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Administration and Management

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Highlights

Development of Ethical Business

Combined Effect of Competitive

Discovering Thoughts, Inventing Future

GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH : A
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By Siti Sarawati Hj. Johar

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Keywords: emotional intelligence, self-esteem, organizational commitment, mediator.

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THE INFLUENCE OF EMOTIONAL INTELLIGENCE AND SELF-ESTEEM AMONG EMPLOYEE TOWARDS ORGANIZATIONAL COMMITMENT IN PUBLIC SECTOR

Strictly as per the compliance and regulations of:

The Influence of Emotional Intelligence and Self-Esteem among Employee towards Organizational Commitment in Public Sector

Siti Sarawati Hj. Johar

Abstract- Emotional intelligence currently growing attention and earn a spot in the form of psychological studies. Emotional intelligence detected can influence employee commitment in an organization. The theoretical solutions are simply not able to unlock the psychological issues in organizations because it is closely linked to affective, cognitive and human behavior in public sector. In this study, the issues in the workplace are referring to emotional intelligence, self-esteem and commitment of employees. The specific purpose of this study was to test the impact of emotional intelligence among employees whether it able or unable to influence a commitment to the organization through employee self-esteem factor. A total of 196 civil servants in the Local Authority (LA) have been selected as respondents. Measurement tools that are used in the data lump is Emotion Intelligence Self-Description Inventory (EISDI), Rosenberg Self-Esteem Scale (RSES) and the Employee Commitment Survey Revised Version (ECS).The data was then analyzed using hierarchical regression analysis. The findings show that emotional intelligence and four dimensions of emotional intelligence have a direct impact on organizational commitment. In fact, the emotional intelligence and dimensions also has an indirect effect on organizational commitment when self-esteem as mediator factor is controlled. Employee self-esteem later found to function as a partly mediator that affecting the relationship between overall emotional intelligence and four dimensions of emotional intelligence with organizational commitment. The most important findings are found emotional intelligence dimension among employees are able to become more relevant with the increasing availability of commitment of employee when there was the element of self-esteem as a mediator factor.

Keywords: emotional intelligence, self-esteem, organizational commitment, mediator.

I. Introduction

The public sector is one dimension in a very significant factor entity will support the development of a country. It was including the management and administrative machinery which is one of the medium of human capital that allow human to bring the country to the development in the world with full of value and meaningful. The public sector is also as a human capital component that to be the major improvements in economy. It is to remain as the country largest provide the services that include services by Statutory and non-statutory bodies, local authorities (PBT), district offices and state government agencies as well as various categories of posts in each ministry. Accordingly, this study focuses specifically on organizational psychology scenario of civil servants as employees, by testing the effects of emotional intelligence on the commitment of employees in the public sector. However, there are likely mediator factor that also influence the emotional intelligence of employees in an impact on employee commitment in the workplace through the role of self-esteem factor among them.

This research focused on civil servants working in local authorities in Malaysia. Employees in local authorities is also a human capital within the organization, even more so because of they have a high frequency communicate with the community which is interact with services provided are directly and indirectly. Despite various policies, systems and transformative introduced and implemented from time to time for all public servants in achieving quality of work, but there is still a vacuum here and there until tarnish the image of the public sector. The public sector is found often face pressure from society to function more proactively improve performance and service delivery systems, including the role of local authorities (Ibrahim and Abdul Karim, 2004). According to Datuk Seri Abu Bakar Abdullah said in a statement on 21 November 2010 at the Putrajaya International Convention Centre, which states that by 6133 the government employees have reported problems in the discipline and poor performance in 2009, which in turn has increased by 789 cases compared with 2008 (Daily News, 2010). The increase makes people wonder how far public servants can change the bias (Zulnaidi, 2008) and transformed with a strength that could improve the image of the organization.

Quite evident in the pursuit of greater excellence in the public sector, is necessarily have transformation for each implementation has been made towards the application of the reforms will be based on the primary focus as a key strategic targets. Behavior of public officials, including the local authorities, which became the front line of human resource administration, is necessary to always close and important role to society, because they become the symbol of the quality of

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government services. Emphasis should be given to the behavioral, emotional and organizational commitment in responding to the environment because it is a necessity in any organization. Surely that using human resources efficiently and effectively is to improve organizational productivity and vice versa (Rozman, 2007).

However, the efficiency and effectiveness of human resources towards improving the organization's commitment will not be achieved if human resources working with forced, exist the problem of interaction and communication, low motivation, low self-esteem, low emotional intelligence, as well of behavior limping or organizations that can put them in the form of work that is not desirable and not be their expertise. This situation may be causing employees to work with the rebellious feelings, often protesting, not satisfied and often allow themselves to be on high pressure stage while low performance stage (Brief and Weiss, 2002). This differed with the employees who are interested in working because they perceive themselves as partly rather than the job, and animating in any task with fully implemented with a true heart and sincere (Groves and Vance, 2009). This situation has indirect linking with elements of emotional intelligence, self-esteem and employee commitment.

Emotional intelligence is a main element in this study. Emotions have their own place and value in the areas of leadership and organization (Sharifah Akmam and Ahmad Shukri, 2006). Emotions also are factors in the success of the organization for an employee in the process of decision-making; ensure customer loyalty, transparency and open communication, teamwork, strategic renewal, creativity and more innovative changes (Groves and Vance, 2009). Human emotions can certainly be traced through assumptions based on facial expression, behavior, and physical movement. Negative emotions such as anger and fear can have a negative impact on an individual's focus on work. Ashkanasy et al. (2002) then compare the effects of positive and negative emotions, and they give attention to the positive aspects of mood associated with a strong commitment to work and better work performance. Afzaal and Taha (2013) also stressed the importance of finding new channels in human resource management policies more effectively and therefore requires a close relationship with a new dimension of organizational affective such as emotional intelligence among employees.

In summary, the focus on researchers doing in this study is to investigate the effect and influence of four dimension of emotional intelligence on organizational commitment of employees in a local authorities based on public sector context scenario in Malaysia. Researchers are also trying to see whether the effect of emotional intelligence was influenced by employee self-esteem as a mediator impact factor. Thus on the basis of several existing well-established theory,

this study was undertaken to observe the phenomenon of the public sector in this country that are appropriate to the current situation, albeit instruments and theories used is from the west, but the results of this study may be able to confirm that it can be adapted in this country consistent with the scenario of local people and local organizations. Therefore, the study was conducted as a test the effects of these three variables in the organization.

a) Research Questions
Research question 1: Does the effect of self-esteem mediate the relationship of perception and appraisal of emotions with organizational commitment in public sector?

Research question 2: Does the effect of self-esteem mediate the relationship of facilitating thinking of emotions with organizational commitment in public sector?

Research question 3: Does the effect of self-esteem mediate the relationship of understanding emotion with organizational commitment in public sector?

Research question 4: Does the effect of self-esteem mediate the relationship of regulation and management of emotion with organizational commitment in public sector?

b)   Research Hypothesis
H_1: There is effect of self-esteem as mediator in the relationship between perception and appraisal of emotions with organizational commitment in public sector.

H_2: There is effect of self-esteem as mediator in the relationship facilitating thinking of emotions with organizational commitment in public sector.

H_3: There is effect of self-esteem as mediator in the relationship between understanding emotion with organizational commitment in public sector.

H_4: There is effect of self-esteem as mediator in the relationship between regulation and management of emotion with organizational commitment in public sector.

