every level. With sustained growth in production level, MCL makes all-out efforts to minimize rate of accidents over the years (www.mcl.gov.in). Further MCL follows the policies of CIL and safety related issues that are monitored by DGMS⁴, Internal Safety Organization of CIL and itself. Workmen's inspectors are recruited to give away the safety status of MCL which is monitored by representatives of the workmen, one each from Mining, Electrical and Mechanical disciplines through inspections, the reports of which and status of compliance recommendations are forwarded to the local DGMS office. The safety Committee at mine level also monitors the safety of MCL every month through inspection followed by a meeting for review of safety status of the mine. This committee consists of representatives of workmen and management. The following table shows the year wise accidents Statistics of MCL including the Fatalities and Injuries taking place since the inception (1992-2012).

Area level bipartite/ tripartite committees comprising representatives of workmen and management monitors the safety performance of the Area biannually. Often representative of DGMS also participates. Coal India Safety Board headed by the Chairmen, CIL with workers representatives, Director (T), CIL, Director (P), CIL, CMDs of Coal companies, the DGMS, A representative of the Ministry of Coal as members and Executive Director (Safety & Rescue) CIL as Member Secretary. The board reviews the safety status of CIL bi-annually, formulates policies and gives guidelines for improving safety standards. The safety situation of the coal mines is also reviewed bi-annually by the Standing Committee on safety in Coal Mines chaired by the Minister for Coal & Mines. In addition, Conference on Safety in Mines is held in Ministry of Labor/ DGMS, where representatives of Trade Unions, management, educational/research institutions and Ministry of Coal participate. These meetings are held every 3 or 4 years.

MCL has kept numerous provisions of occupational safety and health for its employees working in Open cast and Underground mines and some special facilities for the contract workers. Apart from vocational training, it provides special refresher training course to Dumper Operators, Dozer Operators & blasting personnel by internal/ external faculty. Code of practice for dumping of OB at dump yard, blasting operation, firefighting, repairing beneath the raised body of dumper and the surface miners has already been implemented. Dust suppression by water sprinklers, misters and water tankers on haul roads is being practiced. Non Visible Emission type dust collectors are used in drill machines working at opencast mines. Use of surface Miner a modern eco-friendly coal cutting machine at opencast mines which eliminates hazardous operation like drilling, blasting & crushing of coal. Replacement of conventional tippers with heavy duty tippers (20-30T) for reduction of traffic density is being used. Training has been imparted to all workers as per revised training modules. Provision of internal safety circulars & safety books to the safety officials of unit Area level officers & supervisors. Review of the status of implementation of various safety aspects safety audit by senior retired DGMS & CIL Officials. Periodical medical examination of work persons every five years to monitor health & prepare disease profile. To develop better safety awareness amongst workers, supervisors and executives, tripartite safety committee meeting of area level and pit safety committee meeting at colliery level are being held

TABLE 1: Accidents Statistics of Mahanadi Coalfields Limited (1992 to 2012)

Year	Production in Million Tonne (MT)	No. of Accidents (AT)	No. of Fatalities (A2)	No. of Accidents (B1)	No. of Injuries (B2)	Fatalities Per MT	Serious Injuries Per MT
1992	23.14	3	3	20	20	0.129645635	0.864304235
1993	24.3	5	5	25	25	0.205761317	1.028806584
1994	27.33	1	1	20	20	0.036589828	0.731796561
1995	32.71	9	9	20	20	0.275145216	0.611433812
1996	37.36	7	7	21	21	0.187366167	0.562098501
1997	42.17	6	6	15	15	0.142281243	0.355703106
1998	43.51	8	8	17	17	0.183865778	0.390714778
1999	43.55	7	7	17	17	0.160734788	0.390355913
2000	44.8	2	2	17	17	0.044642857	0.379464286
2001	47.8	4	4	11	11	0.083682008	0.230125523
2002	52.23	4	4	17	17	0.076584339	0.325483439
2003	60.05	7	7	11	11	0.116569525	0.183180683
2004	66.08	4	4	17	17	0.060532688	0.257263923
2005	69.6	10	10	13	13	0.143678161	0.186781609
2006	80	2	2	10	17	0.025	0.125
2007	88.01	4	4	9	9	0.045449381	0.102261107
2008	96.34	4	4	4	4	0.041519618	0.041519618
2009	104.08	3	3	8	8	0.028823982	0.076863951
2010	100.28	2	2	6	6	0.019944156	0.059832469
2011	103.12	4	4	10	10	0.03878976	0.096974399
2012	107.59	2	2	7	7	0.018589088	0.065061809
TOTAL	1294.05	98	98	295	302	0.075731231	0.227966462

Source: Collected from Safety and Rescue Department, MCL Headquarters

regularly. All the mines have been prepared risk assessment & management plan. For maintaining better slope on safety point of view and to reduce / avoid occurrence of slope failure stability studies have been conducted through CMRI/CMPDIL. Use of non-electric shock detonating system in the blasts for controlled blasting avoiding damages to the houses, buildings,

structures etc. Vibrometers are procured for measuring ground vibration during blasting. 8th Safety Audit for OC mines of MCL has been completed 2009-10 & steps are being taken for 9th Safety Audit.

Safety measures of Underground mines remained a prior focus because of its proneness to risk. RMR has been determined for all underground districts and SSR

framed, approved and implemented on the basis of RMR and Strata Control Cell at HQ and Areas has been set up. 100% steel support by Roof bolting/stitching has been implemented in all the development districts. Code of practice for roof bolting has been prepared & vetted by DGMS authority & sent to all mines for implementation. Automatic Mine Environment Monitoring system has been installed in four U/G mines. Digital gas detectors have been provided to measure gas percentages. Annual Fortnight is observed every year in all Mines of MCL. 100% loader less mining by using mechanized loading through LHD/ SDLs. Action has been taken for procurement of Self Contained Self Rescuers. Protective equipment's are provided regularly.

As already mentioned regarding the special facilities provided to the contract miners, they were given Initial training at VTC in accordance with the revised training modules. Job oriented special refresher training by internal as well as external faculty are also provided. Checking validity of driver license of contractor's workers and road worthiness of vehicles of contractors by departmental officials has been examined. There has been effective Participation of contractor's workers in the safety committee meeting at colliery level. Deployment of helpers/ Khalasi in tippers has been stopped in mining area. Safety drive on transport contractor's establishments observed every year. MCL has provision of rest shelters and portable drinking water at work sites. Contract workers are also restricted of 08 hours work by individual as stipulated in the statute. Safety equipment's like shoes & helmet is compulsory for all. Recording of attendance in form B/D/E at colliery time office is a mandate. Identity cards have been issued to contractor's workers. Unauthorized driving in mine premises has been prohibited. Only those drivers are permitted who are authorized by Manager of mine. Road signs and danger signals along the haul roads and distribution of pocket books on code of traffic rules has been displayed. High capacity tipping trucks (20T/30T) have been deployed at open cast mines to control traffic problem. Medical assistance is also given to the contractor workers in case of any injury. Periodical Medical Examination of contractor workers has been done at company hospital.

Health and safety aspects covered in formal agreement with unions based as on National Coal Wage Agreement IX: The organizational structure and mechanism which monitor and advise on Occupational Health and Safety programs with active participation of

workforce and its representatives can be overtaken at the Mines level through The Workman inspectors as per Mines Rule-1955, Pit Safety Committee as per Mines Rule-1955 and Statutory supervisory personnel as per CMR-1957. Initial Medical Examination (IME) is conducted for every person seeking employment in a mine, unless such person has already undergone, within the preceding five years, a medical examination under these rules while in employment at another mine. Periodic Medical Examination (PME): It is thereafter is conducted for every person employed in the mine at intervals of not more than five years. The frequency of PME has been brought down from existing five years to three years for the mining employees above 45 years of age (as per 10th Safety Conference) (Sustainability Report of MCL, 2012-13).

3. Research Methods

The present study is carried out using a questionnaire method technique and a survey approach followed by the interview schedule with the workers exposed to coal mining. Random sampling technique using questionnaires consisting of 26 questions has been incorporated to collect responses of 101 respondents of three colonies, that is, Balaram Township, Bharatpur Township and Ananta Colony. Responses are also collected from the three Resettlement and Rehabilitation sites i.e. Baghamara, Kuio Jungle and Gurjang. All the respondents are MCL employees working in the mines. The employees working in both, Open cast projects and Underground mines are taken as the respondents for the survey to avoid biasness on safety among the two known forms of coal extraction, that is, Open cast Mining and Surface Mining. Some of the major research tools used in the study is interview schedule, group discussions and individual questionnaire. The secondary data has been collected from the safety and rescue cell and CMS Department of MCL from its Headquarters at Sambalpur manually.

4. Results and Discussion

Our discussion starts with the field survey reports and author's own experiences of the visit to the field form where the information's has been gathered. The Questionnaires are placed before the Non-executive employees those who basically work in the Open cast and Underground mines. It includes miners, drillers, blasting crew, shovel operators, dozer operators, dragline operators, Grader operators, CHP and Conveyor operators, trammers, track layers, fitters / mechanics, Foremen, Overmen, clerks etc. Pearson's Chi

Square test was used to test for significance of the results. Responses of 13 variables have been incorporated to understand the dynamics of occupational safety in this regard. Out of a total of 101 employees 69 work shift wisely in the coal mines and 32 don't go for it. So far getting overtime is as concerned 63 employees out of 101 said to have getting over time in comparison to rest of the 38 employees taken as respondents. After receiving the responses on sufficient salary paid, 82 employees saying that the salary paid by MCL is sufficient to run their family where the other 19 employees refused to. From the total number of respondents included in the analysis the majority of them i.e. 69 employees have received employment on the basis of Land Acquisition, where as other 32 have been directly recruited. Further the respondents were asked regarding the safety standards of the coal mines. Out of 101 employees, 53 said that it is safe while 48 refused to it. Out of 101 employees 64 of them admitted to have seen fatalities or injuries happenings to employees or outsiders in the mines during working hours. 94 employees accepted that MCL is providing urgent medical facilities to its workmen and 7 have refused. The number of employees agreed to have been using safety items like Helmets and masks while reporting to the mines is 62 and 39 have refused of using these safety tools always. It

reveals that the awareness on safety issues among workers is still less and not made mandatory for the use of the same while reporting to the mines. Out of 101 respondents 40 of them used to feel sick or gets tired while working in the mines while rest of the 61 refused to it. The respondents were then asked about the Ambulance and Stretcher facilities availability and except one the rest of the 100 employees advocated that it is always available for them. Through the responses it is evident that the employees who are satisfied of their job accounts for 96 while 5 of them are dissatisfied. Out of a total of 101 employees 30 of them agreed that they are having respiratory problems while working in the mines, rest of the 71 employees do have any problem of respiration or breathing. The employees have been asked regarding the MCL hiding cases of accidents in their reports and it was found that out of 101, 48 of them have agreed to and the rest of 53 have not agreed. It seems MCL is indulged in hiding accident related information in their reports. Some more findings would make more clear analysis over this issue.

We have now drawn the results of binary logistic regression taking responses on safety as dependent variable and its cause and effect relationship of 9 independent variables in the model.

TABLE 2: Logistic Regression

Case Processing Summary		
Unweighted Cases ^a	N	Percent
Selected Cases	Included in Analysis	101
	Missing Cases	0
	Total	101
Unselected Cases	0	.0
Total	101	100

a. If weight is in effect, see classification table for the total number of cases.

The above table shows the case processing of the total selected cases of all 101 respondents who were asked

about their responses on safety measures taken by MCL.

TABLE 2.1: Dependent Variable

Original Value	Internal Value
NOT SAFE	0
SAFE	1

This Table shows the responses of the dependent variable encoded Not Safe as 0 and Safe as 1.

TABLE 2.2: Categorical Variables

		Frequency	Parameter coding (1)
HIDE ACCIDENTS INFO	NO	53	1.000
	YES	48	.000
ACCIDENTS WITNESSED	NO	37	1.000
	YES	64	.000
RECEIVED EMPLOYMENT	THROUGH OTHER MEANS	32	1.000
	LAND ACQUIRED	69	.000
SAFETY ITEMS USE	NO	39	1.000
	YES	62	.000
PROVIDING MEDICAL FACILITY	NO	7	1.000
	YES	94	.000
SICK WORKING IN MINES	NO	61	1.000
	YES	40	.000
RESPIRATORY PROBLEM	NO	70	1.000
	YES	31	.000
SATISFACTION IN THE JOB	NO	5	1.000
	YES	96	.000
OVERTIME	NO	38	1.000
	YES	63	.000

The above table shows the detail summary of the cases, dependent and independent variables included in the model along with their coding. In this, Safety Risk opinions of 101 workers have been encountered. Regression equation model fits like the following:

Opinion on working condition in mines are safe or not safe = overtime workers getting (yes/no) + employment received through (land acquisition/through other means) + witnessed accidents(yes/no) + urgent medical facilities(yes/no) + use of safety tools (yes/no) + feeling sick while working in the

TABLE 3: Classification Table^{a,b}

Observed			Predicted		
			COAL MINE SAFETY		Percentage Correct
			NOT SAFE	SAFE	
Step 0	COAL MINE SAFETY	NOT SAFE	0	48	.0
		SAFE	0	53	100.0
	Overall Percentage			52.5	

a. Constant is included in the model.

b. The cut value is .500



mines (yes/no) + satisfaction of the job(yes/no) + respiratory problems(yes/no) + MCL hiding accidents

related information in their reports.

TABLE 3.1: Included Variables

		B	S.E.	Wald	Df	Sig.	Exp(B)
Step 0	Constant	.099	.199	.247	1	.619	1.104

The above table includes no predictors but only the intercept value of the B coefficient which is found to be 0.099. The standard error in the model around the coefficient for the constant is found to be .199. The Wald chi-square tests the null hypothesis that the constant equals 0. The hypothesis is failed to reject because the p-value (listed in the column called "Sig.") is greater than the critical p-value of .05 or .01. There is only 1 degree of freedom that is captured by the constant. The Exp(B) is the exponentiation of the B coefficient, which is referred

as odds ratio. This value of odds ratios can be easier to interpret than the coefficient, which is in log-odds units. This is the odds: $53/48 = 1.104$. If the value exceeds 1 then the odds of an outcome occurring increase, if the figure is less than 1, any increase in the predictor leads to a drop in the odds of the outcome occurring. Thus here we can explain that the ratio of workers opinion on safety of the mines to be safe than to safety of mines not to be safe is 1.104/1.

TABLE 3.2: Variables not in the Equation

Step 0	Variables		Score	Df	Sig.
		OVERTIME (1)	.717	1	.397
		ACCIDENTS WITNESSED (1)	7.414	1	.006
		RECEIVED EMPLOYMENT (1)	1.888	1	.169
		SAFETY ITEMS USE(1)	3.340	1	.068
		PROVIDING MEDICAL FACILITY (1)	.066	1	.798
		SICK WORKING IN MINES (1)	1.484	1	.223
		SATISFACTION IN THE JOB (1)	2.225	1	.136
		RESPIRATORY PROBLEM (1)	.013	1	.908
		HIDE ACCIDENTS INFORMATION (1)	10.673	1	.001
	Overall Statistics	20.440	9	.015	

The results with only the constant included before any independent variables (i.e. overtime, received employment through, accidents witnessed, providing medical facility, safety items use, sick working in mines, satisfaction in the job, respiratory problem, hide accidents information) are entered and included in the model with which we are more concerned. Logistic regression compares this model with a model including all above predictors in the right hand side of the model to determine whether the latter model is more appropriate. The table suggests that if we know nothing about the

variables and guessed that a person would say that working in mines is not safe, then we would be 52.5% (i.e. $53/101 * 100 = 52.47$) times correct. All other variables doesn't improve the model except Hide accident related information (with significance .001) and accidents witnessed (with significance .006) shown in the Table (Variables not in the Equation). This can be judged by looking at the level of significance. Now we are more concerned to the variables that are not included in the model. The variables Hide accident related information and accidents witnessed are both found to be significant

and are able to contribute to the predictive power of the model. Therefore it is better to exclude other variables

except Hide accident related information and accidents witnessed in the above case.

TABLE 4: Tests of Model Coefficients

Omnibus Tests of Model Coefficients				
		Chi-square	Df	Sig.
Step 1	Step	22.747	9	.007
	Block	22.747	9	.007
	Model	22.747	9	.007

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	117.021 ^a	.202	.269

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

The -2 Log likelihood in the Table Model Summary gives out the difference between -2 Log likelihood for the best fitting model and -2 Log likelihood for the null hypothesis model (given in terms of the B values which are set to zero in block 0) is statistically distributed like Chi Square, with degrees of freedom equal to the number of predictors. The -2 Log likelihood value from the Model Summary is 117.021. Cox & Snell R Square and Nagelkerke R Square are the Pseudo R square used to determine whether the model is a good fit or not. It attempts to imitate the Coefficient of determination or multiple R square. Here the value is .202 showing that 20.2 % of the variation in

the dependent variable is explained by the Logistic model indicating a weak relationship between prediction and grouping. The Nagelkerke R Square is normally high than the Cox & Snell R Square and the value is .269 which shows the weak relationship of 26.9 % between the predictors and the prediction in the model. But the Low value of R square is still not a matter of concern because in both linear as well as in Logistic regression it is possible to have a low R square and still have a model that is correctly specified in every respect while the vice versa is also applicable.

TABLE 4.1: Hosmer and Lemeshow Test

Step-2	Chi-square	df	Sig.
1	7.404	8	.494

The Hosmer and Lemeshow test is widely used to estimate the goodness of fit of the model in a Logistic regression. (H-L) goodness of fit test divides subjects into deciles based on predicted probabilities, then computes a chi-square from observed and expected frequencies. Then a probability (p) value is computed using the chi-square distribution to test the fit of the logistic model. If the H-L goodness-of-fit test statistic is greater than .05, as we

want for well-fitting models, we fail to reject the null hypothesis that there is no difference between observed and model-predicted values, implying that the model's estimates fit the data at an acceptable level. Thus it is evident from the results that MCL is providing proper safety tools to its measure. Similarly, well-fitting models show non significance on the goodness-of-fit test, indicating model prediction that is not significantly different from

observed values. In this case H-L statistic has a significance of .494 with a Chi square value of 7.404 and 8

degrees of freedom which means that it is not statistically significant and therefore our model is quite a good fit.

TABLE 5: Contingency Table for Hosmer and Lemeshow Test

		COAL MINE SAFETY = NOT SAFE		COAL MINE SAFETY = SAFE		Total
		Observed	Expected	Observed	Expected	
Step 1	1	8	8.109	2	1.891	10
	2	10	8.052	1	2.948	11
	3	7	6.144	2	2.856	9
	4	6	6.097	4	3.903	10
	5	4	5.455	6	4.545	10
	6	3	4.522	7	5.478	10
	7	2	3.568	8	6.432	10
	8	3	2.690	7	7.310	10
	9	2	2.025	8	7.975	10
	10	3	1.339	8	9.661	11

Classification Table^{a,b}

Observed			Predicted		
			COAL MINE SAFETY		Percentage Correct
			SAFE	NOT SAFE	
Step 1	COAL MINE SAFETY	NOT SAFE	35	13	72.9
		SAFE	15	38	71.7
	Overall Percentage				72.3

a. The cut value is .500

Block 1 represents the results of the all the predictors included in the model. The classification table drawn here shows how the error rate has changed from the original 52.5 %. By adding the variables we are 72.3 % sure about the accuracy of the prediction. We have derived the Model Chi square test to see the overall significance. It is obtained from the Likelihood of observing the actual data under the assumption that the model has been fitted accurate. In this case model Chi square has 9 degrees of freedom with a value of 22.747 and a probability of P= 0.007 which is less than all the defaulted permissive levels. The null hypothesis that there is no difference between the model

with only a constant and the model with independent variables was rejected. The existence of a relationship between the independent variables and the dependent variable was supported. Here, the statistics for the Step, Model and Block are the same because we have not used stepwise logistic regression or blocking. The probability of obtaining this chi-square statistic (22.747) shows if there is in fact no effect of the independent variables, taken together, on the dependent variable. We found a statistically significant p value. Thus, this indicates that the model has a poor fit. There is one degree of freedom for each predictor in the model. Here we have nine

Variables in the Equation

Step 1 ^a		B	S.E.	Wald	df	Sig.	Exp (B)
	OVERTIME(1)	.499	.491	1.033	1	.309	1.648
	ACCIDENTS WITNESSED(1)	.607	.508	1.428	1	.232	1.835
	RECEIVED EMPLOYMENT(1)	.308	.513	.360	1	.549	1.360
	SAFETY ITEMS USE(1)	-.798	.489	2.664	1	.103	.450
	PROVIDING MEDICAL FACILITY(1)	.140	.969	.021	1	.885	1.150
	SICKWORKING IN MINES(1)	.261	.473	.304	1	.582	1.298
	SATISFACTION IN THE JOB(1)	-2.481	1.261	3.870	1	.049	.084
	RESPIRATORY PROBLEM(1)	-.483	.529	.836	1	.361	.617
	HIDE ACCIDENTS INFORMATION(1)	1.360	.501	7.367	1	.007	3.896
	Constant	-.490	.568	.746	1	.388	.613

predictors: (i.e. overtime, received employment through, accidents witnessed, providing medical facility, safety items use, sick working in mines, satisfaction in the job, respiratory problem, Hide accidents information). The classification table in the block 1 gives a considerable improvement of 72.3 % correction in the predictors in comparison to the constant model which is 52.5 % correct. Thus we can conclude that the model with predictors is significantly better model. We need to consider the significance level of the independent variables to assess the Wald Test. If the significance level is less than .05 we can reject the null hypothesis that the predictor is making a significant contribution to the dependent variable. In this case all the independent variables along with their significance level has been mentioned as Overtime (.309), Accidents Witnessed (.232), Received Employment (.549), Safety Items Use (.103), Providing Medical Facility (.885), Sick Working In Mines (.582), Satisfaction in the Job (.049), Respiratory Problem (.361), Hide Accidents Information (.007). We here found that Satisfaction in the Job and Hide Accidents Information are found to be significant thus failing to reject the null hypothesis that MCL is providing proper safety measure to its employees. The Binary Logistic regression equation is shown as a below:-

$$\text{Opinion on working condition in mines are safe or not safe} = -.490\alpha + .499 \text{ overtime workers getting (yes/}$$

no) + .308 employment received through (land acquisition/through other means) + .607 witnessed accidents (yes/no) + .140 urgent medical facilities(yes/no) -.798 use of safety tools (yes/no) + .261 feeling sick while working in the mines (yes/no) -2.481 satisfaction of the job (yes/no) -.483 respiratory problems (yes/no) + 1.360 MCL hiding accidents related information in their reports (yes/no).

The above equation explains the value of the coefficient of the constant term doesn't signify anything here in the model. It is defined as baseline odds by the statisticians. The value of the parameter of overtime workers getting being negative (-.499) shows that one unit change in overtime the workers getting, leads to a fall in the Log odds ratio of mines to be safe by (-.499) units with an odds ratio of 1.648 ($e^{-.499} = 1.648$). Similarly when there is a one unit increase in the parameter of employment received through (land acquisition/through other means) this leads to a rise in the opinions of employees on mines to be safe with a log odds ratio by (.308) with odds ratio to be 1.360. Exp(B) value indicates that when opinion on witnessed accidents raised by one worker the odds ratio is 1.835 as large and therefore workers are 1.85 times more likely to say that working in the mines is safe. The Odds ratio of the safety items used is .450, which explains that a one unit change in the safety items used there is a decrease in the Log odds of safety opinions of the workers by (-.798). When the

opinion of the workers on providing medical facilities were asked to the employees, we found that one unit change in the providing medical facility increase the log odds of safety in the mines by .140 with a multiplicatively by a factor equal to $e^{.140}$, i.e. by 1.150. We also tried to encounter regarding any sickness in the mines to the workers during their stay and it was observed that a unit change in Sick working in mines increases the log odds ratio of safety in mines by .261 with an odds ratio of 1.298. The independent variable of Satisfaction in the job shows that a one unit increase in the Satisfaction in the job causes a fall in the log odds ratio to be equal to (-2.481). The employees responses were taken on the

respiratory problems, we found that a one unit increase in the respiratory problems decreases in the safety in the mines by (-.483). Finally we tried to trace the variable on Hide accidents related information and it was found that a unit change in this variable increases the log odds ratio of safety in the mines by 1.360 on average. Therefore, we can summarize the results and say by looking at the Wald criterion that the only satisfaction in the job and hide accidents information are found to be significant and made significant contribution to the prediction with a probability value of 0.049 and 0.007 respectively.

Whatever the whole analysis interprets, above all we are arrived out at some serious conclusions. The data

TABLE 6: Year-wise Various Other Diseases in M.C.L Since 2009-2012

Diseases	2009	2010	2011	2012	Total
Hypertension	482	549	573	634	2238
PulmonaryTuberculosis	59	36	19	22	136
Diabetes Mellitus	9	306	352	510	1177
IHD	24	28	33	38	123
Other Cardiac Diseases	67	46	56	62	231
Chronic Bronchitis(COPD)	122	118	123	83	446
Mental	6	6	7	4	23
APD	73	68	78	34	253
Defect Hearing	14	18	13	21	66
Defective Vision	109	118	114	65	406
Ref. Error	369	406	602	291	1668
Bronchial Asthama	34	32	39	42	147
Kidney Disease	10	24	35	52	121
Sickling	8	11	12	3	34
Total	1386	1766	2056	1861	7069

Sources: Collected from Chief of Medical Services (CMS), MCL Headquarters

compiled was Primary in nature and were taken through the Questionnaire and interview scheduled techniques. The author found some biasness with the responses covered in the whole process of the data collection. The

Employees taken in the rapport defended themselves of using proper safety measures used in the mines. But the picture is something different when the author visited the mines, that is, Balaram Open cast mine of Hingula

Area. During the rapport some of them admitted MCL providing them safety tools but of inferior quality. The responses revealed that mining authorities in maximum cases have not taken care of the gradient slope that prevails in the mines causing a major reason of some

serious injuries and fatal accidents occurring in some instances. Most of the employees fear of giving any responses against the authority. Some other admitted that the safety tools were compulsory in the underground

TABLE 7: Detected Cases of Pneumoconiosis

Occupational Disease in Coal Mines (MCL)	2008	2009	2010	2011	2012	2013
Pneumoconiosis	1	0	6	2	0	2

Sources: Collected from Chief of Medical Services (CMS), MCL Headquarters

mines while it is not in open cast mines. Compulsion of using safety tools in all mines were notified during the safety fortnight week only observed by MCL every year. Even the issue of hiding accidents related information is found to be prevailing as captured through the responses by the employees.

4.1 Diseases and health related issues in MCL

Despite of numerous safety measures taken to combat the riskiness and reduce the accidents occurring in the mines, every mining authority also strives hard to focus on the emerging diseases with which workers are related with. Frequent and timely checkups should be done to mitigate the intensity of various harmful diseases occurred due to the coal mines exposure. MCL also move in the direction of providing timely Periodical medical examination of all its workers in each consecutive five year. At any case it should maintain record and sudden timely action is taken into force. MCL is monitoring diseases like hypertension, diabetes Mellitus, pulmonary tuberculosis, IHD, various other cardiac diseases, mental pressure, chronic bronchitis, APD, defect hearing, defective vision, Ref. Error, bronchial asthma, kidney diseases, sickling etc.

The above table shows that out of the above fourteen mentioned diseases, eight of them have been found increasing among the workers when compared to the previous year figures i.e. 2011-12 estimates. Most of them found to be emerged from work related tensions and pressures. Hypertension, diabetes, pulmonary tuberculosis, bronchial asthma and other cardiac diseases were found rising. The coal workers are exposed to dust that causes them a kind of occupational disease called as Pneumoconiosis or Black Lung disease. Such cases are prevalent in MCL as well. How quickly these diseases

develop depends on the amount of respirable coal and quartz dust present in the mine atmosphere where miners work or travel and on the amount of time that miners spend working in such an environment. The following number of detective cases of Pneumoconiosis has been given in the Table 7 under, for the reference.

The Authority should check out the disability and report suddenly to reduce the progress. The recommendations made by the authority researched in these cases have been mostly transfer of the workers from dust prone areas to dust free regions. But there have been serious issue of updating of the information's by the MCL authorities regarding this case in their reports. Readers can refer the number of cases detected of Pneumoconiosis in one of its report (Sustainability Report of MCL, 2011-12 page number 64) and match it with the Data given above that is manually collected from the headquarters itself. This clearly shows the false picture of the whole report and analysis made by MCL (see annexures).

5. Implications of the study

The question remains, MCL really pay attention towards providing safety to its workers?

Employees are the very important part of all organizations for a labor intensive country like India. Utmost care and paramount importance should be taken to provide a safe and sustained working environment for the workers. MCL that aimed to achieve 'Zero Accident' to create a safe and secure environment have not actually stand out the expectations of the workers that is evident from the responses received from its employees. As per the field survey and interview conducted among the employees and responses received from them an overall conclusive analysis is made. The variables on the coal mine safety

and accidents related information's hide by the MCL are found to be insignificant thus leading to the acceptance of the Null hypothesis (the mean of the population (101) doesn't vary from the number of people giving their opinion as "YES" or "NO"). It meant that MCL is not providing adequate focus on safety; rather much priority has been given only on achieving targets by raising production and enhancing productivity. MCL every year celebrates Safety Fortnight Week with all its workers making it mandate to wear safety tools during the whole week of the CMD's visit to various collieries of MCL. Except this Safety Fortnight Week there is no compulsion made to wear the safety tools provided to the workers. There has been both the Management and faults of the workmen. The faults of the workmen are of not using safety tools like Helmets and masks while reporting the mines. Many of the workers have been found shirking during working hours. There have been numerous administrative faults like, the height of the overburden dump rises above the permissible levels due to excessive internal dumping in open cast mines, improper stowing method in underground mines also increases the safety risks, no proper and regular safety audits are practiced, the safety tools and instruments provided to the workers are of inferior quality.

6. Conclusion

What should be the measures MCL can adopt to provide safety to its Workmen?

The destiny and fate of an organization depends on its employees in order to raise production and earn profits. Thus, full-fledged cooperation of the workers is much necessary for the growth of an industry or an organization. Further the co-operation of the workers can only be achieved only when they are being satisfied by their employers and the working conditions. In the past, industrialists and the employers believed that their only duty towards their employees was to pay them satisfactory wages and salaries. In course of time, they realized that workers require something more important. In addition to providing monetary benefits, human treatment given to employees plays a very important role in seeking their cooperation. This also requires strengthening the occupational safety where much of the organization failed. MCL has to move long way for providing a sustained safety net to all its employees. Some of the important suggestions are mentioned below that is analyzed through the whole process of research. Odisha is the 2nd largest coal producing highest profit

making Coal Company in India after Jharkhand. The state wise coal reserve contributes about 24.34% of the total coal reserves in India (Sustainability report of MCL, 2011-12). As per GSI the geological coal reserve contributes 71.45 Billion tons as on 1st April 2012 (www.mcl.gov.in). The Company should thus utilize all its coal in a best efficient way and for the betterment of the nation. Coal mining is responsible for an immense ecological imbalance. Thus, MCL should take utmost care to impart awareness, take effective measures on abatement of pollution and promote social forestry. The corporate social responsibility of MCL should be more strengthened and it should invest a lump sum amount of its profit in community development and welfare effectively. As a matter of safeties MCL should introduce the modernized method of mechanization in all its mines and give up the conventional technique of extraction of coal that uses blasting and drilling, i.e. extensive use of surface miners should be incorporated. The underground mines are more risky thus the company needs to take corrective measures such as roof-bolting and provision of escape routes in case of accidents and problem of sufficient ventilation. Adequate number of rest shelters should be provided with air conditions facilities available. The company should provide adequate number of first-aid ready for its workers and expired or outdated first-aid should be replaced from time to time. Safety audit of each open-cast and underground should be done from year to year and the number of accidents and fatalities and serious injuries taking place in the mines should be correctively updated. Strict safety parameters should be imposed in terms of the heights and steepness of slope of the overburden dumps. Proper stowing technique should be introduced to combat mine fire, discourage illegal mining and reduce the riskiness of the collapse of the roof. The authority should take much interest to provide sufficient, improved and superior safety tools to its workers and should be made mandatory.

Notes

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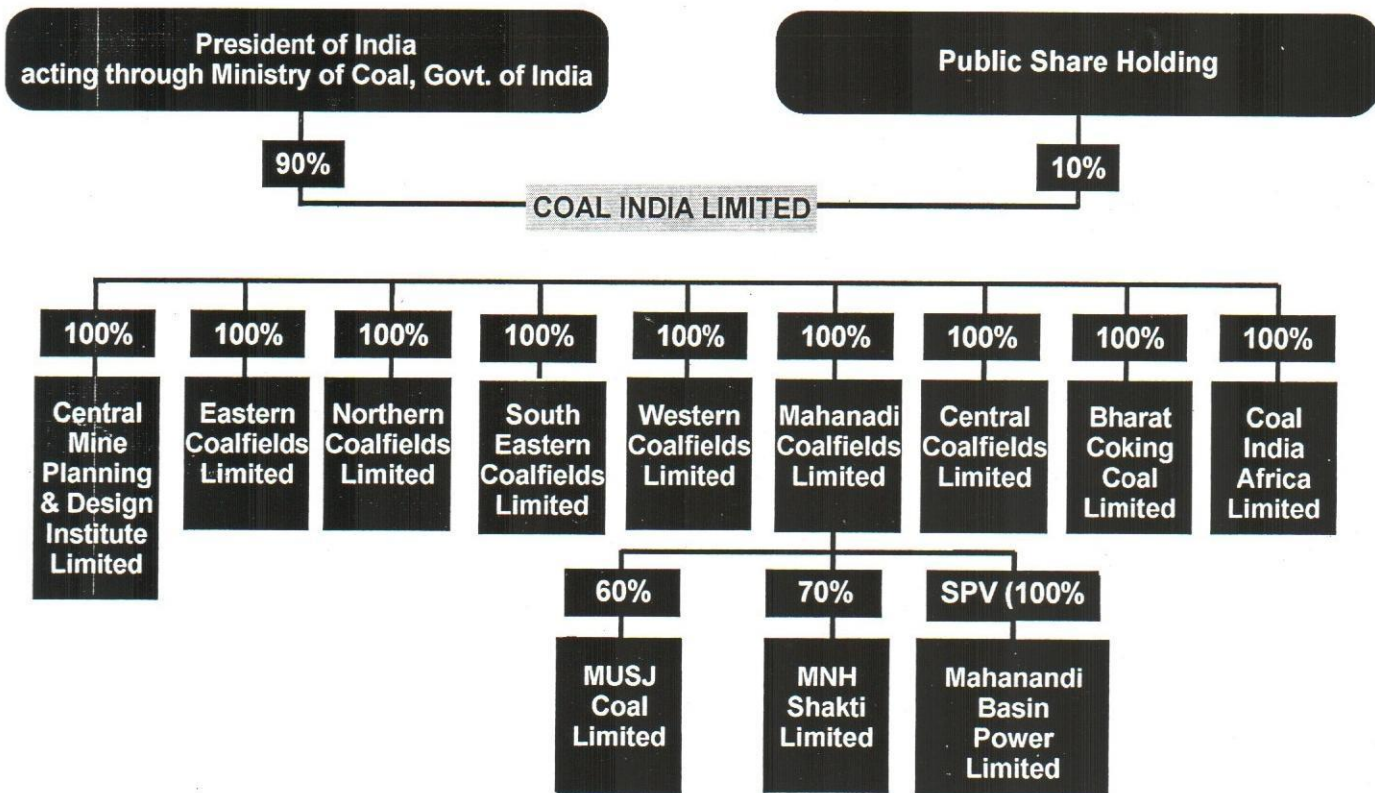
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"It's extremely hard for the economy to grow when the workforce is shrinking.