c)   *Research Conceptual Framework*

```
┌─────────────────────────────┐
│    EMOTIONAL                │
│    INTELLIGENCE             │        ┌──────────┐      ┌──────────────────┐
│  ✓ perception and appraisal │        │  SELF-   │      │  ORGANIZATIONAL  │
│    of emotions              │ ────→  │  ESTEEM  │ ───→ │  COMMITMENT      │
│  ✓ facilitating thinking of │        │          │      │                  │
│    emotions                 │        └──────────┘      └──────────────────┘
│  ✓ understanding emotion    │
│  ✓ regulation and           │
│    management of emotion    │
└─────────────────────────────┘
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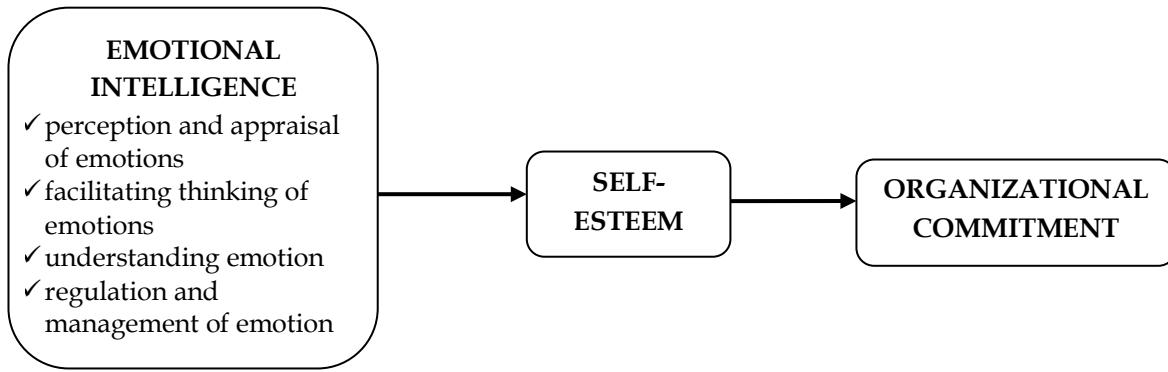
Figure 1 : The conceptual framework of study

II.   METHODOLOGY

a)   Research Design

This study is a type of non-experimental study and it is also a form of field studies with the use of descriptive statistics and regression. Field studies are quite relevant for use in this study due to its high reliability, while consumption was relatively low cost (Maimunah, 1992). Requirements of this study is too descriptive and hypothesis testing. Hypothesis testing also had approach to the interpretation of the independent variables in two or more factors in certain conditions (McIntyre, 2005). In this study, regression testing is describing the effect or impact of the relationship between variables.

b)   Research Location

Site of this research selected as the study location are two body agencies Local Authority (LA) of the city council in the southern peninsular of Malaysia. In researcher knowledge, such a study has yet to be carried out by any party bound at the locations that have mentioned. The study focused on the state of the city council and this also means that the city hall, local municipalities and local district councils are not included as a LA sample in this study.

c)   Subjects

Sample of this study is focused only on employee category with a total of 403 employees and Shows the proposed sample size was 196 people according to Schedule of Size Sample Determination (Krejcie and Morgan, 1970). This study respondents from two city council in Malaysia where the category of employees are from group grade 22 until grade 44.This category selection taken from several units and departments in both the city council. Possibility for sampling error is 5% for the sample size formula by Krejcie and Morgan (1970) was developed using 95% confidence interval is 0.05. Systematic random sampling method used in the process of selecting a sample for this study.

d)   Research Instruments

Questionnaire of Emotional Intelligence Self-Description Inventory (EISDI; Groves et al., 2006) is used in this study to measure emotional intelligence of employees in public sector. Instrument reliability is .915. While questionnaire of Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) is to measure the self-esteem of employees and reliability of the instrument used in this study was .794. To test the commitment to organization of employees, the survey Employee Commitment Survey Revised Version (ECS; Meyer et al., 1993) was used and the reliability of the instrument in this study was .817. Reliability three surveys have a relatively high value of reliability and can be trusted to use good quality research results.

e)   Research Result

Hypothesis 1: There is effect of self-esteem as mediator in the relationship between perception and appraisal of emotions with organizational commitment in public sector.

Table 1 : Regression analysis of self-esteem effects as a mediator factor in relation between perception and appraisal of emotions with organizational commitment

Test Step	R	R^2	ΔR^2	β	Sig.
Analysis one	.407	.165			.000
X= PAE				.407*	.000
Y= Org. Commitment					
Analysis two	.400	.160			.000
X= PAE				.400*	.000
Y= Self-Esteem					

Test Step	R	R²	ΔR²	β	Sig.
Analysis three	.326	.106			.000
X= Self-Esteem				.326*	.000
Y= Org, Commitment					
Analysis four					
Block 1 : Self-Esteem	.326	.106		.195*	.013
Block 2 : PAE	.444	.197	.091	.329*	.000

Note: *significant level p< .05, PAE: Perception and Appraisal of Emotions

The findings (Table 1.0) shows the overall perception and appraisal of emotions have an effect on organizational commitment (β= .407, p< .05) in the analysis one. Perception and appraisal of emotions is also found to significantly influence on self-esteem of employees (β= 0.400, p< .05) in the analysis two. Next in the analysis three, mediator variable (self-esteem) were found to significantly influence organizational commitment (β= .326, p< .05). Lastly, in the last step of the analysis of four, the result of the analysis shows that the effect of perception and appraisal of emotions on organizational commitment was significant (β= .195, p< .05), having self-esteem as mediator controlled on organizational commitment (β= .329, p< .05). Partly mediator was happens in this analysis when the results are significant with p< .05 in the final analysis. Therefore, the research hypothesis is accepted.

Hypothesis 2 : There is effect of self-esteem as mediator in the relationship between facilitating thinking of emotions with organizational commitment in public sector.

The findings (Table 2.0) shows the overall facilitating thinking of emotions have an effect on organizational commitment (β= .490, p< .05) in the analysis one. Facilitating thinking of emotions is also found to significantly influence on self-esteem of employees (β= 0.379, p< .05) in the analysis two. Next in the analysis three, mediator variable (self-esteem) were found to significantly influence organizational commitment (β= .326, p< .05). Lastly, in the last step of the analysis of four, the result of the analysis shows that the effect of facilitating thinking of emotions on organizational commitment was significant (β= .164, p< .05), having self-esteem as mediator controlled on organizational commitment (β= .427, p< .05). Partly mediator was happens in this analysis when the results are significant with p< .05 in the final analysis. Therefore, the research hypothesis is accepted and clearly show there was partly mediator in this study.

Table 2 : Regression analysis of self-esteem effects as a mediator factor in relation between facilitating thinking of emotions with organizational commitment

Test Step	R	R²	ΔR²	β	Sig.
Analysis one	.490	.240			.000
X= FTE				.490*	.000
Y= Org. Commitment					
Analysis two	.379	.144			.000
X= FTE				.479*	.000
Y= Self-Esteem					
Analysis three	.326	.106			.000
X= Self-Esteem				.326*	.000
Y= Org, Commitment					
Analysis four					
Block 1 : Self-Esteem	.326	.106		.164*	.027
Block 2 : FTE	.512	.263	.156	.427*	.000

Note: *significant level p< .05, FTE: Facilitating Thinking of Emotions

Hypothesis 3: There is effect of self-esteem as mediator in the relationship between understanding emotion with organizational commitment in public sector.

The next findings (Table 3.0) shows the overall emotional intelligence have an effect on organizational commitment (β= .339, p< .05) in the analysis one. Emotional intelligence is also found to significantly influence on self-esteem of employees (β= .383, p< .05) in the analysis two. Next in the analysis three, mediator variable (self-esteem) were found to.326, p< .05). Lastly, in the last step of the analysis of four, the

Significantly influence organizational commitment (β= Result of the analysis shows that the effect of emotional intelligence on organizational commitment was significant (β = .230, p< .05), having self-esteem as mediator controlled on organizational commitment (β = .251, p< .05). Partly mediator was happens in this analysis when the results are significant with p< .05 in the final analysis. Therefore, the research hypothesis is accepted and clearly show there was partly mediator in this study.

Table 3 : Regression analysis of self-esteem effects as a mediator factor in relation between understanding emotion with organizational commitment

Test Step	R	R²	ΔR²	β	Sig.
Analysis one	.339	.115			.000
X= UE				.339*	.000
Y= Org. Commitment					
Analysis two	.383	.147			.000
X= UE				.383*	.000
Y= Self-Esteem					
Analysis three	.326	.106			.000
X= Self-Esteem				.326*	.000
Y= Org, Commitment					
Analysis four					
Block 1 : Self-Esteem	.326	.106		.230*	.004
Block 2 : UE	.400	.160	.054	.251*	.002

Note: *significant level p< .05, UE: Understanding Emotion

Hypothesis 4: There is effect of self-esteem as mediator in the relationship between regulation and management of emotion with organizational commitment in public sector.

The last findings (Table 4.0) shows the overall regulation and management of emotion have an effect on organizational commitment (β= .483, p< .05) in the analysis one. Regulation and management of emotion is also found to significantly influence on self-esteem of employees (β= .477, p< .05) in the analysis two. Next in the analysis three, mediator variable (self-esteem) were found to significantly influence organizational commitment (β= .326, p< .05). Lastly, in the last step of the analysis of four, the result of the analysis shows that the effect of regulation and management of emotion on organizational commitment was significant (β= .124, p <.05), having self-esteem as mediator controlled on organizational commitment (β= . 424, p< .05). Partly

mediator was happens in this analysis when the results are significant with p< .05 in the final analysis. Therefore, the research hypothesis is accepted and clearly show there was partly mediator in this study. Effects of partly mediator give meaning it is possible that some effects are from regulation and management of emotion itself, while the other is the effect of self-esteem as a mediator. Regulation and management of emotion can influence the commitment as a direct effect and also can influence the commitment as an indirect effect. So, the hypothesis is accepted because there are traces of self-esteem as a mediator in the relationship between regulation and management of emotion and employee commitment in public sector. Partly mediator of the effect of this demonstrates overall regulation and management of emotion can also directly influence organizational commitment either with or without the influence of self-esteem.

Table 4 : Regression Analysis of self-esteem Effects as a Mediator factor in relation between regulation and management of emotion with organizational commitment

Test Step	R	R²	ΔR²	β	Sig.
Analysis one	.483	.233			.000
X= RME				.483*	.000
Y= Normative Commitment					
Analysis two	.477	.228			.000
X= RME				.477*	.000
Y= Self-Esteem					
Analysis three	.326	.106			.000
X= Self-Esteem				.326*	.000
Y= Normative Commitment					
Analysis four					
Block 1 : Self-Esteem	.326	.106		.124	.116
Block 2 : RME	.495	.245	.139	.424*	.000

Note: *significant level p< .05, RME: Regulation and management of Emotion

III. Discussions

This study conducted by researchers as the discovery of knowledge about the emotional intelligence

competencies (four dimensions) that can influence the organizational commitment in public sector. Selection of employees as a source of this study is appropriate

because there is interaction between the employee and the scenario at work. Self-esteem is one of the main branches of human affective that possible can have an impact on the relationship between emotional intelligence and employee commitment. The findings of the analysis has confirmed that the four research hypothesis is accepted when clearly show that there was a partly mediator effect on the self-esteem in the relationship between four dimensions of emotional intelligence with organizational commitment of the local authorities studied. Self-esteem is also as a partly mediator in the relationship between four dimensions of emotional intelligence with organizational commitment, such as perception and appraisal of emotions (β = .329, p< .05); facilitating thinking of emotions (β = .427, p< .05); understanding emotion (β=.251, p< .05); regulation and management of emotion (β = .424, p< .05).

These results qualify as a mediator effect proposed by Baron and Kenny (1986) pointed out that a significant effect in final analysis which is showed the presence of partly mediator factor of the independent variable with the dependent variable. In short, clearly found that emotional intelligence dimension which is more dominant had the influence from self-esteem as mediator on organizational commitment among employee is facilitating thinking of emotions dimension (β = .427, p< .05). It also meaning that with positive self-esteem, employee can use their emotion with mind together when the stable emotion can help their mind to more rational. This situation will give the positive scenario in organization when employees always know how to make the good decision; as well they were very committed to organization.

The results clearly show that self-esteem among employees in public sector is able to become a mediator in the relationship between emotional intelligence and organizational commitment. The existence of some mediators also means that the relationship between emotional intelligence and their four dimensions with organizational commitment can also be influenced by the self-esteem in a certain amount of variance, but at the same time can also be influenced by other factors that are not available in the model of this study for the next total variance. As an employee, to maintain the level of commitment in a consistent way was also no denying the need for them to have a high emotional intelligence, as well that employee are able to manage and control their emotions on an even keel, will leading to a more dynamic interpersonal interactions with colleague or boss. However, the strong emotional intelligence also requires positive self-esteem and self-confidence to achieve more accurate of self-efficacy. Positive self-esteem which is more dynamics can be motivated the employees to more positive with their emotion themselves and emotion of others as well.

The relationship between emotional intelligence and organizational commitment are influenced by self-esteem in this study were able to strengthen the opinion by Korman (1970, 1976) that employees who have high self-esteem are more motivated and will show better work compared with the low self-esteem. Based on the consistency of his theory, too, there is a positive correlation with self-esteem with employee commitments that lead to quality work. Therefore, employees who feel good about themselves are more confident of better work than employees who feel that they are worthless and not needed by others. This description leads to positive impact employees who have high self-esteem to the next behavior of employee commitment to the organization and its work. Certainly we know that the need to ensure that employees self-esteem always at the optimum level for self-esteem and will create firmness nature rather than just be tentative, because people will be more determined to focus on his work without any worries and more optimistic with what they want to achieve.