– Todd Young

Annexures

Annexure 1: Parent Holding Structure in MCL



Annexure 2: Falsity of Updating of Information by the MCL Sustainability Report 2011-12

OCCUPATIONAL HEALTH STATISTICS			
OCCUPATIONAL DISEASES DETECTED (PNEUMOCONIOSIS)			
	2009	2010	2011
	1	1	0

Safety on the Go: An Empirical Study of Select Manufacturing Concerns to Give a Reviving Boost to the Existing Safety Practices

MEHA JOSHI

Health and safety of employees is a growing concern for organisations. It has been established by several researchers that employee safety is directly linked to employee productivity. In today's era, it is emerging as one of the most important concerns for manufacturing organisations and therefore, it needs to be addressed carefully. This research paper attempts to study the perception of safety among the employees belonging to six different industries, in particular, small and medium manufacturing enterprises of Uttarakhand (India). It also aims at finding out the gap areas between actual safety practices followed in organisations and the practices documented by organisations for the purpose of record. A self-developed 29 items scale was used to determine the safety perception of employees. One way Analysis of Variance was used to ascertain that whether there exists any significant difference in the perception level of employees with respect to nature of industry and type of organisation. Further one sample t-Test was used to find out the gap between actual and documented practices of safety. The research highlights various factors contributing to the safety of employees and concludes with the discrepancy existing between the actual and documented practices.

1. Introduction

Micro, Small and Medium Enterprises (MSME) are emerging as an important sector of the economy over the last five decades. It can be considered as one of the most vibrant sector of the economy. Small and medium enterprises have a vital role to play in the economic development of the country.

According to the estimates of Ministry of Micro Small Medium Enterprises (MSME), Government of India, the sector generates around 100 million jobs through over 46 million units situated throughout the geographical expanse of the country. The role of this sector can be well understood by its 38% contribution to the nation's GDP and 45% contribution to manufacturing sector.

MSME not only help in industrialization of the rural and urban areas but also help in creating employment opportunities to the people of the country, thereby combating regional imbalances. In 21st century with the growth of technology the associated hazards also grew with it. The employees are exposed to various kinds of risks. Safety of employees is one of the important concerns of the manufacturing organisations and needs to be addressed carefully. It was once, not in ambit of focus but the realisation of making safety management as an integral part of the organisation is gaining pace. Assuming it as one of the prime responsibility of the employer and issue of great concern, the government is paying more attention to the safety and health by formulating National Policy of Safety and Health at workplace. It is believed that if the employees feel safe at workplace, it increases their level of job satisfaction.

The Annexure 1 represents the accelerating growth of Small enterprises in Uttarakhand and India in 2001 and 2012. Uttarakhand shows an increase of more than 200%

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in terms of growth of enterprises. The growth in number of Small scale enterprise in Uttarakhand can be attributed to Industrial Policy of 2003. Thus after the industrial policy of 2008 was implemented, the industrialization process took a rapid pace in the hilly region. The government had contemplated a move to bring in a new policy in the year 2010 for further growth of Small and Medium enterprises in India. Moreover if we see the increase in the total enterprises in India, the growth has been 400 % ie. from 1,05,21,190 in 2001-02 to 4,67,56,000 in the year 2012-13. Not only it has provided platform for growth in terms of production, but also in terms of employment generation. In Uttarakhand, the employment generation has shown a tremendous increase from 40,880 employees in 2001-02 to 4,42,000 employees in 2012-13. It is noteworthy that presently there are 2,23,00 units in Uttarakhand.

1.1 Introduction to safety, health and welfare

Occupational safety and health (OSH) is an area related to protecting the safety, health and welfare of people engaged in work or employment. The objective of occupational safety and health programs is to foster a safe and healthy work environment. Occupational Health and Safety is not just for providing safety and health protection to employees but also concerned with protecting the family, co-workers and other stakeholders of the society. (Husain, 2010).

Health and safety are grave risks that most of the manufacturing organizations face. These risks can adversely affect the operations and productivity of businesses directly or indirectly. If an organization is looking ahead to grow and prosper, it becomes important for them to manage the risks in an efficient manner, because by managing business risks, an organization's health, assets and opportunities are secured and best taken advantage of (Fuller, 1997).

According to Husain 2010, Occupational Safety is an important element of social responsibility. Safety as per him is defined as freedom from injury and danger, insuring against hurt and other dangers of risk

According to Sween (2003) unsafe work behavior takes place as a result of the physical factors which have a bearing in pursuit of existing business. According to Sween (2003), safety not only should be the prime concern for bottom line employees but should focus on making the top management, staff more accountable to provide safe environment to the employees.

1.2 Importance of safety in manufacturing organisations

In the manufacturing organisations, employees are often faced with a lot of risk related to safety and health. These risks directly and indirectly affect business operations. Consequently, for a company to grow and prosper, it is pertinent that risks are effectively managed, because the organisational health, assets and opportunities can be better taken advantage of, if they are taken care of (Fuller, 1997). According to Husain (2010), Occupational Safety is an important element of social responsibility. He defines Safety as freedom from danger and injury, insuring against hurt and other dangers of risk.

Annexure 2 shows the dimension identified by various authors with respect to Safety and health of employees.

2. Research Objectives

Research objective 1. To determine that whether there is any significant difference in the safety perception of employees with respect to type of organisation.

Research Objective 2. To determine that whether there is any significant difference in the safety perception level of employees with respect to nature of industry.

Research Objective 3. To determine that whether there is any discrepancy between actual practices and documented practices of safety.

3. Hypotheses of the Study

- H1.** There is no significant difference in the perception of employees regarding Safety levels between groups based on Nature of Industry (chemical, packaging, automobile, food, safety equipment, heavy equipment).
- H2.** There is no significant difference in the perception of employees regarding Safety levels between different groups based on type of organisation (small or medium).
- H3.** There is no significant impact of perception of employees about Safety levels of organization on job satisfaction levels of employees.
- H4:** There is no gap between actual practices and documented practices related to safety of employees in the organisation.

4. Research Design

The framework within which research was conducted was basically descriptive in nature and the research was conducted on 215 shop floor employees of small and medium type in manufacturing organisations in Sitarganj area of SIDCUL (State Infrastructure Development Corporation of Uttarakhand) in India. The research was conducted on shop floor employees of 15 organisations belonging to 6 types of manufacturing industries viz. chemical, automobile, packaging, food, safety equipment, heavy equipment. Stratified Random sampling method was adopted for selecting the samples. The respondents' age varied from 20 years to 50 years. Survey methods with the help of self administered questionnaire was used to collect data from respondents.

A self-developed scale comprising of 29 items clubbed into 8 factors was used to determine the safety perception level of employees on 5 point likert scale. This questionnaire was the result of extensive literature review conducted. In the process of literature review, 8 factors were identified for determining the safety perception of employees. In the scale, 1 meant Strongly disagree, 2 meant Disagree, 3 meant Neutral, 4 meant Agree, 5 meant Strongly agree. The process of data collection took a period of over 3 months. Participation of workers in the survey was voluntary. Safety perception

of employees was measured using a self-developed 29 item scale with 8 factors of safety such as 'Safety Training and Supervision, Involvement of Staff, Work procedures, Safety reporting culture, Management commitment towards safety, Injury Management, Communication and safety leadership'. Reliability analysis was done by using Cronbach alpha test and the score came out to be .8 which indicated that the statements are internally consistent. One way ANOVA was used to measure the age and industry variations (nature of industry) and type of organisation (small or medium) variations on safety perception of employees. One sample t test was used to find out that whether there exists a gap between actual and documented practices related to safety in the organisation. The paper gives a comprehensive view of variations across industry type and organisation type across 8 safety factors identified after conducting extensive literature review.

5. Data Analysis

H1: There is no significant difference in the perception of employees regarding various factor of Safety between groups based on Nature of Industry (chemical, packaging, automobile, food, safety equipment, heavy equipment).

TABLE 1: Profile of Respondents with Respect to Nature of Industry

Nature of industry	Frequency	Percent	Cumulative Percent Valid
Chemical	45	20.9	20.9
Automobile	31	14.4	35.3
Packaging	72	33.5	68.8
Food	21	9.8	78.6
Safety equipments	9	4.2	82.8
Heavy equipments	37	17.2	100.0
Total	215	100.0	

Table 1 explains the composition of respondents with respect to nature of industries namely Chemical, Automobile, Packaging, Food, safety equipments, heavy equipments. The Table 1 shows that 20.9% of the respondents belonged to Chemical industry, 14.4% respondents belonged to Automobile industry, 33.5% of the total respondents belonged to Packaging industry, 9.8%

belonged to Safety equipments' concern and 17.2% of them belonged to Heavy equipment manufacturing. Most of the organizations were found to be using automated processes. The chemical industry is considered to be more prone to dangers and it was reported that the safety norms are essentially to be followed to avoid dangers and risks. Automobile industry mainly comprised of the firms

TABLE 2: Analysis of variance of various factors of safety with respect to nature of industry

Nature of Industry	N	Mean	Standard Deviation	F value	P value
Chemical	45	3.7322	.520	2.315	.045
Automobile	31	3.8708	.594		
Packaging	72	3.9271	.441		
Food	21	3.6955	.128		
Safety	9	3.9438	.081		
Heavy equipments	37	3.9872	.352		
Total	215	3.8666	.451		

manufacturing automobile components. The response from the organization dealing with manufacturing of safety equipments was also taken which revealed that how safety

and health of employees is becoming a greater concern for employees.

TABLE 3: Analysis of Variance of Various Factors of Safety with Respect to Nature of Industry

Factor Name	Chemical N=45	Automobile N=31	Packaging N=72	Food Mean N=21	Safety equipments N=9	Heavy equipments N=37	Overall	F value	PValue
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)			
Safety training and supervisions	4.17 (.49)	4.39 (.80)	4.36 (.58)	4.32 (.41)	4.25 (.33)	4.35 (.58)	4.31 (.56)	0.81	.54
Involvement of staff	3.86 (.89)	4.38 (.88)	4.20 (.72)	4.40 (.36)	4.52 (.19)	4.53 (.38)	4.25 (.73)	4.03	.00 *
Work Procedures	4.12 (.64)	4.21 (.76)	4.11 (.63)	4.23 (.29)	4.30 (.24)	4.29 (.59)	4.18 (.61)	.612	.69
Reporting safety	3.84 (.65)	4.10 (.80)	4.51 (.67)	4.11 (.18)	4.35 (.13)	4.31 (.38)	4.23 (.64)	7.54	.00*
Management Commitment	3.70 (.63)	2.70 (.68)	2.60 (.50)	2.10 (.36)	2.55 (.24)	2.72 (.61)	2.60 (.58)	4.096	.001*
Injury Management	2.97 (1.08)	2.75 (.87)	2.56 (.91)	2.50 (.47)	2.72 (.26)	3.01 (.77)	2.75 (.89)	2.26	.05**
Communication	4.00 (.75)	4.10 (.97)	4.45 (.66)	3.83 (.42)	4.38 (.13)	4.36 (.54)	4.23 (.71)	4.22	.001*
Safety Leadership	4.86 (.78)	4.29 (.78)	4.59 (.69)	4.04 (.15)	4.44 (.30)	4.29 (.69)	4.34 (.70)	3.45	.00*

*significant at .01 level

**significant at .05 level

The effects of Nature of industry on employees' perception were studied using one way ANOVA test. The test was performed to find out whether there is any significant difference among the group using ANOVA with all groups taken together. The results of ANOVA are presented in Table 2. It is evident from F-value (2.32) and p-value(.045 which less than .05) that there is a significant difference in employees' perception about safety with respect to 5 different types of industries i.e. chemical, automobile, packaging, food, safety equipment, heavy equipment.

Thus the null hypothesis stating that there is no significant difference in the perception of employees regarding safety levels between different types of industries is not accepted and *alternate hypothesis stating that there is a significant difference in the safety perception of employees with respect to different types of industries is accepted.*

Every organization is required to follow some practices with respect to Safety of the employees. The various factors related to Safety of employees were identified by carrying out extensive literature review and in order to examine the safety related practices being followed in the organization, employees were asked to rate various statements related to safety. Table 3 shows the findings of the survey with respect to nature of industry.

It is clear from Table 3 that at overall level, employees agreed that there is a mechanism of safety training and supervision (mean score= 4.3) , involvement of staff (mean score=4.25), safe work procedures (mean score =4.18), reporting unsafe practices culture (mean score = 4.23), Communication (mean score= 4.23), safety leadership (mean score = 4.4) whereas they showed slight disagreement on the practices related to injury management (mean score= 2.75) and management commitment to safety (mean score= 2.6).

Further One way ANOVA was applied to examine the difference between mean scores of various factors

influencing the employees' perception about safety with respect to nature of industry. The result of one way ANOVA indicate that difference in mean score is significant at .01 levels and factors whose F value turned significant are Involvement of staff (4.03), Reporting safety (7.54), safety leadership (3.45), communication (4.22) and management commitment to safety (4.09) and one factor namely Injury management is significant at .05 level with F value 2.26. However, the F value turns insignificant for remaining factors viz. Safety training and supervision, work procedures. Hence, it can be concluded that with respect to Nature of industry, there is a significant difference in safety levels of employees.

The study highlights the moderate agreement in response of employees with respect to reporting safety(mean score=3.84) in Chemical industry as compared to other industries, wherein the employees showed agreement(mean score is more than 4). In Food industry, the employees disagreed on management commitment towards safety(mean score=2.10) and chemical industry was found to be showing moderate agreement on the safety commitment of the management(mean score=3.70). The study reveals that in all types of industries, safety communication was one of the important and most prominent features which show the existence of safety culture in the organization. The study shows the existence of safety leadership and safe work procedures in all types of industries, safety leadership being the highest in chemical industry(mean score= 4.86).The organizations were seen to be involving the staff in decision making, especially with strong agreement of employees for the same in safety equipment manufacturing (4.52) and heavy equipment manufacturing concerns (4.53). However in chemical industry, the level of agreement for the same was moderate meaning thereby that the employees are not involvement in safety decision of the organization. The injury management practices as a proactive measure of ensuring safety (mean score <3) was found to be

TABLE 4: Profile of Respondents with Respect to Type of Organization

TYPE	Frequency	Percent	Cumulative Percent
Small	84	39.1	39.1
Medium	131	60.9	100.0
Total	215	100.0	

less in all other organization except for heavy equipment manufacturing concern. Safety communication (mean score more than 4) was found to be high and one of the most prominent features of the industries operating

therein except for food industry wherein there was found to be moderate agreement.

H2: There is no significant difference in the perception of employees regarding various factors of safety between

TABLE 5: Analysis of Variance for Safety Perception with Respect to Type Oof Organisation

Type of organization	N	Mean	Standard Deviation	F value	P value.
SMALL	84	3.84	.41	.298	.586
MEDIUM	131	3.88	.47		
Total	215	3.86	.45		

groups based on type of organisation (small and medium type organisation).

Table 4 explains the composition of respondents with respect to small and medium enterprises. The Table shows that 39.1% of sample was drawn from small enterprises whereas 60.9% of the respondents were from medium enterprises. Small enterprises are those enterprises wherein the investment in Plant and

machinery is Rs. 25 lakh to Rs. 5 crores whereas the medium enterprises are the ones in which investment in plant and machinery is between Rs. 5 crores and Rs. 100 crores.

The effects of type of organization on employees' perception were studied using one way ANOVA test. The test was performed to find out whether there is any

TABLE 6: Analysis of variance for various factors of Safety with respect to type of organization

Factor Name	Small		Medium		Overall		F Value	P Value
	Mean	SD	Mean	SD	Mean	SD		
Safety training and supervision	4.33	.40	4.31	.653	4.31	.56	.048	.828
Involvement of staff	4.44	.69	4.37	.736	4.25	.73	9.64	.002*
Work Procedures	4.38	.51	4.25	.661	4.18	.61	4.070	.045**
Reporting safety	4.25	.68	4.2	.629	4.23	.64	.142	.707
Management Commitment	2.64	.46	2.58	.648	2.60	.58	.591	.443
Injury Management	3.04	.93	2.89	.836	2.75	.89	8.206	.005*
Communication	4.34	.66	4.15	.736	4.23	.716	3.796	.050**
Safety Leadership	4.5	.723	4.44	.674	4.34	.703	6.737	.010*

*Significant at .01 level

**Significant at .05 level

significant difference among the group using ANOVA with all groups taken together. The results of ANOVA are presented in Table 5. It is evident from F value (.298) and P value (.58 which is more than .05) that there is no significant difference in employees' perception about safety with respect to 2 different types of organizations ie. Small

and medium.

Thus, the null hypothesis stating that there is no significant difference in the perception of employees regarding safety levels between different types of organizations is accepted.

According to various certifications and standards related to Safety, every organization should follow some practices related to Safety of the employees. The various factors related to Safety of employees were identified by carrying out extensive literature review and in order to examine the safety related practices being followed in the organization, employees were asked to rate various statements related to safety. Table 6 shows the findings of the survey with respect to type of organization ie. Small and medium type.

It is clear from the Table 6 that at overall level, employees strongly agreed that there is a mechanism of safety training and supervision (mean score= 4.3), involvement of staff (mean score=4.25), safe work procedures (mean score =4.18), reporting unsafe practices culture(mean score = 4.23), Communication (mean score= 4.23), safety leadership (mean score =

4.4) whereas they showed slight disagreement on the practices related to injury management (mean score= 2.75) and management commitment to safety(mean score= 2.6)

Further One way ANOVA was applied to examine the difference between mean scores of various factors influencing the employees' perception about safety with respect to type of organization, medium or small. The result of one way ANOVA indicate that difference in mean score is significant at .01 levels for 3 factors viz. Injury management, Involvement of staff, safety leadership and the difference in mean score is significant at .05 level for 2 factors viz. work procedures and communication. However, the F value turns insignificant for remaining factors viz. Safety training and supervision, reporting safety and management commitment to safety.

TABLE 7: One sample t test to test the difference in actual and documented practices related to safety

N (Employees=215, Employers=15)						
Test Value = 4.57						
Mean=3.85, Standard Deviation=.45	T	Df	Sig.	Mean	95% Confidence Interval of the Difference	
					Lower	Upper
Safety	-22.878	214	.000	-.70340	-.7640	-.6428

Hence, it can concluded that with respect to type of organization, there is a significant difference in safety levels of employees for 5 factors ie. Involvement of staff, injury management. Safety leadership, work procedures and communication and it shows that the employees with lower age agree more with respect to these factors as compared to the ones with higher age.

H3: *There is no significant difference in the actual and documented practices related to safety of employees.*

A one sample t test was run to determine whether there is significant difference in actual practices and documented practices. Actual practices related to safety were assessed using employee safety score whereas employers' score on the questions related to safety were considered as the documented practices. The employees' scores were normally distributed, as assessed by Shapiro Wilk's test and there were no outliers in data.

Mean of actual practices score (3.87+_.45) was found to be lower than employer score (4.57), a statistical difference of .00 (99% C.I., -.642 to. -.76, $t(214) = 22.87, p=.00$. Therefore the null hypothesis stating that there is no significant difference in the actual and documented practices is not accepted and *alternate hypothesis stating that there is a significant difference in the actual and documented practices related to safety of employees is accepted.*

6. Results and Discussion

The study highlights that based on nature of industry, the employees showed moderate agreement with respect to reporting safety in Chemical industry as compared to other industries, where the employees showed agreement. Based on nature of industry, the employees in food industry agreed on management commitment towards safety. In chemical industry, employees were found to be showing moderate agreement on the safety commitment of the

management. The study reveals that based on nature of industry, safety communication was one of the most important and prominent features in all the industries which shows that employees are communicated well with respect to safety. The study shows that based on the nature of industry, there is an existence of safety leadership and safe work procedures and the agreement of employees towards safety leadership is the highest in chemical industry. Based on the type of industry, the employees of safety equipment manufacturing and heavy equipment manufacturing concerns had a strong agreement with respect to Involvement of staff in decision making. However, in chemical industry, the level of agreement was moderate which means that the employees are not involved in safety decision of the organization. Based on nature of industry, the injury management practices as one of the proactive measures of ensuring safety was found to be less in all types of industries except for heavy equipment manufacturing concern. Except for food industry amongst 6 industries taken as a part of the study, Safety communication was found to be high and one of the most prominent features of the industries but for the food industry, employees showed moderate agreement. Based on nature of organization, in medium enterprises, employees were found to be showing slight disagreement with respect to management commitment and injury management in comparison to small enterprises where the employees showed moderate agreement. To illustrate a few:

- (a) Employees have a very casual and let go type of attitude towards safety at the workplace. So it becomes very important to constantly reinforce the safety practices by the management for safety of employees. Health and safety training is imparted to the employees at frequent intervals i.e. Twice a year or quarterly;
- (b) Most of the small and medium enterprises reported that they are certified by some or the other quality certification like IS18001 organization and comply with the standards of safety and health. They reported that it is not only the responsibility of the management but also the requirement of the client organization. They say that it's the pre requisite of client organizations before signing the contract because they don't want to compromise with the quality;
- (c) The safety managers surveyed thoroughly and firmly believed that it's the culture which needs to be made

an integral part of the organization and top to bottom approach needs to be followed in this regard. Assuming safety and health as the prime responsibility by each and every employee can only create difference;

- (d) The employees are not only incentivized for the same but effort is made to make them set safety and health as a priority to other aspects;
- (e) Risk assessment was found to be an important issue during the discussion and most of the organizations claimed that they are following it as a regular practice;
- (f) One of the managers interviewed belonged to safety equipments manufacturing concerns pointed out that there is increasing demand of safety equipments these days due to growing awareness and more strictness towards safety;
- (g) There are regular third party safety inspections especially by different certified organizations.

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*The best way to find yourself is to lose yourself in
the service of others.*

– Mahatma Gandhi

ANNEXURES

Annexure 1: Small and Medium Enterprises in Uttarakhand along with India in 2001 And 2012

Year	Uttarakhand		India	
	2001-02	2012-13	2001-02	2012-13
Total Number of units	1,06,484	2,23,000	1,05,21,190	4,67,56,000

Source: Annual Report of Ministry of Micro Small and Medium enterprises, Govt. of India.

Annexure 2: Dimension of Safety and Health of Employees

Dimensions	Author	Definition of the dimension identified and the findings
Safety Training	Shan 2011	It acts as a tool to motivate and encourage safe behavior of employees at the workplace
	Prakash 2010	A proactive safety measure to enable workers to handle unforeseen hazards
Safety Culture	Sukadarin et al., 2012	A feasible and practical solution to control the attitude, beliefs, behavior of employees to safety in organization.
	Richer and Koch 2004, Sukadarin et al. 2012	The shared and learned meaning, experiences and interpretation of work and safety, expressed symbolically and which guides people
	Fitzgerald, 2005	It includes values and beliefs which interact with an organizational system to create behavioral norms.
	Fleming	Culture needs to be worked upon, especially in case when accidents are causing due to cultural and behavioral issues in the organization
	Toft and Reynold	Safety culture is the set of norms, beliefs, attitudes, technical and social practices within an organization which are concerned with minimizing the vulnerability to the conditions which are measured to be dangerous.
	Davies et al., (2001)	Safety climate can be described as current variation or nuances of long term culture as the tangible outputs of an organization's health and safety culture, as perceived by individuals or work groups, at some point in time.
	Mearns, K et al (1997)	Safety climate in the organization can be evaluated typically using employee questionnaires to assess the attitude and that is further explained using exploratory and then confirmatory factor analysis .
Employee involvement	Back and Woolfson (1999)	It is argued at times safety culture introduction in the organization can defeat its own purpose of bringing in better safety performance.
	Child et al	It was advocated that organizational culture should be assessed individually in the organization which are in alliance and should integrate it in a management system for cooperative ventures.
	Apostolou (2000)	It means that employee should be made to participate and involve in helping the organization to achieve its objectives.
	Husain (2009)	Employee involvement is basically a behavior-oriented technique involved in the employees in the upward communication flow and decision making process of the organization
	Beatrice (2011)	It can be defined as the summation of processes which are designed to connect support, understanding and effective contribution of all employees of the organization and commitment to the objectives.
	Gordon and Yukl (2006)	It comprises of the efforts of the management to attain objectives in organization.
Leadership	HSC, 2001a	It is advised that the safety commitment should become part of management and should be there for all levels.

	Health and Safety Executive	Dedication of management towards safety could be seen by. •The status given to health and safety (HSE, 1999a). •The amount of resources allocated to health and safety management (HSE, 1997). •Workforce dedicated towards safety (Reason, 1997). •Safety leadership training (HSC, 2003).
	Fleming (2002)	In his study four factors were found to be having a positive impact on how people perceive safety. •Valuing subordinates •Visiting the work site frequently •Workers participation in management •Effective safety communication.
Two-Way Communication	Guestetal (1994)	In the study an examination of safety culture and safety performance took place and it was found that communication is big issue to enforce safety. Effective 2 way communication was found to be important for ensuring safety culture
	Mearns et al. (1998)	The study found that likelihood of accident is more in absence of job communication and thus it supported the view that safety communication is important for reducing risk of safety and for ensuring safety culture.
Safety Reporting	Reason (1997)	He studied the importance of reporting in the organization and thus identified some issues which need to be addressed for the purpose of safety reporting.
	Clarke (1998)	The study suggested that negative perceptions of managers' commitment to safety can have a negative impact on the employees' safety behavior.
Involvement and Participation of Staff	Guestetal (1994)	The study pinpointed the existence of "macho" attitude among the workers towards safety and they gave low importance to safety representatives. The responsibility of accidents was found to put to others.
	HSE	The evaluation by way of test, organization of workshops, consultation group formation should be viewed as best practice to ensure safety in the organization.
Existence of learning culture	Reason (1997)	The literature emphasized the importance of reviewing not only the problems that can occur but also the losses caused by such unsafe acts and accidents
	HSE	Emphasized the importance of involvement of employees in not only filling the questionnaire but also in making them a part of continuous improvement.

An Empirical Study on the Awareness and Usage of RTI Act 2005 by Indian Students in Northern India

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The Right to Information (RTI) Act, 2005 has been recognized as a fundamental human right, which upholds the inherent dignity of all human beings. The right to information plays a crucial role in the Indian democracy as it tries to ensure accountability and good governance. Greater the access of the citizen to information, greater the responsiveness of government to community needs. In the education sector, students are facing various problems with regards to their academics such as fee details, admission process, result delays, result evaluation, original data for research work, education loan from banks, performance of institutions, infrastructure details, to name a few. At the ground level, colleges and universities have designated Public Information Officers to address the problems of students. As the Universities Grant Commission (UGC) is functioning under the central government; hence all the colleges and universities come under the RTI Act, 2005. The study was conducted to understand the awareness level and usage of RTI Act, 2005. The study also attempts to find the problems encountered by the students in retrieving information. It also enlightens the resources from where the information is obtained and whether timely information is supplied to them by the public information officers.

1. Introduction

As we are well aware that universities and colleges come under the legislation of University Grants Commission (UGC) henceforth they should come under the provisions of RTI Act, 2005. The RTI Act, 2005 helps the students at various platforms like with regard to their academics i.e. fees details, admission process, result delays, result evaluation, original data for the research work, education loan from the bank, performance of the institution, infrastructure details. However the institutions should not provide information which will affect the security, strategic scientific or economic interests of the state or the country. Colleges and universities also should not disclose sensitive information, including commercial confidence, trade secrets or intellectual property, the disclosure of which would affect the competitive position of a third party, unless a large public interest is involved. Legislation and its provisions in Indian Constitution play an important role in the life of every Indian. On May 10th, 2005, the Government of India (GoI) Government had passed the RTI Act in the parliament which provides access to information of government records which were earlier inaccessible to the students of India. By doing this, GoI Government had given freedom to Indians for taking information regarding government's proposed plans and the existing documentations in various departments. Indian civil society and media had very much expectation from the RTI Act, 2005. Actually this law had given power to Indians to interact and seek accountability of executive's plans and courage of action taken. Indians felt hope of better services from the government For providing adequate information through RTI the government authorities do not have adequate infrastructure, sufficient budget and human resources. Public Information Officers deployed for providing

information by RTI Act, 2005 have low level of information regarding the RTI Act, 2005. The employees of government establishments lack awareness, knowledge and improper management of records. In many of the cases the information in the government departments is not centralized and it is wide spread in separate departments. Basically, the rules for the RTI are being framed by the central and state government. The various formats, modes of payments, procedures for accessing information and the appeals process for information commissions. The legislative bodies such as Supreme Court, High Court and both houses of parliament can also frame rules. India there is presently 81 rules regarding RTI. There is variable fees structure for retrieval of information. For taking information there are complicated formats, delaying procedures are the main hindrances among the students for the proper implementation of RTI Act, 2005. In most of the organizations the Public Information Officers (PIOs) are not trained in RTI practices. The training division of Department of Personnel & Training (DOPT) is the nodal agency for formulating and implementing training policy. Institute of Secretariat and management (ISTM) a training institute under DOPT conducts training of government functionaries. But approximately 60% of the rural and urban PIOs have not received any RTI training. The lack of training is reflected in the low levels of awareness about the law among PIOs. In the rural areas 30% PIOs does not know the provisions of RTI Act, 2005. Normally the training on RTI is compulsory but department does not nominate the officers for training on RTI.

2. Literature Review

Wadia Angela (2006) has comprehensively covered the RTI Act, 2005 and the challenges thrown by this Act. He has explained the duties of PIOs, the powers and functions of Central Information Commission (CIC) and State Information Commission (SIC) and the role of Gol in promoting RTI Act, 2005. He has also explained the procedure for request of information. Das (2006) gives the simple meaning and interpretation of the words used in the Article 19 and clause (1) (a) of the Constitution of India of which Right to Information is the product. He explains how the government functions must be transparent and the three instrumentalities i.e. executive, legislative and judiciary of the state should be prevented from deceiving people. He thus explains how one-sided information, disinformation, misinformation, and non-information all equally create uninformed student. As per the author there is one feature which should be particularly noted by the

information seekers. They can ask only information on what exists with the Public Information Officer or ask for copies of documents which the Information Officer has in his possession or which he could have called for. Acharya (2006) has commented in detail the procedure for seeking information and the fee structure to avail information. He has given the format of application, first appeal and second appeal for obtaining information. He has answered many queries followed by wise commentary related to Right to Information which increases the understanding and wisdom of the people as regards this Act. He has presented the state rules, circulars, manuals, forms and registers. He writes about cases where appellate authorities imposed penalties on the erring information officers and granted to the offended information seekers costs and compensation as well. Also cases of compensation, where the information seeker is granted damages for the mental agony which he may have suffered in pursuing appeals. Finally, the author finds it necessary to note the question whether the Central Act only will apply in all states including those states which have already legislations governing the subject or those states will continue to apply their own state legislations? Therefore, as per the author, when Central Act occupies the entire field of the Right to Information, the Central Act will only apply and not the State Acts. Mishra Sudhansu (2009) has presented research papers which give the scope, different provisions, strengths and shortfalls of the RTI Act, 2005. The book also gives valuable suggestions to make the common man partner in the development efforts for rural India. It brings out the origin and history of right to information necessary to understand the requirement for a community and analyses the movements for right to information in India. An attempt has been made to trace the origin and brief history of RTI Act, 2005 and to critically analyze its impact on Indian democracy. Considering the importance of RTI Act for sustainable rural development, many social scientists drawn from different faculties have presented their well-considered views on different issues pertaining to the development of rural economy. Based on both secondary and primary data for investigation and action research, this book portrays the various aspects of RTI Act, 2005 and its vital role in accentuating rural economy. Dr. Goel, a learned author has delved into the Right to Information from different angles – historical, legal, institutional, political, administrative and even futuristic. The book is not just a mere commentary on the Right to Information Act, 2005

with some introductory information; it approaches the subject in an extremely comprehensive manner. While good governance is the ultimate end of democratic polity, the right to information is a valuable instrument to achieve it. The exposition by Dr. Goel lucidly and authentically points out that right to information is not only of instrumental value, but has become a democratic value in itself. Besides an informative and detailed preface, he outlines the broad issues and then he discusses the democratic Endeavour for and analysis of right to information and good governance. He discusses the scope of the law, the organizational structure for implementation and the limited experience gained during the working of this Act. He has attempted to make full use of whatever information has been made available to date on the working of the new information regime and has also raised certain issues himself. Shukla Ashutosh (2011) writes about a landmark order which the state chief information commissioner told an applicant to pay for information that should have been given to him free of cost. Provisions of the RTI Act mention that an applicant cannot be charged for information if it is not provided within thirty days if there is no valid explanation given for the delay. An applicant also cannot be charged if he is not provided with any information at all. The RTI Act also states that the purpose for which the information is sought cannot be asked. Information commissioner Vijay Kuvalekar passed the order that though the information should have been given free as it was not provided within the stipulated time, in this case, the applicant will have to pay for it, as the applicant sought it for professional/commercial use. Shukla Ashutosh (2011) writes that despite the order of providing readily available information at the Rs.2 for A3 and A4 size papers two BMC departments — Building Proposal and Assessor and Collector — were taking money from applicants for expenses that are to be borne by the BMC. These departments cited the BMC rules and their schedule of charges that existed prior to the Act. The RTI Act, however, overrides all other rules and any rules formed are only subservient to the main Act. Thus, the BMC departments should have charged RTI applicants as per the RTI Act and not as per their previous schedule of charges. BMC departments were charging certification charges at Rs.50 per page. Inspection of documents, free for the first hour and then Rs.5 for every 15 minutes under the RTI Act, was being charged at the rate of Rs.230 in case of inspection of each property for one year as per scheduled charges. Officers arguing the case said that

they were obeying their seniors who were responsible for levying charges.

3. Research Objectives

Research Objective 1. To know the awareness level of RTI Act, 2005 among Indian students.

Research Objective 2. To assess the usage of RTI by students.

Research Objective 3. To find out the problems encountered by students with regard to RTI?

Research Objective 4. To find out the resources from where students got awareness about RTI.

Research Objective 5. To study whether PIOs normally provide full information by RTI on time.

Hypotheses:

Ho1: There is no significant difference regarding among male and female student with regard to awareness level of RTI Act, 2005.

Ho2: There is no significant difference regarding among male and female student with regard to usage of RTI Act, 2005.

Ho3: There is no significant difference regarding among male and female student with regard to problems encountered by public with regard to RTI.

Ho4: There is no significant difference regarding providing the information irrespective of gender of applicant by PIOs.

4. Research Methods

4 (a) Research design

Fred N. Kerlinger defines scientific research as a systematic, controlled, empirical and critical investigation of hypothetical propositions about the presumed relations among natural phenomena. Further, Berelson and Steiner define science as a form of enquiry in which procedures and public, definitions are precise, data collection is objective, findings are replicable, the approach is systematic and cumulative; and the purposes are explanation, understanding, and prediction.

Research is further classified into two categories viz. experimental research or non-experimental Research. Experimental research is one in which the researcher

makes changes in independent variables and studies their effects on dependent variables under controlled conditions. Whereas non-experimental research is one in which the researcher simply measures the present level of the independent variable. Since, there is no independent variable that can be manipulated; therefore, the research is non-experimental research. Here the researcher has simply measured the present level of the independent variable and its effect on dependent variables as they occurred naturally. As a result, data generated by present research work is not helpful in establishing the cause and effect relationships between variables. It is useful only in describing certain relationships without showing their functional interdependence.