Emphasis self-esteem as mediators that give the effect on the relationship between emotional intelligence with the commitment of employees can also be concluded that besides self-esteem can give an effect on the relationship; of course, there are also other factors did not include in this study that can be studied by the researchers of the future researchers. The findings of this research study also support the findings of Neustadt et al. (2006) and Feng et al. (2012) because in their study also show there was partly mediators' impact on self-esteem influence shaped the relationship between psychological variables. While not equal in the context of independent and dependent variables, the function of self-esteem as partly mediator is irrefutable through the literature study.

In fact, studies Lourdes et al. (2011) also found self-esteem to become mediators in the relationship between the independent and dependent variables. Combination of self-esteem and positive emotional intelligence leads to a dynamic work behavior. This is also consistent with what James (1994) say that humans have always been keen to help their self and the people around that together have a high self-esteem when mutual respect among people to create a more harmonious scene. It can be concluded that the function of self-esteem are able to become partly mediator detected in this study, also has put self-esteem in line with other factors that have not been studied as one of the factors that influence the relationship between emotional intelligence impact on employee commitment. Employees who have a high self-esteem or moderate positive always be positive about the ability to do a job when they feel that they was accepted by their colleagues and superiors.

Taste acceptance in positive interpersonal interaction makes employees feel more confident and

feel valued up to positive self-esteem also influence emotional intelligence become more stable and achieve rational mind. This statement can also support the view of Schutte et al. (2002). He was pointed out that positive self-esteem is a character as committed to work together with high emotional intelligence when employees can receive the advantages and disadvantages of themselves more openly. The higher emotional intelligence of employees are more able to consistently achieve the positive mood and as well high self-esteem , when they can more understand with every emotions, can influence and can control the negative emotions (Mayer et al., 1999). This research study is also consistent with the findings Janet and Ronald (2005) who discovered the function of self-esteem as mediators between emotions and organizational commitment at work, meaning that there was a direct effect and an indirect effect. In short, emotional intelligence (regulation and management emotion) among employees through self-esteem was as one of the factors that a catalyst which is has been detected in increasing employee commitment in public sector.

IV. Conclusions

This study concludes that in organizational psychology does not rely on the expertise and high intellect alone, but it is more on issues related to affective elements in man that should be established in advance in order to achieve the effectiveness of organizational commitment in work. It should be supported by the strength of the emotional intelligence competencies and involve self-esteem. Emotional intelligence also must be adapted to function as an employee needs to make employees more emotionally positive and stable, thereby making better quality work because it has a high commitment. Impact of self-esteem is a significant issue on emotional intelligence among employees in managing employee commitment at work when positive self-esteem help strengthen emotional intelligence among employees for the positive way. This study is certainly capable of inspiring new ideas that can lead in problem statement of other research in the years to come, as well can help add to the literature review of other researchers.

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The Human Aspects of Globally Distributed Work Teams in the Indian Information Technology Industry: Effect of Justice Perception on Team Performance

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Abstract- The evolution and improvisation of globally distributed work teams (GDWT) over the past 20 years has been the key enabler for the stellar growth of the Indian IT industry. Global software outsourcing has created a workforce that operates across geographical boundaries of place and time. The Indian software industry has a competitive advantage which includes availability of qualified and talented manpower at low costs as compared to other developing economies (Budhwar, Luthar, & Bhatnagar, 2006a; Budhwar, Varma, Singh, & Dhar, 2006b).

Keywords: GDWT-globally distributed work teams, parparticipatory action research.

GJMBR-A Classification : JEL Code: M00

THE HUMAN ASPECTS OF GLOBALLY DISTRIBUTED WORK TEAMS IN THE INDIAN INFORMATIONTECHNOLOGYINDUSTRY EFFECTOFJUSTICEPERCEPTIONONTEAMPERFORMANCE

Strictly as per the compliance and regulations of:

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Harry Charles Devasagayam [α] & Menaka Rao [σ]

Abstract- The evolution and improvisation of globally distributed work teams (GDWT) over the past 20 years has been the key enabler for the stellar growth of the Indian IT industry. Global software outsourcing has created a workforce that operates across geographical boundaries of place and time. The Indian software industry has a competitive advantage which includes availability of qualified and talented manpower at low costs as compared to other developing economies (Budhwar, Luthar, & Bhatnagar, 2006a; Budhwar, Varma, Singh, & Dhar, 2006b). In addition, globally distributed teams play a significant role in improving strategic responses by reducing delivery time and working 24X7 on projects. This paper is a study of the various kinds of distributed teams in the Indian IT industry and the unique human challenges experienced by them. In this study, we look into the characteristics of distributed teams that pose challenges to team performances. The onsite-offshore model invented by the Indian software industry requires that 20-30 % of the team work onsite at the client organization. Since customers of the Indian software industry are mostly located in North America and Europe, onsite postings create opportunities to visit a foreign country as well as the opportunity to save substantially. In addition, onsite postings create opportunities to develop domain expertise and customer management skills. Hence, onsite postings are perceived as a reward and software professionals look forward to them. When software professionals in a team perceive that the selection for onsite postings are not fair and equitable, they experience inequity (Agrawal, Khatri and Srinivasan, 2010, forthcoming). The socio-cultural contexts of multiple locations influence the work-life balance for members. The proximity to customers is a source of power for onsite members but is also a source of conflict between onsite-offshore team members. Among distributed teams the efficacy of a role gets partly defined by location and hence is looked at as an injustice perceived by team members. In addition, team members from different organizations work together in a distributed team and the treatment received by them may differ. Relationships between onsite and offshore team members are characterized by asymmetries in knowledge and experience, which often become the cause of potential misunderstanding (Vlaar et al. 2008). It has been found that those who perceive fair treatment exhibit high levels of citizenship behaviour (Moorman, Blakely & Niehoff, 1998; Masterson et al., 2000; Moorman & Bryne; 2005). It is in this context that the paper examines organizational variables which influence perceptions of justice among distributed teams in the software industry. A participatory action research (PAR) methodology was used for conducting in-depth interviews. Closed- and open-ended questions were used to determine human aspects and related perceptions of organizational justice, and investigate how such perceptions impact performance. The results indicate the existence of a relationship between organizational variables, organizational justice and team performance and that justice perception is contagious and contributes to an employee's perception about fairness. The study was done to benefit knowledge workers, management, and organizations to develop global policies for creating and managing distributed teams.

Keywords: GDWT-globally distributed work teams, par-participatory action research.

I. Introduction

How does unfair treatment experienced by offshore or onsite employees affect employee behavior? If experiences of injustice are recounted will it alter colleagues' attitudes and behaviors? And if employees ''compare notes'' in the way people are treated in the workplace, will a shared consensus emerge regarding justice issues, and will that consensus affect the attitudes and behaviors of the overall unit? Each of these questions acknowledges that human aspects cause justice perceptions in collective contexts – i.e what happens to one employee may depend on (and influence) others. Questions raised by Jason A. Colquitt, Cindy P. Zapata-Phelan and Quinetta M. Roberson (2005) are critical to our understanding of the justice phenomena among distributed software development teams. Although people contribute to a project as individuals, the prevailing justice climate, processing of justice experienced across onsite or offshore teams (Salancik & Pfeffer, 1978) and the impact of such experiences create either commitment or resentment at the workplace, which is turn impacts the growth and sustenance of the organization.

An employee from one of the largest Indian IT companies experienced depression as he received a lower than expected performance rating from his onsite manager. While his direct / off shore manager was very happy and appreciated his exemplary performance, with an "Exceeded Expectation" in his annual performance accompanied by an appreciation note whereas his onsite manager's rating was "met expectation," due to which the employee was eligible for just a marginal

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salary increase. The only recourse the employee had was to question the accuracy of the evaluation stating that the onsite manager was not present for long enough periods to accurately monitor and gauge performance. Another visibly disturbed employee expressed anguish over the lack of information exchanged between off shore and onsite managers on the assignment and roles assigned to him. The employee took the matter to his delivery manager. The delivery manager refused further explanation as he thought that it would create precedence. He also justified his inaction stating that the onsite manager's rating was in congruence with people contributing from onshore.

In circumstances like this, what is left behind is a host of unanswered questions. What will be the reaction of the employee? This study tries to explore various reactions of employees given the exposure of a one-sided approach by management based on organizational justice literature (Colquitt, Greenberg & Zapata-Phelan, 2005). The established norms of the industry are that performance rating is a consultative process with all stake holders involved. As the onsite manager, has no regard for rating offshore managers (disrespectful and insolent), employees begin to develop doubts about distributive justice and the fairness of decision-making. Distributive justice is fostered when outcome allocations adhere to relevant norms, such as equity (Adams, 1965; Homans, 1961; Leventhal, 1976). Concerns have also been raised about procedural justice, and are linked to the perceived fairness of decision making procedures. Procedural justice is fostered when procedures are consistent across persons and time, based on accurate information, unbiased and correct (Leventhal, 1980), and afford individuals voice and control during the process (Thibaut & Walker, 1975). In addition, when employees believe that grievances are not handled properly, in terms of dignity and respect shown (interpersonal justice) justifications and explanations offered (informational justice) (Bies & Moag, 1986; Greenberg, 1993) are inconsequential.

A similar experience of both distributed employees (onsite and offshore) create a sense of insecurity and makes them think on the following:

- Onsite managers are unaware of the tasks performed by offshore members
- Onsite-offshore interfaces do not work in the organization
- Information sharing and trust between onsite and offshore is not visible
- No regard for the hard work of offshore employees
- Rewards and recognition go first to onsite members
- Offshore members are given secondary treatment
- Offshore members viewpoints are not considered and

- Offshore members are not valued, respected and treated well.

A detailed study on the characteristics of distributed work by Salas et al, 2001 describe 5 important human aspects to distributed work (Table 1.1).

Human Aspects	Effect on Team	Performance Requirement
Loss of visual cues	Degraded communications	Task communication that builds situation awareness. Use of implicit coordination during task execution.
Restricted information flow	Fewer communications	Task communication that builds situation awareness. Use of implicit coordination during task execution. Use of standard communication.
Lack of immersion	Reduced situation awareness	Build in task cues to prompt other team members. Team work processes such as backup behavior and monitoring.
Electronic communication	Less verbal cues and harder interpret actions	Team work processes such as backup behavior and monitoring. Trust.
Multi-cultural	Degraded communications More difficult to manage meanings, beliefs and communications	Use of closed loop communications. Task communication that builds situation awareness.

More research on the subject goes to explain that the differences between distributed and conventional teamsgo further than merely the lack of face-to-faceinteraction within a distributed team, Bell & Kozlowski (2002). These experiences evoke a series of workplace responses leading to behavioral outcomes. The perception of justice leads to workplace attitudes; including job satisfaction, organizational commitment, and trust in the leader (Colquitt, Conlon, Wesson, Porter & Ng, 2001). Employees in such a scenario think of alternate options like onsite postings, quitting the job, opting for job rotations etc In addition such employees develop a negative attitude towards the organization reflected in behaviors of lowered task performance, low citizenship behavior, and counterproductive or withdrawal behaviors (Colquitt et al., 2001). It also increases stress and depression for the employee. Jason A. Colquitt et al, 2001, further explains that such employees intentionally violate rules or standards, and waste time on the job.

In this study, we explore various circumstances under which a person operates within the prevailing climate of the organization and how such circumstances lead to justice perceptions. There are several reasons why members at the workplace feel procedural, distributive, interactional and informational justice perceptions. By seeking to extend the logic of the perception of organizational justice between onsite versus offshore members this paper exposes the human aspects of distributed teams. There are a number of