Non-experimental research is again divided into two categories viz. (1) Exploratory Research (2) Descriptive Research. Exploratory research aims at exploring the possibility of doing research on a certain subject where due to paucity of existing knowledge, framing and testing of hypothesis are difficult. On the other hand, Descriptive research aims at answering the 'what' and 'why' of the current state of some system. Description and explanation are its two aims. The present research work has tried to describe and explain the various factors relating to use and implementation of 'Right to Information Act' in Gwalior City. Thus the research is Descriptive Research. A descriptive research can be static, dynamic or historical in nature. It is static in nature if it involves a single measurement of the phenomenon in question. It is dynamic in nature if it goes beyond the simple measurement of variable and examines the relationship among variables by using either cross-sectional or longitudinal design. A cross-sectional study is one which collects data about various variables of the sample at one point of time in order to uncover relationships existing among those variables.

Conclusively the present research is a Non-experimental Applied.

Exploratory and descriptive research design was used for the study. The data was collected with personal investigations involving original field interviews with the students of Punjab. The study of the relevant literature was also useful in this study. In this study Non Probability Purposive sampling technique was used. The questionnaire has been designed on the basis of RTI formats and the importance of RTI information. A structured questionnaire was designed on the basis of data generated from the

various literature studies. The whole questionnaire was designed on Likert's five point scale i.e. from one to five. Here one was for strongly agree and five for strongly disagree. Three was for neutral response. Two for agree and four for disagree, five was for strongly disagree. The final tested questionnaire, written in English (being only the medium of communication) was hand – delivered to 200 respondents residing in Punjab of various locations. But only 180 of the respondents filled and returned their filled questionnaires. Various statistical techniques were used for the analysis of the data i.e. mean, median, mode, quartile and Chi square test.

4 (b) Scope of the study

The sampling unit was the respondents residing in Punjab of various locations. The data was collected from Patiala, Sangrur, Ludhiana, Jalandhar districts.

4 (c) Data analysis technique

Firstly the returned filled up questionnaires were edited one by one to detect and eliminate errors relating to their accuracy, uniformity and completeness. Cross examination was done for the incomplete portions of the questionnaires left out by the respondents and for the respondents who could not give certain remarks on some portions of the questionnaires. All in competencies were re-examined with the aid of interviews and observation techniques. The questionnaires were arranged organizationally and master sheet was created after scoring of the responses. Finally the data were entered in the excel sheet of Microsoft office. For proper statistical analysis and Descriptive analysis excel software has been used.

5. Results and Discussion

5 (a) Reliability test

Cronbach alpha is commonly used to measure reliability for a set of two or more construct indicators. All of Cronbach's alpha values should meet the minimum criterion (alpha greater than 0.60). So, the results will indicate the reliability of Likert five point scale and sub scales which was at acceptable level. This reliability test is done for checking the reliability of the scale i.e. Likert scale. In this study reliability test is done on having sample size of 180. The values were calculated on the basis of overall 180 sampled data. The alpha values calculated as Cronbach alpha values of the factor's section wise

TABLE 1.1: Reliability Test for Different Variables of The Study

Reliability Test for different variables for	No. of variables	Alpha values
		(0.6009-0.9197)
Awareness and Usage of RTI Act 2005 for coping up with the corruption	15	0.7342

indicating reliability. This table shows the reliability of this section having different number of factors and range of alpha values 0.6009- 0.9197.

In this study the respondents were asked regarding awareness level of RTI Act, 2005 among Indian students. The study also tries to assess the usage of RTI by students. The study sorting out the problems encountered by students with regard to RTI. We also get an idea regarding the resources from where students got awareness about RTI and whether students get full information of RTI on time. In analysis summary statistics table was drawn with statistics like quartiles, average measures and range of the responses, further their graphical analysis was done to check for the randomness of pattern among responses for any factors.

5 (b) Variables used in the study

Gender, Community, Father’s education, mother education, Occupation, Place of Living and Nature of Family

The following factors were taken in the questionnaire on Likert’s five point scale:

- i. Are you aware of the RTI Act,
- ii. Do you aware of different provisions of the RTI Act.
- iii. Do you think RTI Act is beneficial to the Indian students?
- iv. Do you believe RTI information can be taken easily from Government departments?
- v. The information which you demanded was in the proper format.

- vi. You really faced problems while retrieving the information.
- vii. Have the PIOs normally denied the information initially.
- viii. The information supplied to you was delayed many times.
- ix. Do you maintain proper records when applying for RTI information.
- x. You lack the knowledge with regard to various formats of RTI.
- xi. Are you aware of complete rules regarding RTI.
- xii. Do you agree that Government does not give counseling to the students with regard to RTI and how information can be obtained?
- xiii. Do you think the time for information supplied is too long.
- xiv. You agree that PIOs does not counsel or guide common man in filling the RTI format.
- xv. Do you agree that PIOs provide full information by RTI Act in time.

5 (c) Demographic Analysis on the basis of various categories in Punjab

There are various Categories in the Punjab on the basis of Castes i.e. General, SC, BC, OBC. The classification of these students is based on the categories which they belong.

It can be observed from the table that 44.4% of the students belong to General Category, 11.1% of the students belong

TABLE 1.2: Demographic analysis of respondents of Awareness of RTI ACT

Total Female and male respondents							
Number of Respondents (180)							
		Female%	Male%	Age in Years		Experience in Years	
				Average	Range	Average	Range
Female	90	(50%)	50%	34.9	27-40	10	04-15
Male	90			28.43	23-44	5.12	01-20

TABLE 1.3: Communities of the Respondents

Community	Total Sample		University students		College Students	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
General	80	44.4	35	41.7	45	42.5
SC	20	11.1	4	4.8	6	5.6
BC	50	27.8	20	23.8	30	28.3
OBC	50	27.8	25	29.8	25	23.6
	180		84	100.0	106	100.0

to SC category, and 27.8% of the students belong to BC category, 27.8% of the students belong to OBC category.

(i) Parental education status

In India parents' education level provides a career guidance and educational awareness among students. This study gives us an idea about the parents educational status both mother and father.

It has been observed from the table that 13.9% of the student's father had no formal education, 38.9% of the student's father have education up to matriculation level, 30.6% of the student's father have education up to graduation level, 16.7% of the student's father have education upto post graduation level.

TABLE 1.4 Father Education Level

Father Education	Total Sample		University students		College Students	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
No formal Education	25	13.9	13	12.7	12	15.6
Upto Matriculation Level	70	38.9	40	38.9	30	38.9
Graduation Level	55	30.6	30	29.1	25	32.5
Upto Post Graduation Level	30	16.7	20	19.4	10	13
Total	180		103	100.0	77	100.0

TABLE 1.5 Mother Education Level

Mother Education	Total Sample		University students		College Students	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
No formal Education	50	27.8	30	30.6	20	15.6
Upto Matriculation Level	70	38.9	35	35.7	35	38.9
Graduation Level	40	22.2	23	23.5	17	32.5
Upto Post Graduation Level	20	11.1	10	10.2	10	13
Total	180		98	100.0	82	100.0

The above table 1.5 shows that 27.8% student's mothers have no formal education, 38.9% of the student's mother had education up to matriculation level, 22.2% of student's mother had education up to graduation level, and 11.1% of student's education was upto post graduation level.

(ii) Area of living

The area of living for this study is of two types rural and urban, the needs, life style, occupation, per capital income vary among themselves. The distribution of urban and rural students has been done below:

TABLE 1.6: Area of Living

Place	Total Sample		University students		College Students	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Rural	80	44.4	35	30.6	45	15.6
Urban	100	55.6	45	35.7	55	38.9
Total	180	100	80	100.0	100	100.0

(iii) Nature of family

Indian culture differs from other countries; mainly Indian culture is divided into two categories i.e. joint family and nuclear family. The division of families of the students is given below:

Interpretation:

It has been concluded from the above table that 61.1% of the students belong to joint family and 38.9% students belong to nuclear families.

TABLE 1.7: Nature of Family

Nature of Family	Total Sample		University students		College Students	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Joint family	110	61.1	50	62.5	60	60
Nuclear family	70	38.9	30	37.5	40	40
Total	180	100	80	100.0	100	100.0

TABLE 1.8: Descriptive analysis of Female respondents

Female (Descriptive Analysis)	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	F14	F15
Mean	1.5	1.8	1.5	1.7	1.4	1.8	1.4	3.1	2.7	1.6	2.6	3.1	1.6	2.8	4.6
Standard Error	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.1
Median	1.0	2.0	1.0	2.0	1.0	2.0	1.0	4.0	2.0	1.0	2.0	2.0	1.0	2.0	5.0
Mode	1.0	2.0	1.0	2.0	1.0	2.0	1.0	4.0	1.0	1.0	1.0	2.0	1.0	1.0	5.0
Standard Deviation	0.9	0.7	0.8	0.6	0.6	0.9	0.7	1.5	1.7	0.8	1.6	1.6	0.7	1.6	0.5

Sample Variance	0.7	0.4	0.7	0.4	0.3	0.8	0.4	2.4	2.7	0.6	2.5	2.6	0.6	2.6	0.2
Kurtosis	6.7	3.4	8.0	7.7	3.8	5.0	5.1	-1.6	-1.6	5.7	-1.4	-1.7	5.3	-1.6	-2.0
Skewness	2.4	1.2	2.6	1.7	1.5	1.9	2.0	-0.1	0.4	2.0	0.5	0.1	1.9	0.2	-0.2
Range	4.0	3.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.0
Minimum	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	4.0
Maximum	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Sum	134.0	165.0	132.0	153.0	124.0	163.0	128.0	279.0	239.0	141.0	231.0	276.0	142.0	251.0	410.0
Count	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0

Interpretation:

The combined average value for this factor-combination is less for all the factors. This means that the female respondents feel that they are well aware of RTI act. Further, the variation in the data items reveals that respondents are more consistent. The analysis also shows that the

data is much skewed as the skewness ranges from -ve to +ve, the positive skewness indicates the frequencies in the distribution are spread out over a greater range of values on the high value end of the curve than they are on the low end. It means that the data does not fall towards the normal distribution.

TABLE 1.9: Descriptive Analysis for male Respondents

Male (Descriptive Analysis)	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	F14	F15
Mean	1.8	1.5	2.0	2.9	1.8	1.7	1.6	1.3	2.9	1.5	2.2	2.1	1.7	4.2	4.2
Standard	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Error															
Median	2.0	1.0	2.0	4.0	2.0	1.0	1.0	1.0	3.0	1.0	2.0	2.0	1.0	4.0	4.0
Mode	2.0	1.0	2.0	4.0	2.0	1.0	1.0	1.0	3.0	1.0	2.0	1.0	1.0	5.0	4.0
Standard Deviation	0.9	0.9	0.8	1.3	0.8	1.0	0.7	0.7	1.0	0.6	1.3	1.2	1.0	1.1	0.5
Sample Variance	0.8	0.7	0.7	1.7	0.6	1.1	0.5	0.4	1.0	0.4	1.6	1.5	1.0	1.2	0.3
Kurtosis	3.2	8.2	0.8	-1.5	2.9	2.6	3.1	12.0	0.4	3.4	1.0	-1.2	2.6	2.8	3.1
Skewness	1.7	2.6	0.9	-0.6	1.3	1.8	1.5	2.9	1.2	1.3	1.5	0.7	1.7	-1.7	-0.2
Range	4.0	4.0	3.0	3.0	4.0	4.0	3.0	4.0	3.0	3.0	4.0	3.0	4.0	4.0	3.0

Minimum	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	2.0
Maximum	5.0	5.0	4.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	5.0	5.0	5.0
Sum	162.0	135.0	180.0	263.0	162.0	153.0	141.0	121.0	259.0	137.0	198.0	188.0	151.0	375.0	382.0
Count	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0	90.0

5 (d) Interpretation of the findings

The combined average value for this factor-combination is less for all the factors. This means that the female respondents feel that they are well aware of RTI act. Further, the variation in the data items reveals that respondents are more consistent. The analysis also shows that the data is much skewed as the skewness ranges from -ve to +ve, the positive skewness indicates the frequencies in the distribution are spread out over a greater range of values on the high value end of the curve than they are on the low end. It means that the data does not fall towards the normal distribution.

5 (e) Testing of Hypothesis

The framed hypothesis has been tested with the help of t-test assuming unequal variances.

Ho1: There is no significant difference among male and females with regard to Awareness level of RTI Act, 2005.

t-Test: Two-Sample Assuming Unequal Variances

	Variable 1	Variable 2
Mean	1.8	1.488888889
Variance	0.835955056	0.724594257
Observations	90	90
Hypothesized Mean Difference	0	
Df	177	
t Stat	2.362642588	
P(T<=t) one-tail	0.009615409	
t Critical one-tail	1.653508002	
P(T<=t) two-tail	0.019230818	
t Critical two-tail	1.973457161	

The significant difference of means of two samples the calculated value of t is more than the critical value at 0.05 level of significance. Hence we reject the null hypothesis and accept the alternative hypothesis. So, henceforth it has been concluded that there is significant difference between among male and females with regard to awareness level of RTI Act, 2005.

Ho2: There is no significant difference regarding among male and females with regard to usage of RTI Act, 2005.

t-Test: Two-Sample Assuming Unequal Variances

	Variable 1	Variable 2
	2.0	1.0
Mean	2.0	1.4
Variance	0.7	0.6
Observations	89.0	89.0
Hypothesized Mean Difference	0.0	
Df	175.0	
t Stat	4.7	
P(T<=t) one-tail	0.0	
t Critical one-tail	1.7	
P(T<=t) two-tail	0.0	
t Critical two-tail	2.0	

The significant difference of means of two samples the calculated value of t is more than the critical value at 0.05 level of significance. Hence we reject the null hypothesis and accept the alternative hypothesis. So, henceforth it has been concluded that There is significant difference regarding among male and females with regard to usage of RTI Act, 2005.

Ho3: There is no significant difference regarding among male and females with regard to problems encountered by public with regard to RTI.

t-Test: Two-Sample Assuming Unequal Variances

	Variable 1	Variable 2
Mean	1.7	1.8
Variance	1.1	0.8
Observations	89.0	89.0
Hypothesized Mean Difference	0.0	
Df	171.0	
t Stat	-0.7	
P(T<=t) one-tail	0.2	
t Critical one-tail	1.7	
P(T<=t) two-tail	0.5	
t Critical two-tail	2.0	

The significant difference of means of two samples the calculated value of t is less than the critical value at 0.05 level of significance. Hence we accept the null hypothesis and reject the alternative hypothesis. So, henceforth it has been concluded that there is no significant difference regarding among male and females with regard to problems encountered by public with regard to RTI.

Ho4: There is no significant difference regarding providing the information irrespective of gender of applicant by PIOs.

t-Test: Two-Sample Assuming Unequal Variances

	Variable 1	Variable 2
Mean	4.2	4.6
Variance	0.3	0.2
Observations	89.0	89.0
Hypothesized Mean Difference	0.0	
Df	176.0	
t Stat	-4.2	
P(T<=t) one-tail	0.0	
t Critical one-tail	1.7	
P(T<=t) two-tail	0.0	
t Critical two-tail	2.0	

5 (f) Discussion

It has been found out that 44.4% of the students belong to General Category, 11.1% of the students belong to SC category, and 27.8% of the students belong to BC category, 27.8% of the students belong to OBC category. It has been observed that 13.9% of the student's father had no formal education, 38.9% of the student's father have education up to matriculation level, 30.6% of the student's father have education up to graduation level, 16.7% of the student's father have education up to post graduation level. The study shows that 27.8% student's mothers have no formal education, 38.9% of the student's mother had education up to matriculation level, 22.2% of student's mother had education up to graduation level, and 11.1% of student's education was up to post graduation level. It has been concluded from the above table that 61.1% of the students belong to joint family and 38.9% students belong to nuclear families. It has been found that maximum male and female students are well aware of RTI Act, 2005. Females are well aware of different provisions of RTI Act, 2005 in comparison to the male counterparts. Both male and female students believe that RTI Act is beneficial to them. Female students feel that RTI information is taken easily as compared to male students who feel that RTI information is very difficult to retrieve. Mostly male and female students agree that RTI information demanded is obtained in the proper formats. Both gender students agree that they faced major problems while retrieving the information from Public information officers. Most of the Public information officers had denied the information which the students demanded most of the times. Students feel that most of the times the information demanded by them is delayed or not supplied on time henceforth it may hamper their career. In the process of filing RTI application forms the proper filing and maintenance of records is not done by the students, so improper maintenance records is the main hurdle in the follow up of RTI information retrieval. Female students are well aware of rules regarding RTI Act, 2005, while male students are not well aware of the rules regarding RTI Act, 2005. The students feel that Government of India is taking initiatives for providing information regarding RTI Act, 2005 through social media, print media, TV, internet etc. all students agree that more time is taken is supplying the information. Most of the time PIOs does guide the students in filling the RTI forms. Public information officers does not provide full information to the students.

6. Conclusion

It has been found that there is no affect on student's awareness with regard their community, type of family i.e. nuclear or joint. Henceforth it has been concluded that there is significant difference between among male and females with regard to awareness level and with regard to usage of RTI Act, 2005. It has been concluded that there is no significant difference regarding among male and females with regard to problems encountered by public with regard to RTI. There is no significant difference regarding providing the information irrespective of gender of applicant by PIOs.

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If we're not creating an educated and skilled workforce, there is just no conceivable way that were going to be economically competitive.

– Mitch Kapur

Role of Commercial Banks in Financial Literacy

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Financial literacy is the knowledge, ability and skill to understand, control and use one's financial resources wisely, ultimately leading to the well-being and economic security of oneself, one's family and the economy as a whole. In today's world financial literacy is important to every individual who wishes to select the best way to carry out payments and take care of banking issues. Financially literate consumers create competitive pressures on financial institutions to offer more appropriately priced and transparent services, by comparing options, asking the right questions and negotiating more effectively. The current paper examines the role of commercial banks in financial literacy.

Introduction

Financial literacy has, in recent years, attracted the interest of various groups including governments, bankers, employers, community interest groups, financial markets and other organizations, especially in developed countries. The importance of improving financial literacy has increased because of factors including the development of new financial products, the complexity of the financial markets and changes to political, demographic and economic variables (Tariq Saeed Mian, 2014)

Financial literacy is first and foremost about empowering and educating consumers so that they are knowledgeable about finance in a way that is relevant to their lives and enables them to use this knowledge to evaluate products and make informed decisions. Financial literacy helps to improve the efficiency and quality of financial services. Consumers more than ever need a certain level of financial understanding in order to evaluate and compare financial products, such as bank accounts, saving products, credit and loan options, payment instruments, investments, insurance coverage and so forth.