factors motivating or de-motivating a distributed member in the whole course of getting a software project or product delivered. In a case study of a software engineering organization spread across several sites, Herbsleb and Grinter,1999, investigated how the organization used a number of mechanisms, including plans, processes, and interface specifications, to coordinate cross-site work. In order to help this study the following research questions were raised.

- To identify various human aspects found in
- distributed work
- To find how human aspects influence perceptions of
- organizational justice
- To find how perception of justice leads to team
- performance

Overall the IT industry will benefit from this study as it is aimed at building an integrated HR system to help global organizations in

- Understanding enablers and inhibitors of dispersed organizations
- Motivating and synchronizing local organizations building globally accepted cultures and global organizations valuing local cultures

II. Theoretical Foundation

Teams are inevitably an important part of global IT organizations. Complex software development demands employees to be collaborative and interdependent. Since dispersed teams face high uncertainties due to members not being familiar with the task on hand or other members, the chances of human factors contributing to misgivings in distributed work is more. This makes this study uniquely well-suited contextually to investigate the impact of the perception of organizational justice on team performance. Team performance is discussed in three different angles. The first is what are the human characteristics that influence shared perception? What makes teams perceive organizational justice and what makes an effectively performing team. The human factors create interdependencies which are complex in nature. These difficulties are compounded when the characteristics of the task and the team context make it difficult for team members to effectively manage these interdependencies (Malone & Crowston 1994). To be effective, team members need to carry out competently their "task work" activities – necessary to execute the task – and "teamwork" activities – necessary to work with each other (Klimoski &Mohammed 1994). In this context, the nature and process of team work needs to be understood to help us deal with the performance of the team. The following three pillars of distributed work are explained to help offer a perspective on the subject.

a) Human Aspects

A distributed team differs from conventional face-to-face teams in more than one way as a collocated team operates out of the same geographical location and hence organizational climate is the same. However, distributed team members operate out of different locations and heavily rely on trust and communication. Human aspects consist of various interactions and exchanges that enhance or reduce justice perceptions of people. In a multi-locational organization, highly accomplished employees are given international assignments. An employee is expected to travel frequently (Black, 1988) and establish business, extend cooperation, develop systems and processes and bench mark the new organization with that of the parent organization. These employees experience greater job overload, greater external pressures, and greater visibility. They experience a high degree of role clarity, as compared to ambiguity faced by their domestic counterparts. These experiences lead to negative affectivity to the organization (Naumann, 1992; Bedeian and Armenakis, 1981; Lyons, 1971). Doing business through distributed teams involve managing a bundle of individuals, organizational and social issues. These issues form part of the critical factors for managing an effective organization. Imbalances experienced or felt in the way these issues are managed cause perceptions of organizational justice and impact work outcomes. Given below is a review of the theoretical foundation on human factors that are critical to distributed work teams.

b) Asymmetry of skills

Team members perform different roles. The roles include customer connecter, business analyst, architect, technical lead, designer, coder, tester and product maintenance person. As performing tasks of each role is different, difference between members crop up at every stage of development. While project team members are identified and assigned tasks based on their skill, competencies required to perform the given task may vary from person to person. Not knowing or being familiar about the team members hampers the progress of the project. Velez et al, 2004 found that in remote collaborations, role asymmetry combined with platform heterogeneity impacts collaboration. Asymmetry of skills, assigned tasks and time to deliver has to go hand in hand. However, in most cases, since skill and competency levels are not known in distributed work teams, deliverables are delayed resulting in customer fury.

c) Team dispersion

The size of the team is an important phenomenon which determines perceptions and behaviors. In many cases, uneven distribution of team members causes psychological gaps. Development team are collocated either onsite or offshore and the sales, implementation, and maintenance personnel are distributed across boundaries. The main development

team is either consulted or taken into confidence when commitments are made to customers. Requirement changes to a large extent are not accepted as the development team's responsibility nor are customer's fully aware of the project details. However, frequent changes in the requirement or asking the development team to change the technology when the project is half way are not viewed positively by the development team. These types of situations cause a deep rooted angst in the relationship between members. As driven by the concept by HC Devasagayam 2013, distributed software development works when some decide what others deliver.

d) Geographic dispersion

Another important dimension in distributed working is geographic dispersion of employees. Since project demands are generated in one geographical location and the same is delivered at another location, every team member has to work to complete the given tasks despite differing time zones, language barriers, culture differences, expectations and quality standards. Though distributed members may not be familiar with the task or team they are working with, they are expected to work on the same page with the same quality standards.

These three factors put together influences most of the organizational, individual and socio-cultural aspects of the globally distributed work teams.

e) Moderating Aspects

A distributed team members' employment status has a great deal of influence on member's attitude to organization. This includes member being on direct company roll versus contract or consulting roll, deputation period being short term versus long term etc., the distinction between contract and permanent employees is studied in the context of job design of IT software development personnel by Ang and Slaughter (2001) supports the argument that employment status in an important motivator consistent performance. They believe that supervisors tend to restrict the scope of contract employees' jobs leading to a low perception of the job environment. The advantages of permanent employees are as follows:

- Proximity to the project manager is very high for a permanent employee
- A permanent employee has the closer attention of the organization as they share employee benefits, processes and help them participate in management
- Lesser chances of frequently changing locations
- Long period of service
- High level of job security is experienced
- A permanent employee can make choices out of

- various roles and can move in the career ladder of the same company.

Further from a social exchange theory perspective IT contract employees have lower positive attitudes and behaviors as it is based on the specifics of social exchange relationships and norms of reciprocity. The results from the study indicate that organizations should carefully design and balance the job of contractors and permanent employees.

An outsourced employee is an external resource as against permanent employee who is an internal source.

- An outsourced employee does not have access to various resources of the company as against a permanent employee
- Outsourced employees are bound by the contracting company as against permanent employees.
- Salary and rewards given by contracting company are the same and given by the employee's company.
- Employment is restricted by time as against no such limitation
- Group bonding is less as against strong group bonding
- No opportunity for long term training as against regular chances of getting such opportunities

The above differences cause relationship barriers between employees and the organization and hence different perceptions of organizational justice are evident. Product engineering teams predominantly handle technology and innovation activities as against regular client specific development handled by application development teams. Preferential treatment like salary variations, higher incentives, high value training and onsite assignments make the application development team look up to the technology team and yearn to join the team. There is a high level of self-esteem experienced by PE employees. Research further argues that "Procedural justice influences management evaluations, job satisfaction, and perceived conflict more than distributive justice"-Alexander and Ruderman (1987). Differences on being more inclusive, high job satisfaction, pride of innovating a product creates imbalances in the working atmosphere and hence the feeling of the lack of fairness.

f) Perception of organizational justice

Managing software development in a distributed environment is a mammoth task as it involves complexities. A project has many tasks such as coordination, relationship management, requirement capturing, coding, designing, architecting, managing, testing, integrating and implementing etc.; some tasks can be handled by individuals while others have dependencies. Some activities need periodic interaction with other members while other activities need

interaction with the same people. For example, a developer has to design according to the architect's dictates and hence regularly interacts with his technical lead and architect in shaping the project. A project manager has to give regular updates to the client explaining the progress. Even team member, at times interact with the customer. Each of these activities have different patterns of interaction resulting in different types of outcome. Members use email, chat rooms, fax, and phone, audio and video conferences for exchanging information relevant to their projects despite meeting clients face to face during visits to onsite locations.

A distributed work environment is conceptualized as being composed of social, technical, resources, and organizational environment. Every project is associated with either an offshore or an onsite team. A member might have several constraints operating from their respective locations which develop due to individuals, organizations or the managers. From an organization point of view the constraints faced while operating globally distributed teams needs customized solutions to each member. A large company operating in many locations has difficulties in managing multiple issues. While dealing with these issues the organization needs to keep in mind that the software development industry works primarily on human capital.

g) Team Performance

Human beings have organized themselves into teams since squads of cavemen surrounded and killed mammoths. The best teams are passionate about their work – and you can't forge or force that kind of spirit. It bubbles up from within the hearts, souls and minds of team members. However, as a manager, you can create the emotional conditions from which passion will emerge. These include trust, sharing, camaraderie, commitment, common purpose and confidence. When you promote the secondtions, you set the stage so that team members can worktogether with enthusiasm to accomplish their goals. Organizations throughout the world have increasingly adopted team-based work structures. H C Devasagayam, 2013 states that half of the Fortune 500 use formal work teams in some part of their operations, 85% of Fortune 1000 firms employ some element of group-based compensation, studies of managersshow that they spend 30 to 80 precent of their time in team meetings and a Fortune 500 financial services company found that their average executive spent two out of every five working days collaborating with small groups claims Todd Harris (2008).

Katzenbach and Smith (2003) define five different types of teams and their relation to each other in overall performance. The dispersed members interact primarily to share information, best practices, or perspectives and to make decisions to help each individual perform within his or her area of responsibility.

Many a times information sharing goes beyond the work to employment practices which includes many human factors such as working hours, compensation and benefits, technology, type of work and holiday related issues etc., Katzenbach and Smith, 2003, try to connect various types of teams and the their performance impact as indicated in the graph given below (Figure 1.2).
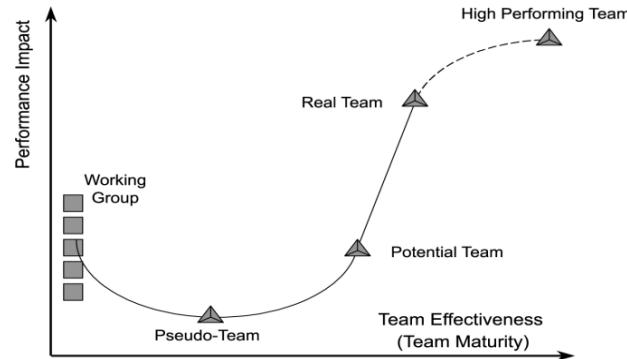
Work teams need clear assignment of tasks, schedules and time frames in order to be effective. Perceived injustice on tasks such as requirement collection, architecting, design, coding and testing assignments may become an area of contention and an obstacle to team performance. Justice literature has provided sufficient support that perception of justice affects a variety of work outcomes, such as performance outcomes, commitment, turnover intentions, and organizational citizenship behaviors (Cropanzona & Greenberg, 1997; Folger & Cropanzona, 1999; Gilliland, Steiner & Skarlicki, 2001). The expatriate's experienceof workplace justice has been researched extensively. Werner 2002 states that experiences like commitment (Gregersen and Black, 1996); job satisfaction (Guzzo et al.,1993);psychological withdrawal (Shaffer and Harrison, 1998); acceptance of assignments (Aryee et al., 1996); concerns and expectations of dual careers (Harvey, 1997) and adjustments (Caligiuri et al.; Shaffer et al., 1999) focus more on expatriates perception of justice and related outcomes.

III. Research Methods

This exploratory investigation asked managers of distributed teams from across the world to provide their first hand experiences of how justice is perceived in their teams and what kind of an impact is felt as a result of such perceptions. The primary goal was to understand the manager's perception of fair treatment in their environment. A convenience sampling was used. At the time of the study, participants were part of offshore, onsite and hybrid (Offshore-onsite),offsite, offshore and hybrid (Offsite-offshore) centres working from India and overseas locations. The respondents include members of distributed team who were technical contributors, project management and client relationship professionals.

a) Respondent Profile
        The survey respondents were based in 70   countries (Figure 1.2)
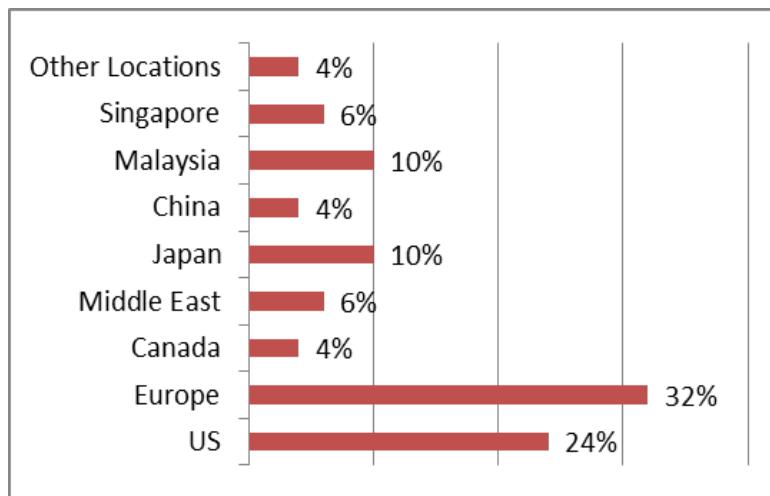
b) Size of Responding Organizations and Survey participation by Industry