If financial service providers have a significant information advantage over consumers with respect to the financial products and services offered. This can weaken financial markets. Information asymmetry to the advantage of financial institutions and advisers can be very detrimental to consumers in that they will not have the proper tools to fully appreciate their rights and responsibilities as financial consumers, the financial risks they may be exposed to the terms and conditions of their financial products and so forth. This can also result in suboptimal choices and decisions by consumers, choices that are most often more costly or not appropriate for their needs.

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Financially literate consumers help to reinforce competitive pressures on financial institutions to offer more appropriately priced and transparent services, by comparing options, asking the right questions and negotiating more effectively. They also pressure government authorities to provide market standards and perform appropriate oversight of the financial system. Ultimately, financial institutions also stand to benefit, as informed clients pose less risk and constitute a market for sustainable financial services. More financially literate consumers increase the demand for, and responsible use of financial services help to underpin financial market stability and contribute to wider economic growth and development (World Bank, 2009).

Statement of the Problem

Financial literacy is important at several levels. It has major implications for the welfare of individuals in the management of their financial affairs. Financial literacy influences how people save, borrow, invest and manage their financial affairs. It affects their capacity to grow their wealth and income and has significant implications for people's lifestyle choices. Financial literacy also has a significant part to play in influencing financial institutions. Because financial literacy influences people's investment decisions, including risk/return tradeoffs, it also affects how resources in the economy are allocated. In turn, it influences the allocation of resources in the real economy and therefore the longer term potential growth rate of the economy. Financial literacy helps individuals to improve their level of understanding of financial matters which enables them to process financial information and make informed decisions about personal finance.

Financial literacy is directly related to the well-being of individuals. Having financial literacy skills is an essential basis for both avoiding and solving financial problems, which in turn, are vital to living a prosperous, healthy and happy life. In addition, "financial hardship can increase isolation, emotional stress, depression and lower self-esteem, which, in turn, can generate or exacerbate marital tensions" that lead to divorce. Most importantly, the lack of financial literacy may lead the bank customers, to become involved in a higher level of financial problems during in personnel life, which has a significant effect on their present and future family and professional life. Therefore the role of banks is crucial in development of financial literacy of their customer. In order to know its role, this study is undertaken.

Review of Literature

A review of previous literature on similar line helps the researcher to understand the problem of the study better and to proceed in a suitable track. There is a need to know the research gap in this topic of study. The researcher has searched for previous studies and the collected literature are given here:

Hall (2008) has defined financial literacy matters on many levels. It helps people manage their financial affairs and improve their standard of living. But it also makes an important contribution to the soundness and efficiency of the financial system and to the performance of the economy. According to Worthington (2013) financial literacy means different things to different people. For some it is a broad concept, encompassing an understanding of economics and how household decisions are affected by economic conditions and circumstances. For others, it focuses narrowly on money management, including budgeting, saving, investing and insuring.

Ibrahim and Alqaydi (2013) examined financial literacy among a sample of individuals residing in the United Arab Emirates (UAE) and its relation to different forms of personal debt. These forms of personal debt include bank loans, borrowing from friends and/or family members and borrowing through credit cards. The results indicated that individuals with strong financial attitude tend to borrow less from credit cards. UAE nationals are more likely to borrow from banks than using credit cards or borrowing from friends or family members.

Sarigül (2014) surveyed 1,099 students from three universities in Konya to examine their knowledge about saving, spending, banking, risk and insurance, investing and general financial knowledge and the relationship between the financial literacy and the characteristics such as gender, field of study, type of residence, class rank, work status, parents' education and the school of students. The findings of the study revealed that the need for universities to pursue a program of improving the financial literacy of their students considering the characteristics of the students. The sooner such a program is put in place; the better will be the outcomes for both individuals and the economy as a whole.

Shaari, Hasan, Mohamed & Sabri (2013) explored the financial literacy among university students of Malaysia. The result comprises of reliability and multiple linear regression analysis. There are five independent variables such as age, gender, business major and non-

business major, spending habit and year of study whereby the dependent variable is the financial literacy. The results revealed that the spending habit and year of study have a significant positive relationship with the financial literacy, whereby the age and gender are negatively associated with the financial literacy.

Financial literacy is a global concern. The level of financial literacy required depends upon the financial needs and behaviour of an individual. Financial literacy is highly influenced by age, region or country in which the individual resides, the financial environment which he experiences, the level of income, socio demographic factors like his family, number of dependents, mother's education, financial advice etc (Gowri, 2014).

Alex and Amos (2014) have analyzed the effect of financial education as a component of the children and youth savings account. This study considered 36 commercial bank branches in Nakuru town. The study findings established that provision of financial literacy to children and their parent/guardians increases the effectiveness of children and youth savings accounts in impacting financial management skills and financial wellbeing to these young stars.

Aren and Aydemir (2015) have manifested the effects of individual factors such as risk averseness in general, locus of control on risky investment intention. At the same time, this study has examined whether financial literacy moderates the relationship between risk averseness in general, locus of control and risky investment intention. Accordingly, results showed that risk averseness in general had a significant and negative impact on risky investment behavior. Yet, this study provided no evidence of locus of control as a factor in predicting risky investment intention. Moreover, this study found that financial literacy changed the relationship between risk averseness in general, locus of control and risky investment intention.

Financial literacy and technological literacy are important resources that low income people need to exit poverty. There is some evidence from our work that technological training and e-banking supports financial literacy-the ability to see and work with their own money that the e-banking enables made the financial literacy training more compelling to participants. However, without appropriate financial literacy and ICT training, e-banking will remain a sphere reserved only for financial literate, well-educated, high-income customers (Servon & Kaestner, 2008).

Shibia (2012) has established that financial literacy is a strong predictor of financial access in Kenya. In the absence of access to formal financial services, individuals rely on unregulated risky informal financial services, or are totally excluded. Access to formal financial services is important for individuals in risk transfer across time and for the economy at large in savings mobilization, market exchanges and capital allocation. Using number of income earners as an instrument, it was established that financial literacy is exogenous. Even after controlling for a host of variables including income, education, gender, proximity, region and age, the study finds that financial literacy is a strong predictor of formal financial access in Kenya. This calls for enhanced policy efforts geared at increasing financial literacy as a strategy for expanding access to formal financial services.

In India, the financial literacy related studies are very limited. In that limited cases, the financial literacy were analyzed generally not relating to the financial institutions. Especially, no one study the financial institutions role in financial literacy. Therefore, the researcher has chosen this type of research topic.

Methodology

Scope of the Study

This research is mainly confined to analyze the banks role in financial literacy programs in Srivilliputtur.

Objectives of the Study

The following are the objectives of the study.

- To analyze the role of banks in financial literacy.
- To offer suitable suggestions based on the findings of the study.

Data Collection

The data required for this study is collected from available sources during the year 2015 to 2016. The field work has been made during the period of December 2015 to April 2016. This study is both descriptive and analytical in nature. It covers both primary data and secondary data. Primary data were collected with the help of interview schedule from the selected customers of both public sectors and private sectors banks in Srivilliputtur. The secondary data for the study have been collected from the books, journals, magazines and internet etc.

Sampling Design

Since the population of the study is large in number and the banks hesitate to provide the data, the researcher has adopted the *Convenient Sampling Technique* to collect the data from 200 sample respondents in Srivilliputtur. As the study is carried out with single town and most of the research is carried out with the sample around 200, this study also carried out with 200 respondents.

Tools and Techniques

The information's collected from various respondents has been analyzed, by using the following statistical tools

- Percentage Analysis
- Weighted Arithmetic Mean
- Reliability Analysis
- Factor Analysis

Results and Discussion

The researcher makes an attempt to analyze the role of banks in financial literacy programs. The researcher has

analyzed the respondents' opinion towards the role of banks in financial literacy and awareness about financial literacy programs of banks. The researcher has used the weighted arithmetic mean to rate the importance of the financial literacy programs of banks.

Moreover the researcher has applied the factor analysis to determine the factors influencing the financial literacy programs of banks with the help of SPSS. The researcher has identified 20 statements from various studies already done. To get the opinion from the respondents the statements are modified and designed under the Likert five point scale technique. SPSS software has been used to group the statements and identified the factors which influenced the role of banks in financial literacy.

Importance of Financial Literacy

The researcher has analyzed the importance of financial literacy by getting information from the respondents (See Table 1).

TABLE 1: Importance of Financial Literacy

S. No.	Particulars	No. of Respondents	Percentage
1	Important	162	81.0
2	Not Important	38	19.0
	Total	200	100.0

Source: Primary Data

Table 1 shows that out of 200 respondents, 162 respondents (81.0%) have opined that the financial literacy is important and the remaining 38 respondents (19.0%) have opined that the financial literacy is not important.

Awareness about the Financial Literacy Programs of Banks

In order to know the awareness of the financial literacy

programs of banks, the researcher has collected the data relating to the awareness of respondents about financial literacy programs of banks (see Table 2).

Table 2 highlights that out of 200 respondents, 121 respondents (60.5%) aware about the financial literacy programs of banks and the remaining 79 respondents (39.5%) do not have aware about the financial literacy programs of banks.

TABLE 2: Awareness about the Financial Literacy Programs of Banks

S. No.	Particulars	No. of Respondents	Percentage
1	Aware	121	60.5
2	Not Aware	79	39.5
	Total	200	100.0

Source: Primary Data

Importance Rating of the Financial Literacy Programs of Banks

The bank has provided the various financial literacy programs. The researcher has analyzed the importance rating of the respondents about the financial literacy programs of banks. The researcher has collected the opinion as "Very Important", "Important", "Moderate", "Not

Important" and "Very Not Important"(see table 3).

Table 3 shows that most of the customers say *important* for financial literacy programs serial numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13,14 and 16 and in case of programs numbered 10 and 15, customers say *moderate*.

TABLE 3: Importance Rating of the Financial Literacy Programs of Banks

S.No	Programs	VI	I	M	NI	VNI	Total
1	Conferences, Seminars and Workshops	51 (25.5%)	127 (63.5%)	18 (9.0%)	2 (1.0%)	2 (1.0%)	200 (100.0%)
2	Awareness Camps	40 (20.0%)	123 (61.5%)	29 (14.5%)	5 (2.5%)	3 (1.5%)	200 (100.0%)
3	Indoor Campaign/Consumer Education Campaign	46 (23.0%)	102 (51.0%)	47 (23.5%)	4 (2.5%)	1 (0.5%)	200 (100.0%)
4	Creation of financial literacy cell	39 (19.5%)	107 (53.5%)	41 (20.5%)	6 (3.0%)	7 (3.5%)	200 (100.0%)
5	Advertisement/ Social Marketing	40 (20.0%)	93 (46.5%)	42 (21.0%)	17 (8.5%)	8 (4.0%)	200 (100.0%)
6	Financial Literacy Centers	42 (21.0%)	91 (45.5%)	47 (23.5%)	14 (7.0%)	6 (3.0%)	200 (100.0%)
7	Camps at Working Places	45 (22.5%)	106 (53.0%)	36 (18.0%)	8 (4.0%)	5 (2.5%)	200 (100.0%)
8	Customer Meets/Outreach Visits	63 (31.5%)	86 (43.0%)	38 (19.0%)	5 (2.5%)	8 (4.0%)	200 (100.0%)
9	Financial Literacy Guide	33 (16.5%)	91 (45.5%)	54 (27.0%)	15 (7.5%)	7 (3.5%)	200 (100.0%)
10	Awareness on door Step	27 (13.5%)	70 (35.0%)	74 (37.0%)	19 (9.5%)	10 (5.0%)	200 (100.0%)
11	Websites, Portals of Banks	25 (12.5%)	92 (46.0%)	44 (22.0%)	16 (8.0%)	23 (11.5%)	200 (100.0%)
12	Mobile Financial Literacy	35 (17.5%)	95 (47.5%)	42 (21.0%)	15 (7.5%)	13 (6.5%)	200 (100.0%)
13	Mass Media (Educational Institute, Help Lines, Pamphlets)	37 (18.5%)	101 (50.5%)	39 (19.5%)	13 (6.5%)	10 (5.0%)	200 (100.0%)
14	Books and Magazines in Cartoon Format	48 (24.0%)	91 (45.5%)	40 (20.0%)	16 (8.0%)	5 (2.5%)	200 (100.0%)
15	Town hall events	18 (9.0%)	56 (28.0%)	81 (40.5%)	31 (15.5%)	14 (7.0%)	200 (100.0%)
16	Rural Livelihood missions through SHG	56 (28.0%)	79 (39.5%)	39 (19.5%)	13 (6.5%)	13 (6.5%)	200 (100.0%)

Source:Primary Data

TABLE 4: Ranking of Importance of Financial Literacy Programs by Banks

S. No.	Programs	5	4	3	2	1	Total	Rank
1	Conferences, Seminars and Workshops	255	508	54	4	2	823	1
2	Awareness Camps	200	492	87	10	3	792	2
3	Indoor Campaign/Consumer Education Campaign	230	408	141	8	1	788	4
4	Creation of financial literacy cell	195	428	123	12	7	765	6
5	Advertisement/ Social Marketing	200	372	126	34	8	740	11
6	Financial Literacy Centers	210	364	141	28	6	749	9
7	Camps at Working Places	225	424	108	16	5	778	5
8	Customer Meets/Outreach Visits	315	344	114	10	8	791	3
9	Financial Literacy Guide	165	364	162	30	7	728	12
10	Awareness on door Step	135	280	222	38	10	685	14
11	Websites, Portals of Banks	125	368	132	32	23	680	15
12	Mobile Financial Literacy	175	380	126	30	13	724	13
13	Mass Media (Educational Institute, Help Lines, Pamphlets)	185	404	117	26	10	742	10
14	Books and Magazines in Cartoon Format	240	364	120	32	5	761	7
15	Town hall events	90	224	243	62	14	633	16
16	Rural Livelihood missions through SHG	280	316	117	26	13	752	8

Source: Computed Data

Importance Rating of the Financial Literacy Programs by Banks – Weighted Arithmetic Mean

The researcher has applied the weighted arithmetic mean to rate the opinion about the financial literacy programs of banks. The researcher has assigned the weights 5 for “Very Important”, 4 for “Important”, 3 for “Moderate”, 2 for “Not Important” and 1 for “Very Not Important” (see table 4).

Based on the calculation of weighted arithmetic mean the researcher has given the first rank to Conferences, Seminars and Workshop, Second Rank is given to Awareness camps, Third Rank is given to customer meets/outreach visits, Forth rank is given to Indoor campaign/consumer education campaigns, fifth rank is given to camps at working places, sixth rank is given to creation of financial literacy celi, seventh rank is given to books and magazines in cartoon format, eighth rank is given to Rural livelihood missions through SHG, ninth rank is given to Financial literacy centers, Tenth rank is given to mass media (Educational Institute, Help lines, Pamphlets), eleventh rank is given to Advertisement and

Social marketing, twelfth rank is given to financial literacy guide, thirteenth rank is given to Mobile financial literacy, fourteenth rank is given to Awareness on door step, fifteenth rank is given to website, portals of banks and sixteenth rank is given to town hall events.

Opinion of Respondents about the Financial Literacy Programs of Banks

The researcher has gathered the opinion about the factors influencing the financial literacy programs by banks. The views are held for 20 statements which are associated to the elements determining the role of financial literacy by bank acquiring scaling technique, which is Likert Five Point Scaling Technique. Table 5 shows the opinion of customers about the factors affecting the opinion of financial literacy programs.

Table 5 shows that most of the customers say *agree* for variables serial numbered 1, 2, 3, 4, 5, 7, 8, 9, 10, 14, 15, 16, 17 and 18 and in case of other variables customers say *neutral*.

Table 5: Opinion about the Financial Literacy Programs of Banks

S. No.	Programs	SA	A	N	DA	SDA	Total
1	The bank really interested to increase the financial literacy of the people	19 (9.5%)	144 (72.0%)	27 (13.5%)	9 (4.5%)	1200 (0.5%)	(100.0%)
2	It carries out variety of financial literacy programs	29 (14.5%)	92 (46.0%)	63 (31.5%)	11 (5.5%)	5 (2.5%)	200 (100.0%)
3	It carries out the programs in sufficient number	12 (6.0%)	111 (65.5%)	49 (24.5%)	22 (11.0%)	6 (3.0%)	200 (100.0%)
4	It carries out the programs were actually needs programs of banks	18 (9.0%)	82 (41.0%)	74 (37.0%)	18 (9.0%)	8 (4.0%)	200 (100.0%)
5	I also Participate financial literacy	16 (8.0%)	86 (43.0%)	63 (31.5%)	31 (15.5%)	4 (2.0%)	200 (100.0%)
6	Helps me to reduce my taxes	15 (7.5%)	58 (29.0%)	68 (34.0%)	50 (25.0%)	9 (4.5%)	200 (100.0%)
7	It helps me to increase the financial knowledge	16 (8.0%)	91 (45.5%)	54 (27.0%)	28 (14.0%)	11 (5.5%)	200 (100.0%)
8	I know the variety of the products through the programs	21 (10.5%)	85 (42.5%)	59 (29.5%)	27 (13.5%)	8 (4.0%)	200 (100.0%)
9	I leave my affair about credits by this program	17 (8.5%)	81 (40.5%)	70 (35.0%)	26 (13.0%)	6 (3.0%)	200 (100.0%)
10	Increases the confidence on the financial matters	26 (13.0%)	78 (39.0%)	66 (33.0%)	24 (12.0%)	6 (3.0%)	200 (100.0%)
11	Create better relationship with officials	19 (9.5%)	69 (34.5%)	79 (39.5%)	25 (12.5%)	8 (4.0%)	200 (100.0%)
12	Better in my financial position	22 (11.0%)	72 (36.0%)	74 (37.0%)	26 (13.0%)	6 (3.0%)	200 (100.0%)
13	Know the sources of finance	17 (8.5%)	63 (31.5%)	79 (39.5%)	35 (17.5%)	6 (3.0%)	200 (100.0%)
14	Know the ways of reduce in cost of finance	21 (10.5%)	66 (33.0%)	63 (31.5%)	40 (20.0%)	10 (5.0%)	200 (100.0%)
15	The dependent on money lenders is reduced	17 (8.5%)	58 (29.0%)	51 (25.5%)	53 (26.5%)	21 (10.5%)	200 (100.0%)
16	Increase the knowledge on modern banking services	35 (17.5%)	93 (46.5%)	46 (23.0%)	21 (10.5%)	5 (2.5%)	200 (100.0%)
17	Get knowledge on products for retired life	20 (10.0%)	81 (40.5%)	67 (33.5%)	19 (9.5%)	13 (6.5%)	200 (100.0%)
18	Know about mutual funds	25 (12.5%)	73 7(36.5%)	66 (33.0%)	27 (13.5%)	9 (4.5%)	200 (100.0%)
19	Give assistance in the preparation of major proposal	21 (10.5%)	61 (30.5%)	82 (41.0%)	27 (13.5%)	9 (4.5%)	200 (100.0%)
20	Give programs on general economic condition	15 (7.5%)	66 (33.0%)	77 (38.5%)	28 (14.0%)	14 (7.0%)	200 (100.0%)

Source: Primary Data

Note: SA = Strongly Agree; A = Agree; N = Neutral; DA = Disagree; SDA = Strongly Disagree

Application of Cronbach's Alpha Test for Factors Influencing the Opinion of Financial Literacy Programs by Banks

In order to test the reliability of opinion of the customers towards financial literacy programs by banks, Cronbach's Alpha Test has been applied and the result has been shown Table 6.

The Cronbach's Alpha value of **0.852** infers that the Likert's scale used for identifying the factors influencing the financial literacy program of customers is considered **reliable**.

TABLE 6: Reliability Statistics for the Opinion of the Customers towards Financial Literacy Programs by Banks

Cronbach's Alpha Score	0.852
No. of Items	20

Source: Computed Data

under investigation are analyzed together to extract the underlined factors. Factor analysis is a data reduction method. It is a very useful method to reduce a large number of variables resulting in data complexity to a few manageable factors. These factors explain most part of the variations of the original set of data. A factor is a linear combination of variables. It is a construct that is not directly observable but that needs to be inferred from the input variables. The factors are statistically independent.

The first and the foremost step is to decide on how many factors are to be extracted from the given set of data. This should be accomplished by various methods like the centroid method, the principal component method and the maximum likelihood method. But the principle factor method with orthogonal varimax rotation is mostly used and widely available in factor analytic computer program. As we know that factors are linear combinations of the variables which are supposed to be highly correlated, the mathematical form of the same could be written as

$$F_i = W_{i1}X_1^* + W_{i2}X_2^* + W_{i3}X_3^* + \dots + W_{ik}X_k^*$$

Where,

X_j^* = j^{th} standardized variable

F_i = Estimate of i^{th} factor

W_j = Weight or factor score coefficient for j^{th} standardized variable

K = Number of variables

Factors Influencing the Opinion of Respondents about the Financial Literacy Programs of Banks: Application of Factor Analysis

Various factors to determine the customers' opinion about financial literacy programs by banks are identified by the researcher. These factors are interrelated but not independent. Hence in order to group the related variable the factor analysis has been applied with the help of SPSS.

Factor analysis is a multivariate statistical technique in which there is no distinction between dependent and independent variables. In factor analysis, all variables

The principal component methodology involves searching for those values of W_i so that the first factor explains the largest portion of total variance. This is called the first principal factor. This explained variance is then subtracted from the original input matrix so as to yield a residual matrix. A second principal factor is extracted from the residual matrix in a way such that the second factor takes care of most of the residual variance. One point that has to be kept in mind is that the second principal factor has to be statistically independent of the first principal factor. The same principle is then repeated until there is little variance to be explained. Theory may be used to specify how many factors should be extracted or it may be based on the criterion of the Kaiser Guttman method. This method states that the number of factors to be extracted should be equal to the number of factors having an eigen value of at least 1. Since each of the variable in the original data set has a variance of 1 (eigen value of 1), therefore, if there are 50 variables then the total variation in the data set will be 50.

A factor is a linear combination of the various variables. Now eigen value for each of the factor is computed and only those factors that have an eigen value at least 1 are accepted as per Kaiser Guttman method. All those factors having eigen value less than 1 are rejected. This is because each of the variables has a variance of 1 and, therefore, a linear combination of these variables called factor should not have an eigen value less than 1.

The correlation coefficient of the extracted factor score with a variable is called the factor loading. In most computer printouts, a matrix of factor loadings called factor matrix or component matrix is presented. Factor loadings play a very important role in the computations of eigenvalues of each factor and also in computing the communalities of each variable.

The second step in the factor analysis is the rotation of initial factor solutions. This is because the initial factors are very difficult to interpret. Therefore, the initial solution is rotated so as to yield a solution that can be interpreted easily. Most of the computer software would give options for orthogonal rotation, varimax rotation and oblique rotation. Generally, the varimax rotation is used as this result in independent factors. The varimax rotation method maximizes the variance of the loadings within each factor.

The variance of the factor is largest when its smallest loading tent towards zero and its largest loading tends towards unity. The basic idea of rotation is to get some factors that have a few variables that correlate high with that factor and some that correlate poorly with that factor. Similarly, there are other factors that correlate high with those variables with which the other factors do not have significant correlation. Therefore, the rotation is carried out in such way so that the factor loadings as in the first step are close to unity or zero. This procedure avoids problems of having factors with all variables having midrange correlations. This is done for a better interpretation of the results and for the ease obtained in naming the factors. Once this is done, a cut of point on the factor loading is selected. This is no hard and fast rule to decide on the cut-off point.

However, generally it is taken to be greater than 0.5. All those variables attached to a factor, once the cut-off point is decided, are used for naming the factors. This is a very subjective procedure and different researchers may name same factors differently. Another point to be noted is that a variable which appears in one factor should not appear in any other factor. This means that a variable should have a high loading only on one factor and a loading on other factor. If that is not the case, it implies that the question has not been understood properly by the respondent or it may not have been phrased clearly. Another possible cause could be that the respondent may have more than one opinion about a given item (statement).

The total variance explained by all the factors taken together remains the same after rotation. However, the amount of variations for each individual factor may undergo a change. The communalities for each variable under the two procedures remain unchanged (Chawia & Sondhi, 2014).

Customers Opinion towards Financial Literacy Programs by Bank – Application of Factor Analysis

The rotated factor matrix for the variables relating to the opinion of the financial literacy programs by bank is given in Table 7.

Table 7 represents the matrix of common factor coefficient or factor loadings. The number of factors extracted was three. The ratios which have the highest loadings (≤ 0.50) in each factor are grouped, that is the ratios which are more closely related to a particular group are boxed. The last column in the table is communality (h^2) that is the variance explained by the factor.

Results and Interpretation for the Opinion of Customers towards Financial Literacy Programs by Banks

The factors with identified new names which influence the opinion of customers towards role of banks in financial literacy programs are discussed in Tables 8, 9 and 10.

Out of 16 statements taken into account to analyze the financial literacy programs by banks, 7 statements are loaded as first factor. As most of the statements in the first factor are related to offer by variety of financial literacy programs, the first factor named as ***“Offered Variety of Financial literacy programs”***.

The statements loaded in the second factor are commonly related to financial confidence. Therefore this factor is named as ***“Increases Financial Confidence”***.

There are four statements are loaded in third factor. They are related to assistance in financial issues. Therefore the third factor is named as ***“Assistance in Financial Issues”***

Table 11 found that the statements with the highest factor loadings for the factors influencing the opinion of customers towards financial literacy programs of banks. The factors, offered variety of financial literacy programs, increases financial confidence and assistance in financial issues, are influencing the customers' opinion towards financial literacy programs of banks.

Table 7: Rotated Factor Matrix for the Opinion of the Financial Literacy Programs of Bank

S. No.	Statement	F1	F2	F3	Communality (h ²)
1	It carries out variety of financial literacy programs	.638	.154	.123	0.446
2	I know the variety of the products through in the programs	.608	.036	.204	0.413
3	It carries out the programs in sufficient number.	.602	.123	.127	0.394
4	It helps me to increase the financial knowledge	.572	-.031	.274	0.403
5	The bank really interested to increase the financial literacy of the people	.549	.048	-.217	0.350
6	I also Participate financial literacy programs of banks	.548	.060	.355	0.430
7	It carries out the programs were actually needs	.546	.149	.224	0.371
8	Better in my financial position	.125	.814	.104	0.689
9	Create better relationship with officials	.171	.805	.050	0.680
10	Know the sources of finance	.186	.720	.163	0.580
11	Increases the confidence on the financial matters	.463	.579	-.064	0.554
12	The dependent on money lenders is reduced	-.171	.504	.367	0.419
13	Give assistance in the preparation of major proposal	.082	.120	.799	0.659
14	Give programs on general economic condition	.291	.073	.748	0.649
15	Know about mutual funds	.231	.083	.730	0.593
16	Get knowledge on products for retired life	.053	.198	.689	0.517

Note: Rotated Factor Matrix with Communalities is used to extract factors

Table 8: Factor I – Offered Variety of Financial Literacy Programs

S. No.	Statement	F1	Communality (h ²)
1	It carries out variety of financial literacy programs	.638	0.446
2	I know the variety of the products through in the programs	.608	0.413
3	It carries out the programs in sufficient number	.602	0.394
4	It helps me to increase the financial knowledge	.572	0.403
5	The bank really interested to increase the financial literacy of the people	.549	0.350
6	I also Participate in financial literacy programs of banks	.548	0.430
7	It carries out the programs were actually needs	.546	0.371

Source: Computed Primary Data

Table 9: Factor II - Increases Financial Confidence

S. No.	Statement	F1	Communality (h ²)
1	Better in my financial position	.814	0.689
2	Create better relationship with officials	.805	0.680
3	Know the sources of finance	.720	0.580
4	Increases the confidence on the financial matters	.579	0.554
5	The dependent on money lenders is reduced	.504	0.419

Source: Computed Primary Data

Table 10: Factor III – Assistance in Financial Issues

S. No.	Statement	F1	Communality (h ²)
1	Give assistance in the preparation of major proposal	.799	0.659
2	Give programs on general economic condition	.748	0.649
3	Know about mutual funds	.730	0.593
4	Get knowledge on products for retired life	.689	0.517

Source: Computed Primary Data

Table 11: Variables with the highest factor loadings for the Factors influencing the Customers opinion towards financial literacy programs of banks

Factor	Name of the Newly Extracted Factors	Selected Statement	Factor Loading
1	Offered Variety of Financial Literacy Programs	It carries out variety of financial literacy programs	.638
2	Increases Financial Confidence	Better in my financial position	.814
3	Assistance in Financial Issues	Give assistance in the preparation of major proposal	.799

Source: Computed Primary Data

Summary of Findings of the Study

The followings are the findings of the study

- It is inferred that majority of the respondents (81.0%) have opined that the financial literacy is important.
- It is inferred that majority of the respondents (60.5%) aware about the financial literacy programs of banks.
- The result of factor analysis, the customers feel that the banks have offered variety of financial literacy programs, the financial literacy programs increases financial confidence of the customers and financial literacy programs assist in financial issues of the customers.

Suggestions of the Study

The followings are the suggestions of the study

- As some of the financial literacy programs of banks are not known by the customers, the banks should first create the awareness about the literacy programs. The mass media like television, social networks, diaries and magazines can be utilized for that purpose.
- The opinion of respondents towards the financial literacy programs shows that the banks financial literacy programs grouped as three factors such as

“Offered variety of financial literacy programs”, “Increases financial confidence” and “Assistance in financial issues”. As the opinion limited to some special issues the banks need some expert of advice on that issues. Therefore it is suggested that a separate research institute should be established and should make the research region wise.

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*Those who cannot work with their hearts achieve but a hollow,
half-hearted success that breeds bitterness all around.*

– A. P. J. Abdul Kalam

Rejuvenating Japanese Economy through Closing Gender Employment gap

SEEMA JOSHI

Though Japan is a major economic power after United States (US) and China in terms of nominal gross domestic product (GDP), yet it has been losing its competitiveness due to its macro-economic situation and also because of labor market inefficiencies, which among other indicators get reflected in the ratio of women to men, which is one of the lowest among high income economies. In order to revive Japan's growth first and then to sustain it subsequently and also to counter population ageing and decline the paper suggests that greater female labor force participation rate (FLFP) can play a crucial role. After briefly examining gender gaps, policy environment created by the government of Japan and best practices of selected companies with regard to female employment, the paper brings out that there is an urgent need for more gender sensitive and supportive policy interventions to bridge the gender gap in economic participation in Japan.

1. Introduction

Japan is the third largest economy in the world after US and China by nominal GDP. With a population of 126.9 million, GDP of US \$ 4123.3 billion, GDP per capita of US \$ 32485.5, Japan is losing its competitiveness. This becomes evident from the 8th Rank occupied by Japan among 138 countries in Global Competitiveness Index as per Global Competitiveness Report (GCR) 2016-17 prepared by World Economic Forum. It lost two places to Sweden and UK during this particular year. Japan was consistently among the top five since 2007 up to 2015 but it seems to have started losing its competitiveness because of the macro economic situation marked by low growth, high budgetary deficit (7% of GDP in 2014), ballooning of government's debt (226% of GDP in 2014), and persistent deflation. Despite the availability of high quality research institutes (13th in the world), huge spending on research and development (4th globally) and an excellent availability of scientific and research staff, Japan seems to be losing its innovative prowess. It lost three positions in 2016 and presently occupies 8th rank out of 138 countries with a score of 5.5 (instead of 5th rank earlier). Japan's competitiveness is getting eroded due to its macro-economic situation as per GCR, 2016-17. The rigidities in labor market and lack of dynamism on labor market (19th) are among other factors which are holding back Japan's growth. Besides, Japan ranks 115th on the ease of hiring and firing, ranks 77th so far as the ratio of women to men is concerned (one of the lowest among high income economies) and with 77th rank it is rather unattractive destination for foreign talent. In addition; the domestic market is closed and uncompetitive (GCR, 2016-17, pp.216-17).

Studies bring out that Japan experienced average growth rates of 10% in the 1960s, 5% in the 1970s, and

4% in the 1980s, 1.5 % in 1990s. The slowdown of economic growth in the decade of 1990s caused by rising real estate and stock prices, bursting of economic bubble and crashing of Tokyo Stock Exchange continued to show its ramifications during the next decade of 2000 too thereby giving rise to the term 'Lost 20 Years'². Japanese economy was passing through glorious phase in the 1980s and seemed to be unstoppable but since 2010 (i.e. after lost two decades) it appears to suffer from "diminished-giant syndrome"³, because of the economic rise of People's Republic of China. After sluggish growth for almost two decades', even when Japanese economy started recovering, tsunami in March 2011 followed by The Fukushima Daiichi Nuclear Disaster dealt a severe blow to the recovery process. It became imperative for the government of Japan to revive its economy and also to introduce innovative methods to sustain its overall growth rates. After assuming office in 2012, the Prime Minister of Japan, Mr. Shinzo Abe, launched the so-called three arrows of Abenomics⁴ to exit deflation and to revitalize the country in July 2013 (OECD, 2015). Though these were steps in the right direction yet the major demographic changes underway in Japan have been posing problems in the growth revival of Japan. The shrinking population and rapid population ageing are not letting economy rejuvenate and experience potential growth. As mentioned earlier, the population of Japan has been shrinking. It declined from 93.4 million in 1960 to 128.05 million in 2010. It is further expected to decline to 117 million in 2030 to 86.73 million in 2060. The proportion of children has come down from 30% in 1960 to 13.1% in 2010 and expected to decline to 10.3 % in 2030 and further to 9.1% in 2060. This is pointing towards the phenomenon of "the death to the family"⁵. Empirical studies (Weller, 2017) highlight that the fertility crisis in Japan has added to economic and social woes. Japan experienced sharp decline in fertility shortly after World War II as total fertility rate (TFR) came down from 4.5 children per woman in 1947 to 2.0 in 1957. After getting stabilized at the replacement level— 2 to 2.2 children per woman until 1974, it never recovered. TFR has been continuously declining from 1970s onwards and stood at 1.42 in 2014. But life expectancy at birth of both sexes has been improving and increasing steadily in Japan throughout the post war years. Life expectancy at 83.59 years in 2014—one of the highest in the world is pointing towards the shifting of young—old balance. The proportion of working age group (15-64 years) population has also registered a decline from 64.2 % in 1960 to 63.8% in 2010 and expected to decline to 58.1% in 2030 and 50.9%

subsequently in 2060. The proportion of elderly (above 65 years) population has increased from 5.7% to 23% from 1960 to 2010 and projected to increase to 31.6% in 2030 and to 39.9% in 2060⁶.

2. Literature Review

The rapid population ageing is considered to be a byproduct of the demographic transition as both mortality and fertility have declined from higher to lower levels in Japan. Shrinking population, declining working age population and rise of elderly population is pointing towards the future labor shortage problems that Japan is likely to face (Mitra, 2017). To sustain Japan's growth and to counter population ageing and decline there, three policy responses can be followed: One of the policy responses for population ageing (and consequent labor shortage problem) and population decline is international migration. "According to this UN estimation, in order to have the same total population in 2050 as in the year 2000, Japan would need to have 343,000 net in-migrants per year on average from 2000–2050. To have the same working-age population in 2050 as in the year 2000, we would need to net around 650,000 migrants annually on average during these 50 years. In order to maintain the ratio between the population aged 15–64 and those aged 65 and above in the year 2000 through to 2050, we would have to have over 10 million in-migrants per year on average during these five decades. Altogether, these estimates clearly indicate that it is unrealistic to counter the future population aging and decline in Japan solely through international migration"⁷ Besides this, Ishikura (2014) points out that Japan is having strong reluctance to higher immigration (Ishikura, 2014). GCR 2016-17 also reveals that with 77th Rank, Japan is not an attractive destination for foreign talent. The option of international immigration for curbing labor shortages does not seem to be solely feasible and realistic for the above-referred problems.