        The largest group of respondents (48%) represented organizations with businesses in consulting and serviceswith more than 1, 00,000 employees. The next largest group (40%) was from organizations in engineering and products with less than 10,000 employees. Together, they constituted 88% of the survey participants. Representatives of mid-sized companies (1,000 employees) constituted the remaining 12% of respondents from telecom solutions (Figure 1.3).
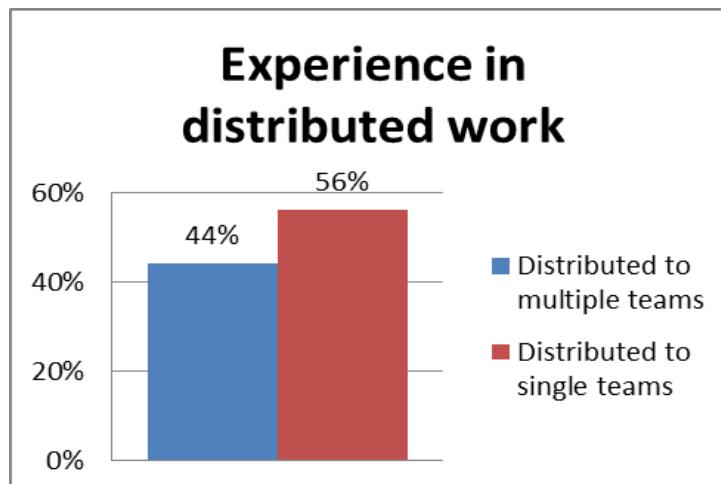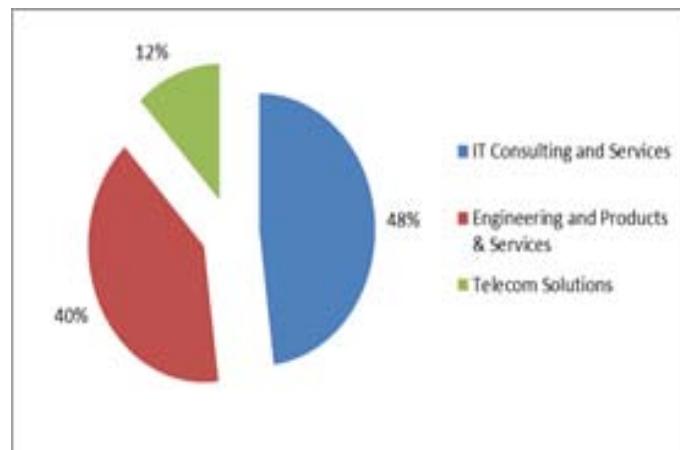
To confirm respondents distributed experience, we asked participants on how many times they were part of distributed teams and if they were part of a team with people based in different locations (onsite, offshore and hybrid). Forty four percent (44%) of respondents indicated that they were part of distributed teams more than once and fifty six percent (56%) of the participants indicated that they were part of distributed team once in their careers.

Location of the distributed team was ascertained by asking the participants as to whether they were part of onsite, offshore or hybrid teams.

The present study includes interviews, visits and observations. Thus, the project was carried out in a Participatory Action Research (Whyte 1990) frameworkin that it was hoped that the findings of the project would be beneficial to knowledge workers, management, and organizations in terms of developing better relationships among distributed team members resulting in higher attention given to the human aspects of their workplace. At the time the participants were interviewed, each worked in different cities and countries. This representation helped ensure the research patterns reported represented diverse experiences in distributed environments. Interviews were conducted with personnel at all project levels. The interviews were in both individual and group formats and most were in person. The interviews were semi-structured and conversational in nature, and covered a range of topics related to the human aspects of distributed teams, perception of organizational justice and performance outcomes.

III.   Results and Interpretation

Future business is expected to be more and more virtual and distributed, with "distributed teams" as its key element. As trade breaks geographical barriers and businesses span across countries, location loses its relevance as an important criterion while business priorities assume greater importance. Global organizations have learned to operate through distributed teams for cost, competency and time advantages. Human aspects form part of managerial challenges that include but are not limited to fulfilling client needs, keep the distributed team (onsite and offshore) on the same page, their innovationspirit alive (local and remote peers), quicklyrespondtorequested changes (in spite of time zone differences), create andmonitor collaborative processes (bridging cultural gaps), keep the teams equally motivated (constantly remove trust deficiencies), be a connecting point for communication, respond to changing styles, provide timely responses to the changing needs of skills and capability and be an inspiration to the team. The present study covers these challenges found in globally distributed organizations and corroborates it withprevious research on the subject.

Given below is the respondents rating of the varioushuman aspects found to be key to the team performance.

Figure 1.6 : Human aspects important to team performance
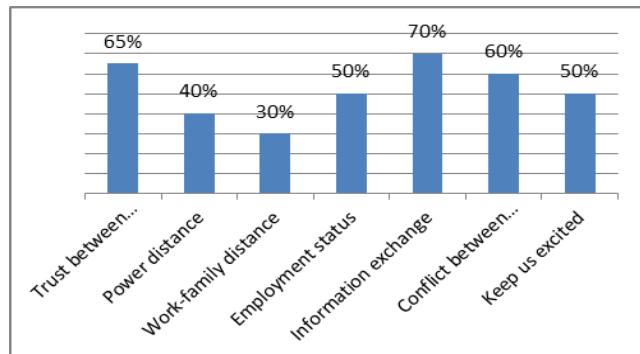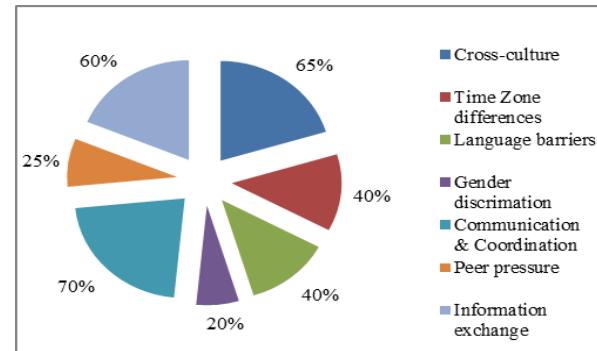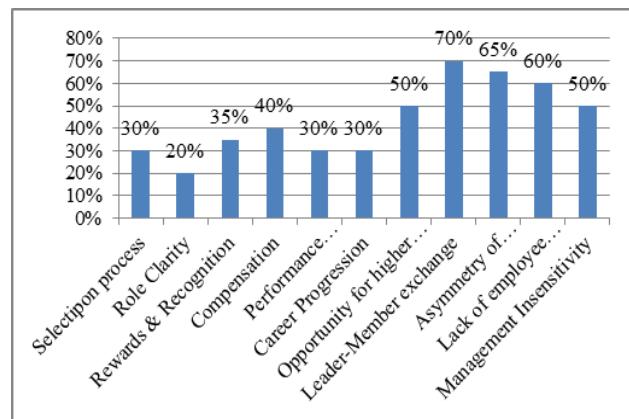
a) Key Findings

The human factors found in globally distributed work teams have a direct correlation with the perception of organizational justice and team performance outcomes. Hence, when members find that organizations have pro-employee policies and are sensitive to the needs of employees, in spite of the person being part of collocated or distributed teams,they experience a sense of support and develop affective commitments to the organization resulting in greater team performance. At the same time when they find that the organization is ignoring them and not bothered about the needs of team members, the

perceived support is less, leading to the feeling that they are not needed and they begin toresent the situation.This sentiment is found in the results of the study. Given below are some of the premises made from the primary data corroborated by the existing study on the subject.

- Leader-Member Exchange enhances member influence on team decisions and improve performance.
- Asymmetry of skill demotivates members and leadsto reduced team performance.
- Conflict on allocated tasks, relationship or processes followed have a negative influence on members leading to resentment and the lack of interest in the project.
- Managers not open to discussing difficulties faced byteam members make teams dissatisfied.
- Trust deficit can bring down the customer confidence as employees don't work in a coherent and logical manner resulting in delayed and distorted deliverables.
- Absence of customized communication between team members increases anxiety and distrust.
- Work-Family propinquity positively contributes to team performance Peer pressure negatively motivates and leads to higher employee attrition
- The lesser the practice of gender discrimination, the greater is the sense of perceived organizational injustice
- Cultural differences will have a negative impon team performance The greater the job rotation, the lesser will be the dissatisfaction of not getting selected for onsite assignments
- The greater the insensitivity of the manager, the higher the possibility of employee attrition
- Organizations practicing un-friendly policies and processes are most likely to face greater attrition

Organizations have established dedicated department to deal with issues arising out of onsite – offshore coordination and transactions. The global HR team or shared services team is yet another attempt to address specific issues arising out of inadequacy of information between onsite and offshore. However, so far organizations have been handling HR issues of distributed team on a case to case basis as members are distributed to different countries and each country is influenced by its own legal and cost issues. The project manager too handles HR issues at times if no exclusiveHR person is available to the team. Shared Services is diametrically different from the outsourcing model where an external third party is paid to provide a service that was previously internal to the buying organization, typically leading to redundancies and re-organization. There is an on-going debate about the advantages of Shared Services over outsourcing. A large scale cultural and processtransformation can be a key component of a move to Shared Servicesand may

include redundancies and changes of workpractices One purpose of Shared Services is the convergence and streamlining of an organization's functions to ensure that they deliver to the organization the services required of them as effectively and efficiently as possible. This often involves the centralizing of back office functions such as HR and Finance but can also be applied to the middle or front offices. A key advantage of this convergence is that it enables the appreciation of economies of scale within the function and can enable multi-function working (e.g. linking HR and Finance together), where there is the potential to create synergies. Shared Services are more than just centralization or consolidation of similar activities in one location. Shared Services can mean running these service activities like a business and delivering services to internal customers at a cost, quality and timeliness that is competitive with alternatives. Organizations that have centralized their IT functions have now begun to take a close look at the technology services that their IT departments provide to internal customers, evaluating where it makes sense to provide specific technology components as a shared service. E-mail and scanning operations were obvious early candidates; many organizations with document-intensive operations are deployingscanning centres as a shared service. Job rotation is yet anothemethod suggested by many participants. Job rotation for onsite assignment will reduce discontentment among other engineers who wait for an onsite opportunity. Even for this we need to lay down certain processes with goes well with any type of business.

b) Propelled Research Model

The information collected through primary sources and derived support from the previous research on the subject proposes the following model.
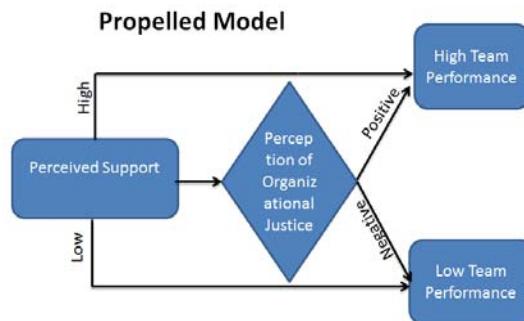
c) Contribution of this research

This study looks into two critical factors of human factors and team performanceof globally distributed work teams. The focus of this study is to understand the level of human factors in distributed organizations and its impacts on team performance perceived either positively or negatively. This focus enables understanding important factors that contribute to performance in distributed teams. This study covers a

sample of companies distributed across multiple locations and countries both in India and abroad. The results of the study indicate that human factors practiced in organizations by distributed teams are perceived differently by people who are dispersed. However, the study reveals that team performance has a direct correlation to the perception of organizational justice and human factors experienced in distributed teams. This result is corroborated by the results of variousresearch which includes Jason Colquitt's assertion thatteameffectives has a high correlation to organizational factorscontributing to justice perception (Jason Colquitt & Brian D Janz, 1997)

IV. Discussion and Conclusion

Distributed teams are an essential component of a knowledge based economy. Katzenbach and Douglas (1999), defines team as "a small number of people with complementary skills who are committed to a common purpose, performance goals, and approach for which they hold themselves mutually accountable." IT industry's success story synchronizes with the spread of teams making products and services relevant to a larger market. Whether an organization is small or large, what is important is that the fundamentals of human interactions and perceptions are kept alive to keep the team excited. Multinational organizations develop captive centers, offshore centers, onsite support teams, and partnerships with a set of specialist consultants to build success stories. Globally distributed teams pursue the same project goals, but they work from different locations (Oshri et al., 2008). This paper aims to explore the human factors (inter and intra organization) in globally dispersed work teams and the impact of these factors on team performance.

a) Workflow process in distributed work

In a distributed environment, organizations with a base in India (offshore) sets up a project office at or near the customer site (onsite). Once a project is sourced, the need of the project determines the kind of people to be located at the customer site and at the development center. Project scoping is done by either onsite coordinators or a technical lead or project lead. The scope is further analyzed to develop an environment suitable for technology and functionalities. Subsequently the onsite team works on detailed project requirements and critical parts of the system, as well as a preliminary development plan and budget. Later, the offshore team work on detailed designs, coding, unit testing, integration, and system testing—generally in a series of subprojects representing major parts of the system or components being built. Eventually, the offshore development team brings the completed system back to the customer located onsite for final acceptance testing and iterates as required to get the final details right. It is expected that the entire distributed members are on the same page during and after completion of the project. People involved in development are distributed based on availability, skills, cost, interaction with customers and deliver time. The program or project manager coordinates effective delivery of the project from different locations and plays an active role in integrating components into one whole project.

b) Human Aspects and perception of organizational justice

In managing a software project, unlike collocated teams, a distributed team begins the process by identifying suitable members for the team. While there are many competent members available in the organization, a manager uses a list of criteria for selecting the most suitable candidate for filling onsite vacancies. Technical skill and capability, domain knowledge and prior experience are a few of them. Competitions for overseas assignments are high as these assignments are beneficial. Thus many ask: why not me? From the organizations point of view sending the most suitable candidate may not happen as the ideal candidate may not opt for an onsite assignment for reasons of the type of work among other reasons. People avoid onsite assignments even due to family commitment and personal reasons. Many members with a strong technical background don't want to go on onsite assignments as they consider it less challenging technically than the long term research oriented offshore work. Members defer onsite assignments as they fear losing their offshore jobs on their return. As offshore is where the actual technology development happens for an organization and the identity evolves for an individual, many refuse to go on onsite assignments. A member states "I have never been fascinated to go on an onsite assignment as most of the niche, technically challenging work happens at Bangalore where I work". A latest research finding by HC Devesagayam, 2013 on the subject, discusses the phenomena at length and brings out the following inconsistencies in distributed working.

1. Shadowy, delayed or denied knowledge transfer between onsite and offshore teams slows thedevelopment process. Knowledge sharing (Cramton, 2001, Griffith et al., 2003), and determining appropriate task-technology fit (Qureshi & Vogel, 2001) explained by respective scholars reiterates the same thought process. Insufficient or the lack of knowledge can create doubts in members about the actual goal and purpose of the project.

2. In the event of client and service provider following different sets of processes and standards, misunderstood processes or mismatched processes between onsite and offshore teams can lead to conflict and difficulty in establishing trust (Coppola, Hiltz & Rotter, 2004; Jarvenpaa & Leidner, 1999; Jarvenpaa et al., 2004)r, increased rework, and decreased productivity.

3. Coordinating team member efforts (Maznevski & Chudoba, 2001; Malhotra et al., 2001; Sarkey & Shay, 2002) could be a challenging task in distributed working. No communication, wrong communication or miscommunication can lead to misunderstandings, omissions, errors, and rework.

4. Work culture and professional values displayed in the workplace can affect working relationships between onsite and offshore teams and lead to the lack of providing effective leadership (Bell & Kozlowski, 2002; Kayworth & Leidner, 2001)

5. Extraneous factors, such as language barriers and differences in expectations of work outcomes can cause delays and affect working relationships.