The second policy response is to raise the age of retirement. Given this scenario, in fact the government has passed a law in Japan which came in to effect in April 2013. The age of retirement has been raised from 60 to 65 years. A survey done in Japan revealed 90% of the elderly were having good health and willingness to work for more than 65 years of age. Therefore, the LFPR of those in 60-64 years age group has increased from 54.7% in 2005 to 60.5% in 2012. But there are several issues related to "reactivating the ageing work force". For example,

identification of work for the elderly, secondly, hiring should not disturb the hierarchical structure and processes based on the seniority system (see Ishikura, 2014).

Third remedial measure to deal with population ageing and consequent labor shortages is to promote the participation of women in the labor market through mainstreaming the gender perspective in human capital-related policies to deal with the challenges of aging societies. International organizations like Asian Productivity Organization (APO), Tokyo are carrying out research in this area so that the policy recommendations of such research can help in policy formulation for boosting female labor force participation rate (FLFP) or mainstreaming the gender perspective in human capital-related policies which result in higher productivity performance; national programs to reduce the negative factors that hinder FLFP are effective measures to deal with aging societies in the long run (Joshi, 2017a).

Japan at the present juncture appears to be on cross roads: either to allow higher immigration (for which as mentioned earlier, Japan is having strong reluctance for) or to provide enabling environment to women so that they participate in the labor market. Given the problem of graying population and development problems exacerbated by the changing demographic profile of Japan, it would be interesting to examine the question: how greater women participation in the labor market can help in stimulating Japan's economy.

In this context, the present paper will first of all attempt to briefly examine gender gaps in general that exist in Japan's economy and highlight the gender gap in economic participation. In subsequent section, we will examine policy environment created by the government to motivate women to join the labor market and to improve economic participation of women. The penultimate section discusses the best practices/case studies of some selected companies in Japan. Last section concludes.

3. Gender Gap in Japan

Though women account for approximately 50% of population in Japan, yet their contribution to measured economic activity, growth, and well-being is far below its potential which has serious macroeconomic implications. Despite the fact that Japan is a high income economy, but its performance in terms of ranking on Gender Global Index (GGI), 2016 is not admirable. Unlike other economies with almost same per capita income like France, Finland, Germany and Ireland, Japan did not do well in terms of

gender gap Index 2016 as its GGI rank with a score of 0.660 stood at 111 out of 144 countries as per The Global Gender Gap Report 2016 published by World Economic Forum. However, countries with comparable level of development like Finland had 2nd rank, Ireland 6th, Germany 13th rank and France 17th rank. Japan. These figures also highlight the fact that mere high per capita income or higher level of development cannot ensure no or low GGI. Though gender gap is almost closed in Japan in educational and health attainments yet in political and economic processes much more remains to be done. Japan has to do much more to use its female talent to check the sluggish pace of progress in checking gender economic gap. In this background, the argument of empowering women in Japan through labor market route appears to be more valid⁹. Unlike India, the problem in Japan is not low enrollment ratios at tertiary level. But low female participation rate despite pretty good enrollment ratios at tertiary level. It is important to point out that a low income country like India showed better performance of gender participation in political processes with a rank of 9 where as Japan lagged behind India with 103rd rank despite the fact that 71 years have been completed in Japan when on April 10, 1946, women in Japan were given the right to vote. The stock taking on gender parity after more than 70 years of the country's first post war elections held in 1946 (with due right of women to vote) clearly brings out that the labor market remains divided along gender lines in Japan. Japan's 118th rank in economic participation (v/s 135th in case of India) and its 103rd rank in political participation imply progress towards gender equality is quite slow. It is important to mention that with a GGI score of 0.683 and 87th rank even India fared better than Japan and it shows that India has put in efforts to reduce the gender gap. The overall GGI Studies show that female work force participation is characterized by 'M-shaped curve' in Japan where women get separated from the labor market to fulfill their care giver role after the birth of child and they re-enter the labor market after fulfilling these responsibilities and that too on part time basis². Herein comes the question of quality of jobs done by women.

Therefore, there is an urgent need to ensure higher female labor force participation rate of Japanese's women. Greater economic participation of women is a must in Japan for not only empowering women or to ensure inclusive growth but also and more importantly to sustain the growth of the country which is encountering a major challenge of aging population. Literature bring out that if female labor force participation rate is increased to the country specific

male levels, then according to Aguirre and others(2012), could increase GDP of USA by 5%, Egypt by 34%, United Arab Emirates by 12 % and Japan by 9%. Japan has been trying to push more women into the labor market, thanks to PM Shinzo Abe's 'Abenomics' which is aptly referred to as 'Womenomics': the aim is to bring women into the labor market to boost Japan's economic growth rate⁹.

4. Policy Environment for Raising FLFP in Japan

The government of Japan has been trying to empower women and bring them into labor market by creating an enabling environment or through enactment of legislations, through clear cut goal setting and also through involvement and participation of various chambers of commerce and industry¹⁰

4.1 Enactment of Legislations:

In Japan the Equal Employment Opportunity Act was enacted in 1986. As per this law, discrimination against women workers in employment and promotion because of gender was prohibited. This law was amended in 1997 first and 2006 subsequently (See table 1) and prohibited discrimination against (women as well as) men ,prevented sexual harassment and prohibited disadvantageous treatment for maternity, leading to what social scientists

call as 'mommy penalty'¹¹

Studies point out that enforcement of the Equal Employment Opportunity Act and its revision broadened the scope of women's career activities: the number of jobs available to them increased, and the ratio of women in managerial positions rose.

4.2 Goals of Japan's Government

It has been laid down by Japan's government that at least 30 % of leading positions in every field must go to women by 2020. The word leading position implies i) council members, ii) section managers or higher ranks in a company and iii) those having expertise in specialized and technical occupations.

4.3 Movement in Business world

There are three private sector led business organizations in Japan viz. Japan Association of Corporate Executives, Keidanren and Japan Chamber of Commerce and Industry. The Japan Association of Corporate Executive (*Keizai Dōyukai*) is a private, non-profit association of independent leading executive founded in 1948, The Japan Association of Corporate Executive aims to contribute to the development and revitalization of Japanese economy. In May 2012, it was recognized by the above-referred

TABLE 1: Enabling Environment through Enactment of Legislations

Year	Legislation
1985	The Equal Employment Opportunity Act was enacted. Duty to make efforts to treat women equally in employment and promotion
1991	The Child –care and Family –care leave Act was enacted Provide child –care and family-care leave
1997	The Equal employment Opportunity Act was amended –Amended to enforce the equal treatment for women and to prevent sexual harassment –Women's protection provision in the Labor Standards Law is dissolved except the maternity care
2006	The Equal Employment Opportunity Act was amended –Amended to prohibit gender discrimination(including men) –Prohibit disadvantageous treatment for maternity
2015	The Women Activity Promotion Act was enacted –Oblige to formulate an action plan for women's promotion and to disclose the information.

Source: Adapted from presentation made by Kazuko Takamatsu (2017), "Empowerment of Women in Japan" in APO's Project On Multicounty Observational Study Mission on Industrial Human Resource Development for Women held at Tokyo, Osaka and Kyoto (Japan), 3-7 April 2017 funded by Ministry of Foreign Affairs, Japan.

association that to strengthen corporate competitiveness to achieve sustainable growth, creating diversity on decision-making boards via appointing female managers

is absolutely essential for Japan. In April 2014, Keidanren announced its "Action Plan on Women's Active Participation in the Workforce" in order to promote specific

measures to encourage such participation. The outcomes were like the establishment of the new Committee on Gender Diversity, and secondly, approximately 450 companies released voluntary action plans regarding the appointment of women to managerial and board positions. Keidanren has decided that based on its “*Action Plan on Women’s Active Participation in the Workforce*”, it will keep on collaborating with various organizations to achieve the following ends: a) Promote the training of women for managerial positions, b) Reform the mindset of managers, c) Contribute to career education, and d) Human resource development for women in the science and engineering fields.

In Japan, under the initiative of Prime Minister (PM) Shinzo Abe, a kick off meeting was held at PM office on March 28, 2014 to ‘create a society in which women shine’. This was followed by invitation to the male leaders who were already involved in promoting an active role of women in their respective organizations so that they can discuss and visualize the role of male leaders to promote active role of women in Japan. Subsequently, this led to the announcement of ‘Declaration of Action’ on June 2014 by a group of male leaders (9 in number) who will ‘create a society in which women shine’. The declaration was based on the following three pillars:

- Taking action and sending messages to each other
- Disrupting the status quo
- Developing networking.

The declaration had been endorsed by 27 male leaders till July, 2015.

5. Enactment and Enforcement of Act Concerning promotion of Women’s Career Activities (PWCA):

The Japanese parliament passed an Act on August 28, 2015 concerning PWCA. It came into force on April 1, 2016. This act aims at increasing work opportunities for women and also improve the work environment for them considering their dual responsibilities of work and home. This is the belief of PM of Japan that having higher work force participation of women will increase Japan’s economic growth. This act is a step in that direction. The PWCA will remain in operation for 10 years and will apply to public and private sectors both. There is no provision of criminal penalty under this act. The act requires the companies with 301 or more employees to follow the following process:

Step I: Confirmation and Analysis of Present Situation: Women’s ratio among its employees; difference in years of service between men and women; working hours; and women’s ratio among its managerial employees.

Step II: Establishing, Filing, Announcing and Disclosing Action Plan

After carrying out survey on the above matters, the company must identify the gap areas where there exists scope for improving women’s career activities and establish an action plan to plug the gap areas.

The Action Plan must contain: a) terms of the plan; b) a quantitative target; c) a description of actions to be taken by the company, and d) a timeline of the planned actions.

Step 3: Disclosing Information concerning Women’s Career Activities

One of the major benefits that companies can avail by following the above-referred process is that they can apply the “good company certification” given by The Ministry of Health, Labor, and Welfare (MHLW). The certification mark can be used by the companies on their products and services, advertisements and other documents designated by MHLW. Besides, those companies might also receive preferential treatment in case of government procurement¹².

6. Best Practices Learnt from Various Companies during Multicounty Observational Study Mission on Industrial Human Resource Development for Women

Recently, APO a regional intergovernmental organization in Tokyo organized a Multicounty Observational Study Mission on Industrial Human Resource Development for Women at Tokyo, Osaka and Kyoto (Japan) from April 3 to 7, 2017. The project was funded by Ministry of Foreign Affairs, Japan. The aim of the programme was to introduce participants with various policies and programs of the Government of Japan to empower and encourage women’s participation in all aspects of socio economic affairs, to enhance knowledge on the roles of the public and private sectors in promoting gender equality in the workplace, and to observe successful industries and businesses initiated and managed by women.

The programme was very well designed, comprising visits to nine sites in all, over a period of five days. The sites were very carefully chosen, comprising of three companies each which fall under the scope of manufacturing sector viz. Daikin Manufacturing Innovation

Center, Osaka Gas Company, Wacoal Holdings; three trade unions viz. Aeon Retail Workers Union, All Nippon Airways (ANA) Union, Shiseido Cosmetic Producer—trade union and three other sites namely Chiba Bank, Miss Paris and Kyoto Women's University which are covered under the scope of services sector. The site visits very clearly highlighted two commonalities amongst all the sites and that were: Sensitivity of the organizations towards women's needs (all companies).

True concern and loyalty towards nation building through encouraging diversity promotion approaches for advancement of women.

Box given below highlights some of the best practices followed in various companies to plug gender difference in employment in their respective companies.

7. Conclusion

To conclude, though Japan is a major economic power after US and China in terms of nominal GDP, yet it has been losing its competitiveness due to its macro-economic situation and also because of labor market inefficiencies which among other indicators get reflected in the ratio of women to men is concerned (one of the lowest among high income economies). Therefore, there is an urgent need for gender sensitive and supportive policy interventions to bridge the gender gap in economic participation in Japan. The provision of formal institutional support mechanism can help overcoming the social and practical constraints women face in Japan in accessing the labor market. The comprehensive parental provisions (paid maternity leave, paternity leave, child care leave)

Box: Best Practices of a few Companies in Japan

- In depth understanding of women's issues in pre-natal and post natal stages (e.g. Shiseido in particular as was reflected in their presentation)
- Provision of maternity leave and child care leave, Child Care support allowance by Aeon and flexible work opportunities (all companies)
- Enhance services supporting infant care and work balance (e.g. Daikin)
- Formulation of processes to resolve problems women encounter e.g. implementation of IT tools and Systems by ANA workers Union, Exchange of Information through Singapore Mission of Chiba Bank for problem sharing and solution
- Initiatives to strengthen women to use their full potential through Educative seminars, workshops for Career Development (Chiba Bank and Daikin)
- Setting up of Diversity Promotion Departments/committees (Daikin and Chiba Bank)
- Seminars by Role Models (Daikin) and seminars for employees on maternity leave and Diversity seminar by ANA workers Union
- Nurturing Mentor-mentee relationships (e.g. Daikin)
- Attempt to change mindsets of male and female colleagues (Daikin)
- Attempt to change mindsets of spouses/ employees through role modeling (e.g. Chiba Bank and Daikin). External Evaluation of various companies by various Ministries under programmes like "ERUBOSHI" and "KURUMIN" Certification by Ministry of Health, Labor and Welfare) and "New Diversity Management Selection 100" and "Nadeshiko Brand" by Ministry of Economy, Trade and Industry

Source : Based on the information supplied by the above-referred companies during the visit arranged by APO under its Project On Multicounty Observational Study Mission on Industrial Human Resource Development for Women held at Tokyo, Osaka and Kyoto (Japan), 3-7 April 2017 funded by Ministry of Foreign Affairs, Japan

and subsidized day-care for children can stimulate employment among women. There are countries which have introduced flexible work approaches through legislative measures. The tax incentives for women¹³ (when they are secondary earners), welfare benefits for single women and childcare support, inclusion of unpaid work of women in national income can be other incentives which can make job markets attractive for women and can help in the creation of gender neutral society. Presently, the hiring system which is followed in Japan offers lifelong security of work. The longer the years spent with the company, higher would be wages and greater are the chances of getting promoted to managerial positions¹⁴. But women because of their reproductive roles have to take a break from the job market and they have to pay 'mommy penalty'¹⁵. In view of the crucial economic role that women can play in rejuvenating of Japan's economy through higher FLFPR and also saving Japan from 'fertility crisis' and also from the phenomenon of 'karoshi' i.e. death due to overwork, there is an urgent need to revisit the employment contracts and introduce necessary changes in them. It has been observed that countries which have introduced conducive and enabling environment for women have high fertility rate but there are countries like Germany, Italy and even Japan, where lack of such policies has led to postponement of child bearing (for job market entry) and low birth rates (OECD,2008). Therefore, creation of an enabling environment for mobilization of women and motivating them to participate in labor market appears to be a key for sustaining growth in Japan. Though in the "*Japan Revitalization Strategy*" revised in 2014 and Prime Minister Shinzo Abe's '*Womenomics*', various measures have been incorporated in order to unleash the "power of women", yet much more needs to be done. There is also a need for doing away with various socio-cultural barriers affecting employment and empowerment of women in Japan. The government could signal a more enabling vision for women and mothers through public information campaigns that value women as workers and project an image of child care as a shared responsibility at home.

Notes:

¹ The author was National Expert from India for Asian Productivity Organization's (Japan) recently concluded project on "Research on Aging Society and Gender Mainstreaming in Human Development" 2015-16.

² Earlier the term used in 1990s for slow growth was 'Lost One Decade'. See https://en.wikipedia.org/wiki/Economy_of_Japan

³ David Weinstein, professor of Japanese economy at Columbia University in New York used this phrase (Anonymous, Nov 19,2011)

⁴ Three pillars or arrows are viz. a bold monetary policy; flexible fiscal policy; and a growth strategy(OECD,2015) <http://www.oecd.org/eco/surveys/Japan-2015-overview.pdf> last accessed June 19,2017

⁵ Weller(2017)

⁶ This and the foregoing paragraphs are based on a study of Noriko Tsuya, Faculty of Economics, Keio University

⁷ http://www.suntory.com/sfnd/jgc/forum/005/pdf/005_tsuya.pdf last visited 15-06-17.

⁸ Review of literature reveals that there are different alternative pathways to empower women. These pathways are: reducing gender gaps in human capital endowments (i.e. by spending on education, health of women), by giving them control over assets, by way of removal of socio-cultural barriers, by way of releasing women's time. However, we argue in this paper that by economically empowering women through ensuring their labor market participation can have several spillover effects (Joshi,2016)

⁹ See Joshi (2017b)

¹⁰ This section is based on presentation made by Kazuko Takamatsu (2017) and http://www.gender.go.jp/english_contents/mge/declaration/pdf/women_active_role.pdf last accessed June 15,2017.

¹¹ Weller,Chris (2017)," 'This is death to the family': Japan's fertility crisis is creating economic and social woes never seen before,Business InsiderIndia,<http://www.businessinsider.in/This-is-death-to-the-family-Japans-fertility-crisis-is-creating-economic-and-social-woes-never-seen-before/articleshow/58777353.cms>

¹² See https://www.bakermckenzie.co.jp/wp/wp-content/uploads/ClientAlert_150914_PWCA_E.pdf last accessed June19,2017

¹³ It has been pointed out that Japan's tax and social security systems also restrict the participation of women in society. Under the tax system, incomes up to 1.03 million yen a year are not taxed. Similarly, people with an annual income of less than 1.3 million yen do not have to subscribe to social insurance.

¹⁴ <http://www.jilaf.or.jp/eng/mbn/2016/205.html> last accessed June 18,2017.

¹⁵ The phenomenon of exit from the labor market to raise kids and difficulty in finding jobs afterwards has been termed by social scientists as 'mommy penalty'(see Weller,2017).

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Success is not final, failure is not fatal: it is the courage to continue that counts.

– Winston Churchill

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