6. Asymmetry of skills and compatibility can create skill gaps between working teams of different sites and a shared team identity (Armstrong & Cole, 2002; Cramton, 2001) may be lost in the process.

7. Distribution and coordination of work across multiple teams, sites and time zones are more risk taking, time-consuming and costly than for a collocated project as it creates difficulties in maintaining the awareness of members' activities (Hinds & Mortensen, 2005)

8. Work-family distance, power distance can be very challenging to manage amidst work delivery pressures.

9. Project metrics may be inconsistent or difficult to obtain from heterogeneous infrastructures, different processes, or company security boundaries, making it difficult to measure success and create conflicts among members and makes it difficult to manage conflicts (Hinds & Bailey, 2003; Hinds & Mortensen, 2005

10. Political issues both within the company (organizations that fear losing work or resent the overhead of remote sites) and externally in the country or region, can lead to hidden agendas and conflicting goals.

11. Organizations may not share the same objectives, especially when reporting through different management chains or different companies.

12. Sickness and personal objective could come in the way of teams delivering common goals.

13. Concerns with regard to confidential, secure and intellectual property protection, especially in outsourcing countries where the intellectual property laws are more lax, can restrict infrastructural growth and organizational decisions.

14. Infrastructures and development tools may vary widely due to mergers, acquisitions, and outsourcing. Even internally, many smaller teams are adopting lightweight tools, frequently from the open source domain and often to support new processes, such as agile development.

15. Onsite teams' fear the ignorance of the offshore development team which causes concern on whodelivers what and the capability of each member involved in the project.

These gaps can be damaging and affect the perception of onsite-offshore relationships whether it impacts the individual, the organization, or society at large.

c) Justice perception

Global software development has become the norm of the day as it compliments global requirements better than any other available system. However, emerging global teams have so many challenges in delivering a value suitable to global requirements. These challenges are caused by certain factors perceived within the organizational frame work. The challenges of managing a distributed team such as geographical, political, environmental and legal areintegrated into organizational challenges form part of the perceptual frame work for a distributed member. More the globally distributed environment is accepted by organizations, people and systems; the better the resolution of the problem of distributed working. In this study, we investigate various human factors which include organizational (ethics and work values), individual (interactions and exchanges) and contextual (socio-cultural) factors. The study does not undermine the contextual factors such as geographical, legal, racial and, linguistics but include them as socio-cultural factors in different forms and features. Review of literature on justice leads to many emotional outcomes leading to affective or negative organizational behavior. In this research, we correlated the human factors prevalent in team performance.

d) Improving team performance

If organizations with distributed teams could give equal importance to thesecritical factors, there could be an improvement in the way teams perform.

e) Compensation not matching peers

While onsite members make good money their offshore salary increases are very little with a lot of variations and generally in single digits. A person on return from an onsite assignment has a salary 30% less than his colleagues offshore. Managers need to balance this problem. The result of this difference is that he either quits his job or starts fighting with the organizations management. Even if the maximum amount of work on a project is done offshore and offshore members are more talented the career growth for offshore members is much less.

f) On the bench

The experience of am member is related as: Due to the lack of projects I have been kept on the bench for the past 3 months and in my appraisal I have been given two points. Currently our company is giving pink slips to people rated as two. I have been asked to

resign from my company as the company cannot afford to retain me on the bench for more than 3 months.

g) Stranded Offshore career

Onsite returned members are not given leadership positions, or promotions. Members remain as technical contributors until the manager is convinced about the person's capability- Whereas peerswho have remained offshore have been given continuous projects and not asked to leave the company.

h) Preferential treatment

Hostility and incongruity develop between people working onsite and their offshore counter parts resulting in the onsite members being ignored on their return. This causes them to become depressed. To avoid this organization must have a clear onsite career path that maps to the offshore career path. Thus any resource switching over from offshore to onsite or vice-versa can transition effectively and smoothly.

i) Limitations of this research

This qualitative study is limited to distributed team performances from the information technology industry. However, since distributed teams are common across the globe in various business lines, the same principle of working in a multi-cultural environment is relevant to similar circumstances. The various control variables have not been treated as part of the study. Control variables might have an important role to play in members perceiving organizational fairness (H C Devasagayam, 2013). The sample takes into account selected countries but does not take into account distributed employees spread across many other countries where employee perceptions could be different.

V. Conclusion

The globe is expanding as custom made products and services are available at their respective location, intheir country and at their price. But the fact that people who develop these products or provide services are human beings with unique needs is conveniently ignored. As a result, the perception of being treated equally is imbalanced. If organizations take into account and give sufficient attention to human factors and evolve methods to strengthen and improve perceptions of fairness, better team performances can be expected and at times guaranteed.

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Motivation for Making Job Interesting

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Abstract - Employees are regarded as a most valuable resource and the main driver for organizational success. In order to be successful, an organization needs to consistently motivate employees so that they can act toward the goals of the organization and have a strong desire to remain in the organization. This study attempted to draw influences of different motivational factors such as salary adequacy, future security, social dignity/status, career ambition, training and development, comfortable physical environment, mutual cooperation among employees and management relation on making job interesting of organizational participant in commercial banks in Bangladesh. Supportive hypotheses have been drawn from a review of literature and study reveals for making job interesting for employees; future security, career ambition, training/development, comfortable physical environment and management relation have positive significant influence. On the other hand; salary adequacy, social dignity/status and mutual cooperation among employees have insignificant influence on making job interesting.

Keywords : motivation, employee, commercial bank, job interesting, motivational factors.

GJMBR-A Classification : JEL Code: M12, L20.

MOTIVATION FOR MAKING JOB INTERESTING

Strictly as per the compliance and regulations of:

Motivation for Making Job Interesting

Md. Hasebur Rahman [α] & Dr. Md. Mushfiqur Rahman [σ]

Abstract- Employees are regarded as a most valuable resource and the main driver for organizational success. In order to be successful, an organization needs to consistently motivate employees so that they can act toward the goals of the organization and have a strong desire to remain in the organization. This study attempted to draw influences of different motivational factors such as salary adequacy, future security, social dignity/status, career ambition, training and development, comfortable physical environment, mutual cooperation among employees and management relation on making job interesting of organizational participant in commercial banks in Bangladesh. Supportive hypotheses have been drawn from a review of literature and study reveals for making job interesting for employees; future security, career ambition, training/development, comfortable physical environment and management relation have positive significant influence. On the other hand; salary adequacy, social dignity/status and mutual cooperation among employees have insignificant influence on making job interesting.

Keywords: motivation, employee, commercial bank, job interesting, motivational factors.

I. INTRODUCTION

Motivation in simple terms may be understood as the set of forces that cause people to behave in certain ways. A motivated employee generally is more quality oriented. Highly motivated employees are more productive than apathetic employee, one reason why motivation is a difficult task is that the workforce is changing. Employees join institutions with different needs and expectations. Their values, beliefs, background, lifestyles, perceptions and attitudes are different. Not many institutions have understood these and not many HR experts are clear about the ways of motivating such diverse workforce (Goswami G.T. and Harsh Dwivedi H., 2011).

Motivation has been recognized as a dilemma that managers must face because what motivates one individual may not motivate another (Geren B., 2011). Motivation is a very interesting topic for research, though numerous research studies have been conducted by organizational behavior experts at many times. Now a day's employees have been hired, trained and remunerated and also need to be motivated for better performance. Motivation agenda become a driving force for managing a diverse workforce in organizational interfaces. Motivated Employees are laborious and ambitious for organizational success. Employees and their behavior represent strong forces that can enhance or diminish the effectiveness of the organization (Hasebur Rahman, M., 2013).

According to theory Y employees are ambitious and self-motivated, exercise self-control; enjoy their mental and physical work duties. According to Douglas M. McGregor (1957) to their work is as natural as play. Employees possess the ability for creative problem solving, but their talents are underused in most organizations. In light theory Y this study is initiated to explore how motivational factors in commercial banks in bangladesh influence in making job interesting. Employees regarded as a distinctive resource is a strategic advantage of an organization. so organizations need to constantly motivate their employees for exerting maximum efforts from them. It becomes obvious when employees feel an interest in doing their jobs. On the basis of previous research indicated by Hasebur Rahman, M. (2013) motivational factors such as salary adequacy, future security, social dignity/status, career ambition, training and development, comfortable physical environment, mutual cooperation and management relation influence on making job interesting have been taken for that study.

II. OBJECTIVE OF THE STUDY

a) To investigate the respondent's demographic;
b) To investigate the correlations among motivational factors;
c) To investigate the relationship between the salary adequacy and the interesting job;
d) To investigate the relationship between the future security and the interesting job;
e) To investigate the relationship between the social dignity/status and the interesting job;
f) To investigate the relationship between the career ambition and the interesting job;
g) To investigate the relationship between the training/development and the interesting job;
h) To investigate the relationship between the comfortable physical environment and the interesting job;
i) To investigate the relationship between the mutual cooperation and the interesting job and

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j) To investigate the relationship between the management relation and the interesting job.

III. Literature Review and Hypotheses Development

a) Concept of Motivation

Motivation becomes an important agenda for managers and management scholars nowadays and it will remain in the future (Hasebur Rahman, M., 2013). Motivation is defined as the force or forces that arouse enthusiasm and persistence to pursue a certain course of action (Daft & Marcic, 2008). Motivation, derived from the Latin word meaning "to move" represents those psychological goals directed processes (Kreitner & Kinicki, 2007). Motivation is a general term applying to the entire class of drives, desires, needs, wishes, wants, aims, goals, motives, and incentives. It is a basic psychological process that includes the need-drive-incentive sequence or cycle. Motivation is a process that starts with a physiological or psychological deficiency or need that activates behavior or a drive that is aimed at a goal or incentive (Luthans, 1998). It also refers to the processes that account for an individual's willingness to exert a high level of effort to reach organizational goals, conditioned by the effort's ability to satisfy needs (Robbins & Coulter 2006).

The motivation remains a key secret of managing people at organizational interfaces. Different people from differing background come together within an organization having different aims incompatible to organizational aims. Motivation acts as key forces to drive diversified workforce to meet organizational objectives (Hasebur Rahman, M., 2013). The success of any organization falls back upon its competent and motivated human resources (Mohiuddin, 2008). Human resources regarded as the most valuable assets and sometimes irreplaceable assets in the organization. It is human resources who set organization's objectives and strategies, design and produce goods and services, quality control and market goods and services. It is simply impossible on the part of an organization to get these activities performed efficiently and effectively, unless the people of the organization extend their sincere and voluntary cooperation depending upon the level of motivation an individual has with his or her job, to put forth his or her best to the organization (Hasebur Rahman, M., 2013). Motivated employees in the workplace can be termed as those who willingly and voluntarily extend their best efforts in order to help the organization attaining its goal. Motivated employees are sincere, dutiful, and laborious; therefore, need less supervision of expert best performance out of them (Hasebur Rahman, M., 2013).

Individuals differ not only in their ability to do, but also in their determinations to do, or motivates managers who are successful in motivating employees are often providing an environment in which appropriate goals are available for needs satisfaction. Retaining and motivating workers require special attention and the responsibility falls squarely on all levels of management. Management have to create a work environment where people enjoy what they do, feel like they have a purpose and have pride in the mission of the organization. It requires more time, more skill, and managers who care about people. It takes true leadership. By giving employees with special tasks, you make them feel more important. When your employees feel like they are being trusted with added responsibilities, they are motivated to work even harder so they won't let the company down. Motivation is essential for any institution because employees are the pertinent intellectual assets of the company. Motivation is important for the growth of employees as well as for contributing organizational productivity (Goswami G.T. and Harsh Dwivedi H., 2011).

b) Motivational Factors for making Job Interesting

To keep the people working efficiently, they need to consistently motivate. Money is not a sole motivating factor. Besides money, there are many other financial and non-financial factors that can keep people happy. Good interpersonal relations, prestige and social dignity, open communication, training and development, job security, reward and recognition, security for the future, growth/promotion are perceived as keys motivating factors in commercial banks in Bangladesh (Hasebur Rahman, M., 2013). Research suggests that as employees' income increases, money becomes less of a motivator (Kovach, 1987). Also, as employees get older, interesting work becomes more of a motivator (James R. Lindner, 1998).

i. Salary/Pay

Salary plays a significant role in motivation level of employees, but motivation is determined by a number of contributing variables and salary is one of them (Arshad M. et al., 2012) as Bown, Cattel, Michell and Edwards (2008) conducted research on the quantity surveying profession in South Africa and found that salary, promotion prospects, personal satisfaction and recognition etc. are motivating factors for employees in that particular case. The amount of money a person receives monthly can be best predictor of his/her motivation level. The employees who are efficient and effective in achieving tasks and goals deserve a good salary package (Igalens and Roussel, 1999). One of the major criteria for the quality of work life is adequate and fair compensation. Compensation broadly refers to all the ways in which an organization may reward employees for the services that they render (Sethi & Pinzon, 1998). For maintaining a higher level of motivation, it is very important to maintain a reasonable

level of salaries. If an organization combines few other positive factors with better salary levels, then it can produce very highly motivated work force which can guarantee a glorious future for workers and the organization (Arshad M. et al., 2012). Therefore, the 1st hypothesis of this study is:

H_1: There is a positive/significant relationship between the salary adequacy and the interesting job.

ii. Social dignity/status

Social status can then be considered an ultimate motive for human action. Since people are social beings, they need to belong, to be accepted by others (A. H. Maslow, 1943). Employees' perception of their own socioeconomic status depends on their employment status. The literature review section shows that social distinction and status are among the strongest motivations of human behavior. Therefore the 2nd hypothesis of the study is:

H_2: There is a positive/significant relationship between the social dignity/status and the interesting job.

iii. Career ambition

Research evidence (Amy Wrzesniewski et. al., 1997)) suggested that most people see their work as either a Job (focus on financial rewards and necessity rather than pleasure or fulfillment; not a major positive part of life), a Career (focus on advancement), or a Calling (focus on enjoyment of fulfilling, socially useful work). The work is not an end in itself, but instead is a means that allows individuals to acquire the resources needed to enjoy their time away from the Job. The major interests and ambitions of Job holders are not expressed through their work (Bellah et al., 1985). Therefore the 3rd hypothesis of the study is:

H_3: There is a positive/significant relationship between the career ambition and the interesting job.

iv. Training and development

One key factor in employee motivation and retention is the opportunity employees want to continue to grow and develop job and career enhancing skills. In fact, this opportunity for employees to continue to grow and develop through training is one of the most important factors in employee motivation (Susan M. Heathfield, 2013). Therefore the 4th hypothesis of the study is:

H_4: There is a positive/significant relationship between the training and development and the interesting job.

v. Comfort

The workplace environment plays a crucial role for the employees. Nowadays employees may have a large number working alternatives, then the environment in the workplace becomes a critical factor for accepting and/or keeping the jobs. The quality of the environment in the workplace may simply determine the level of employee motivation, subsequent performance and

productivity. A widely accepted assumption is that better workplace environment motivates employees and produces better results (Demet Leblebici, 2012). The physical environment is a tool that can be leveraged both to improve business results (Mohr, 1996) and employee well-being (Huang, Robertson and Chang, 2004). Therefore the 5th hypothesis of the study is:

H_5: There is a positive/significant relationship between the comfortable physical environment and the interesting job.

vi. Mutual cooperation

According to McClelland's Theory of Needs (1961) The Need for affiliation (nAff) is the desire for friendship and close and close interpersonal relationships. There for the 6th hypothesis of the study is:

H_6: There is a positive/significant relationship between the mutual cooperation and the interesting job.

vii. Management relation

Managers use motivation in the workplace to inspire people to work, both individually and in groups, to produce the best results for business in the most efficient and effective manner. The manager must identify what actually motivates associates. People tend to do their best work when they are in an environment that makes them feel valued for a job well done. These courtesies may seem simple that can have a great impact on organizational morale to motivate associates to "go the extra mile" (Ian Bessel et. al., 2012). There for the 7th hypothesis of the study is:

H_7: There is a positive/significant relationship between the management relation and the interesting job.

IV. RESEARCH METHODOLOGY

This study is initiated for measuring motivational impact on employees of commercial bank in Bangladesh for making their job interesting. The said factors responsible for making job interesting are salary adequacy, future security, social dignity/ status, career ambition, training and development, comfortable physical environment, mutual cooperation and management relation. This study is hypotheses testing in nature. The hypothesis testing is explaining the relationship between the independent and dependent variables. In this study, the hypothesis have been selected based on the literature review mentioned above to describe the relationship among those variables that salary adequacy, future security, social dignity / status, career ambition, training and development, comfortable physical environment, mutual cooperation and management relation influence on making job interesting.

For questionnaire survey, convenient method of sampling have used. There is no available source for the

address of employees of a commercial bank. Therefore, friends, relatives, and other informal reference group were used to locate the potential respondents in Bangladesh. Questionnaires were sent by email, postal mail and directed to 100 respondents. The number of initial replies received was 70. After a screening first round replies a second round personal contract conducted by a researcher and finally 80 respondents were taken for this study.

This study mainly based on primary data originating from a survey during the period of July-November, 2013. For this purpose a constructed questionnaire was developed. The questionnaire was constructed, measured and investigated through 2 point Scale.The scale consists two options/ points such as strongly yes/ 2, no/ 1. The SPSS Statistics software package was used for statistical analysis. Reliability of data was measured by using the Chronbach's Alpha (Cornbach, 1951). Chronbach Alpha was 0.648. Alpha is higher than that is suggested by Nunnally (1978) and therefore data collected can be considered reliable. Pearson Correlation is used to indicate correlations among the variables, Linear Regression analysis is used to test the hypothesis.

V. Findings and Data Analysis

a) Respondent's Demographic

Table 1 : Respondent's Demographic (Survey, 2013)

Respondent's Demographic		Frequency	Percent	Cumulative Percent
Sample	Public Commercial Bank	40	50	50
	Private Commercial Bank	40	50	100
	Total	80	100	
Income Level	15000-30000	28	35.0	35.0
	31000-50000	29	36.3	71.3
	51000 and above	23	28.8	100.0
	Total	80	100.0	
Designation	Junior Officer	14	17.5	17.5
	Officer	29	36.3	53.8
	Officer	25	31.3	85.0
	Principal Officer	7	8.8	93.8
	Senior Principal Officer	4	5.0	98.8
	Senior Principal Officer	1	1.3	100.0
	Total	80	100.0	
Age	20-30 years	50	62.5	62.5
	31-40 years	12	15.0	77.5
	41-50 years	18	22.5	100.0
	Total	80	100.0	
Experience	1-5 years	43	53.8	53.8
	6-10 years	11	13.8	67.5
	Above 11 years	26	32.5	100.0
	Total	80	100.0	
Gender	Male	73	91.3	91.3
	Female	7	8.8	100.0
	Total	80	100.0	
Marital Status	Married	68	85.0	85.0
	Unmarried	12	15.0	100.0
	Total	80	100.0	
Education	SSC	1	1.3	1.3
	HSC	5	6.3	7.5
	Bachelor	11	13.8	21.3
	Master	63	78.8	100.0
	Total	80	100.0	

80 samples have been drawn from commercial bank of Bangladesh among them public commercial banks have 50% and private commercial banks have 50% sample. 35% respondent's have a monthly salary within Tk. 15000-30000, 36.3% respondent's have a monthly salary within Tk. 31000-50000, 28.8% respondent's have a monthly salary above Tk. 51000.

17.5% junior officer, 36.3% officer, 31.3% officer, 8.8% principal officer, 5% senior principal officer and 1.3% have AGM rank. 62.5% respondents are 20-30 within years, 15% respondents are within 31-40 years and 22.5% are within 41-50 years. 53.8% respondents have 1-5 years, 13.8% respondents have 6-10 years and 32.5% respondents have above 11 years job experience

in banking. It comprises 91.8% male and 85% married respondents. 78.8% respondents have mastered, 13.8% respondents have bachelor, 6.3% and 1.3% respondents have HSC and SSC educational degree.

b) Correlations among Variables

The Pearson's correlation is used to measure the significance of linear bivariate correlation between the independent and dependent variables. Variable association refers to a wide variety of coefficients which measure the strength of a relationship. Theoretically, the higher value of the correlation between two variables, the more related these variables are to each other (these values show the strength of relationships among variables). The direction of relationships among variables is another issue that should be considered in analyzing the correlations between variables. A positive correlation indicates that the direction of the relationship is positive (if one increases, the other one increases). A negative correlation indicates an inverse relationship between variables (if one increases, the other one decreases). Bivariate Correlations are used to know the nature, direction and significance of the bivariate relationship of the variables of this study. Therefore, the Bivariate Correlations procedures have used to compute Pearson's correlation coefficient. A rule of thumb is that multicollinearity may be a problem if a correlation is >. 90,in the correlation matrix formed by all the independent variables (Coakes, S. J. and L. G. Steed, 2000).

Table 2 : Correlations

		V1	V2	V3	V4	V5	V6	V7	V8	V9
V1	Pearson Correlation Sig. (2-tailed) N	1 80								
V2	Pearson Correlation Sig. (2-tailed) N	.390** .000 80	1 80							
V3	Pearson Correlation Sig. (2-tailed) N	.224* .046 80	.132 .242 80	1 80						
V4	Pearson Correlation Sig. (2-tailed) N	-.044 .696 80	.198 .078 80	.079 .487 80	1 80					
V5	Pearson Correlation Sig. (2-tailed) N	.153 .177 80	.356** .001 80	-.013 .910 80	.093 .411 80	1 80				
V6	Pearson Correlation Sig. (2-tailed) N	.054 .637 80	.306** .006 80	.145 .201 80	.330** .003 80	.303** .006 80	1 80			
V7	Pearson Correlation Sig. (2-tailed) N	.379** .001 80	.198 .078 80	.321** .004 80	.050 .662 80	.152 .177 80	.276* .013 80	1 80		
V8	Pearson Correlation Sig. (2-tailed) N	-.161 .154 80	.131 .247 80	.087 .444 80	.130 .251 80	.021 .852 80	.124 .274 80	.050 .660 80	1 80	
V9	Pearson Correlation Sig. (2-tailed) N	.032 .776 80	.328** .003 80	-.059 .602 80	.212 .060 80	.275* .014 80	.358** .001 80	.102 .366 80	.254* .023 80	1 80
**. Correlation is significant at the 0.01 level (2-tailed). * . Correlation is significant at the 0.05 level (2-tailed).										
V1=Salary adequacy, V2= Future security, V3= Social dignity and Status, V4= Career Ambition, V5= Training and development, V6= Interesting job , V7=Comfortable physical environment, V8= Mutual cooperation, V9= Management relation.										

Based on the analysis presented in Table 02 the result shows correlation between the variables, the V1 and V2, r =.390 at p<.000 level, V1 and V3, r =.224 at p<.046 level, V1 and V4, r =-.044 at p< .696 level, V1 and V5, r =.153 at p< .177 level, V1 and V6, r =.054 at p<.637 level, V1 and V7, r =.379 at p<.001 level, V1 and V8, r =-.161 at p<.154 level, V1 and V9, r =.032 at p<.776 level, V2 and V3, r =.132 at p< .242 level, V2 and V4, r =.198 at p<.078 level, V2 and V5, r =.356 at p<.001 level, V2 and V6, r =.306 at p<.006 level, V2 and V7, r =.198 at p<.078 level, V2 and V8, r =.131at p<.247 level, V2 and V9, r =.328 at p< .003 level, V3 and V4, r =.079 at p<.487 level, V3 and V5, r =-.013 at p< .910 level, V3 and V6, r =.145 at p< .201 level, V3 and V7, r =.321 at p<.004 level, V3 and V8, r =.087 at p<.444 level, V3 and V9, r =-.059 at p<.602 level, V4

and V5, r =.093 at p<.411 level, V4 and V6, r =.330 at p<.003 level, V4 and V7, r =.050 at p<.662 level, V4 and V8, r =.130 at p<.251 level, V4 and V9, r =.212 at p<.060 level, V5 and V6, r =.303 at p<.006 level, V5 and V7, r =.152 at p<.177 level, V5 and V8, r =.021at p<.852 level, V5 and V9, r =.275 at p<.014 level, V6 and V7, r =.276 at p< .013 level, V6 and V8, r =.124 at p< .274 level, V6 and V9, r =.358 at p<.001 level, V7 and V8, r =.050 at p<.660 level, V7 and V9, r =.102 at p<.366 level and V8 and V9, r =.254 at p<.023 level.

c) Regression Analysis

The multiple regression analysis determines which variables (independent variables) explain variability in the outcome, how much variability in the dependent variables is explained by the independent variable(s), and which variables are significant (over other variables) in explaining the variability of the dependent variable. Multiple regression estimates the coefficients of the linear equation, involving one or more independent variables that best predict the value of the dependent variable (Hashed Ahmed Nasser M. et al., 2012).

H_1: Result shows (Table 03) the value of R is (.054), the value of R square is (.003) and the standard error of the estimate was (.502).

Table 3 : Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	. 054a	.003	-.010	.502
		a. Predictors: (Constant), Salary adequacy		

In this case multiple regressions were used to study the effect of the independent variables salary adequacy (V1) to dependent variable interesting job (V6).

Table 4 : ANOVAb

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.056	1	.056	.224	. 637a
	Residual	19.631	78	.252		
	Total	19.688	79			
a. Predictors: (Constant), Salary adequacy						
b. Dependent Variable: Interesting job						

Table 4 shows analysis of variance test statistics (ANOVA) indicates that the model is insignificant at α =. 637. Findings that the independent variable has insignificant relationships with interesting job (F=. 224) (Sig.637).

Table 5 : Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.483	.176		8.424	.000
	Salary adequacy	.053	.112	.054	.474	.637
a. Dependent Variable: Interesting job						

Table 05 shows the value of the T-statistic is insignificant for salary adequacy. The hypothesis is rejected because the result of insignificance is more than 0.05 (Significance requirement standard < 0.05).

H_2: Result shows (Table 06) the value of R is (.306), the value of R square is (.093) and the standard error of the estimate was (.478).

Table 6 : Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	. 306a	.093	.082	.478
		a. Predictors: (Constant), Future security		

In this case multiple regressions were used to study the effect of the independent variables future security (V2) to dependent variable job interesting (V6).

Table 7 : ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.838	1	1.838	8.029	.006a
	Residual	17.850	78	.229		
	Total	19.688	79			

a. Predictors: (Constant), Future security
b. Dependent Variable: Interesting job

Table 07 shows analysis of variance test statistics (ANOVA) indicates that the model is significant at α =.006. Findings that the independent variable has significant relationships with interesting job (F=8.029) (Sig.006).

Table 8 : Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.950	.223		4.266	.000
	Future security	.350	.124	.306	2.834	.006

a. Dependent Variable: Interesting job

Table 08 shows the value of the T-statistic is significant for future security. The hypothesis is accepted because the result of significance is less than 0.05 (Significance requirement standard < 0.05).

H_3: Result shows (Table 09) the value of R is (.145), the value of R square is (.021) and the standard error of the estimate was (.497).

Table 9 : Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.145a	.021	.008	.497

a. Predictors: (Constant), Social dignity and Status

In this case multiple regressions were used to study the effect of the independent variables Dignity and Status (V3) to dependent variable Interesting job (V6).

Table 10 : ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.411	1	.411	1.664	.201a
	Residual	19.276	78	.247		
	Total	19.688	79			

a. Predictors: (Constant),
b. Dependent Variable: Interesting job

Table 10 shows analysis of variance test statistics (ANOVA) indicates that the model is insignificant at α =.201. Findings that the independent variable has insignificant relationships with interesting job (F=1.664) (Sig.201).

Table 11 : Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.921	.500		1.841	.069
	Dignity and Status	.329	.255	.145	1.290	.201

a. Dependent Variable: Interesting job

Table 11 shows the value of the T-statistic is insignificant for social dignity/status. The hypothesis is rejected because the result of insignificance is more than 0.05 (Significance requirement standard < 0.05).

H_4: Result shows (Table 12) the value of R is (.330), the value of R square is (.109) and the standard error of the estimate was (.474).

Table 12 : Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.330a	.109	.097	.474

a. Predictors: (Constant), Career Ambition

In this case multiple regressions were used to study the effect of the independent variables Career ambition (V4) to dependent variable Interesting job (V6).

Table 13 : ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.140	1	2.140	9.514	.003a
	Residual	17.547	78	.225		
	Total	19.688	79			
a. Predictors: (Constant), Career ambition						
b. Dependent Variable: Interesting job						

Table 13 shows analysis of variance test statistics (ANOVA) indicates that the model is significant at α =. 003. Findings that the independent variable has significant relationships with interesting job (F=9.514) (Sig.003).

Table 14 : Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.987	.194		5.094	.000
	Career ambition	.346	.112	.330	3.084	.003
a. Dependent Variable: Interesting job						

Table 14 shows the value of the T-statistic is significant for Career ambition. The hypothesis is accepted because the result of significance is less than 0.05 (Significance requirement standard < 0.05).

H_5: Result shows (Table 15) the value of R is (.303), the value of R square is (.092) and the standard error of the estimate was (.479).

Table 15 : Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.303a	.092	.080	.479
a. Predictors: (Constant), Training and development				

In this case multiple regressions were used to study the effect of the independent variables Training and development (V5) to dependent variable Interesting job (V6).

Table 16 : ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.811	1	1.811	7.903	.006a
	Residual	17.876	78	.229		
	Total	19.688	79			
a. Predictors: (Constant), Training and development						
b. Dependent Variable: Interesting job						

Table 06 shows analysis of variance test statistics (ANOVA) indicates that the model is significant at α =.006. Findings that the independent variable has significant relationships with interesting job (F=7.903) (Sig.006).

Table 17 : Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.981	.214		4.594	.000
	Training and development	.337	.120	.303	2.811	.006
a. Dependent Variable: Interesting job						

Table 17 shows the value of the T-statistic is significant for Training and development. The hypothesis is accepted because the result of significance is less than 0.05 (Significance requirement standard < 0.05).

H_6: Result shows (Table 18) the value of R is (.276), the value of R square is (.076) and the standard error of the estimate was (.483).

Table 18 : Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.276a	.076	.065	.483
a. Predictors: (Constant), Comfortable physical environment				

In this case multiple regressions were used to study the effect of the independent variables Comfortable physical environment (V7) to dependent variable job interesting (V6).

Table 19 : ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.504	1	1.504	6.453	.013a
	Residual	18.183	78	.233		
	Total	19.688	79			
a. Predictors: (Constant), Comfortable physical environment						
b. Dependent Variable: Interesting job						

Table 19 shows analysis of variance test statistics (ANOVA) indicates that the model is significant at α =.013. Findings that the independent variable has significant relationships with interesting job (F=6.453) (Sig.013).

Table 20 : Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.080	.197		5.475	.000
Comfortable physical environment	.290	.114	.276	2.540	.013
a. Dependent Variable: Interesting job					

Table 20 shows the value of the T-statistic is significant for Comfortable physical environment. The hypothesis is accepted because the result of significance is less than 0.05 (Significance requirement standard < 0.05).

H_7: Result shows (Table 21) the value of R is (.124), the value of R square is (.015) and the standard error of the estimate was (.449).

Table 21 : Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.124a	.015	.003	.499
a. Predictors: (Constant), Mutual cooperation				

In this case multiple regressions were used to study the effect of the independent variables Mutual cooperation (V8) to dependent variable interesting job (V6).

Table 22 : ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.302	1	.302	1.214	.274a
	Residual	19.386	78	.249		
	Total	19.688	79			
a. Predictors: (Constant), Mutual cooperation						
b. Dependent Variable: Interesting job						

Table 22 shows analysis of variance test statistics (ANOVA) indicates that the model is insignificant at α =.274. Findings that the independent variable has insignificant relationships with interesting job (F=1.214) (Sig.274).

Table 23 : Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.214	.321		3.784	.000
Mutual cooperation	.186	.169	.124	1.102	.274
a. Dependent Variable: Interesting job					

Table 23 shows the value of the T-statistic is insignificant for Mutual cooperation. The hypothesis is rejected because the result of insignificance is more than 0.05 (Significance requirement standard < 0.05).

H_8: Result shows (Table 24) the value of R is (.358), the value of R square is (.128) and the standard error of the estimate was (.469).

Table 24 : Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.358a	.128	.117	.469
a. Predictors: (Constant), Management relation				

In this case multiple regressions were used to study the effect of the independent variables Management relation (V9) to dependent variable Interesting job (V6).

Table 25 : ANOVA[b]

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	2.521	1	2.521	11.454	.001a
Residual	17.167	78	.220		
Total	19.688	79			
a. Predictors: (Constant), Management relation					
b. Dependent Variable: Interesting job					

Table 25 shows analysis of variance test statistics (ANOVA) indicates that the model is significant at α =. 001. Findings that the independent variable has significant relationships with interesting job (F=11. 454) (Sig.001).

Table 26 : Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.967	.184		5.262	.000
Management relation	.367	.108	.358	3.384	.001
a. Dependent Variable: Interesting job					

Table 26 shows the value of the T-statistic is significant for Management relation. The hypothesis is accepted because the result of significance is less than 0.05 (Significance requirement standard < 0.05).

Table 27 : The Summary of Hypotheses Results

Hypotheses	Results
H_1: There is a positive/significant relationship between the salary adequacy and the interesting job.	Rejected
H_2: There is a positive/significant relationship between the future security and the interesting job	Accepted
H_3: There is a positive/significant relationship between the social dignity/status and the interesting job.	Rejected
H_4: There is a positive/significant relationship between the career ambition and the interesting job.	Accepted
H_5: There is a positive/significant relationship between the training/development and the interesting job.	Accepted
H_6: There is a positive/significant relationship between the comfortable physical environment and the interesting job.	Accepted
H_7: There is a positive/significant relationship between the mutual cooperation and the interesting job.	Rejected
H_8: There is a positive/significant relationship between the management relation and the interesting job.	Accepted

VI. CONCLUSION AND MANAGERIAL IMPLICATION

Motivated employees are ambitious and exercise self-control. Motivated employees enjoy their mental and physical work is as natural as play. Given the proper conditions, theory Y managers believe that employees will learn to seek out and accept responsibility and to exercise self-control and self-direction in accomplishing objectives which they are committed. A Theory Y manager believes that, given the right conditions, most people will want to do well at work. They believe that the satisfaction of doing a good job is a strong motivation (Wikipedia, 2013). However this study is conducted in light of theory Y. It is assumed thought the study that management should have to have an intense focus on employees well being in maximizing their fullest potential by creating a positive environment through motivational mix. The study shows that for making job interesting for employees; future security, career ambition, training/development, comfortable physical environment and management relation have positive significant influence. On the other hand; salary adequacy, social dignity/status and mutual cooperation among employees have insignificant influence on making job interesting.

The study is significant for future security in making job interesting; it indicates that for making job interesting to them security for the future is crucially important. The study is significant for career ambition in making job interesting; it indicates that they have joined in that organization have fulfilled their career so that they feel interested in the job. The study is significant for training/development in making job interesting; it indicates that training and development program can enable them to acquire knowledge in organizational problem solving which make their job interesting to them. The study is significant for comfortable physical environment in making job interesting; it indicates that the working environment has a significant impact on employee motivation for making job interesting. The study is significant for management relation to making job interesting; it indicates that management care on employees have significant impact on their work motivation which make the job interesting to them and they find they have strong ownership in the organization. The study is insignificant for salary adequacy for making job interesting; it indicates that their present salary does not meet their expectation for which they have joined. Here management should have to take responsibility for the redesigned salary structure for making them happy for which job is becoming interesting to them. The study is insignificant for social dignity/status for making them interesting in the job; it indicates that social dignity and status not related to making their job interesting. Off the job motivational factor have minimal impact on making

job interesting. The study is insignificant for mutual cooperation for making job interesting; it indicates that this interpersonal relationship with colleagues have minimal impact on doing their job interesting. Here management should take care of conducting different social events on organizational interfaces for making job interesting for employees well being through interaction and cooperation.

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Human Resource Practices and Employee Turnover Intentions in Hospitality Industry

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Abstract - Employee turnover is an endemic issue in hospitality industry, worldwide. Employee turnover intention acts as a proxy for actual employee turnover. One of the challenging issues faced by the hospitality organizations today is to manage the changing employment relationship. Being in customer service business, hospitality industry capitalizes heavily on its human resources in order to achieve its competitive advantage. Choi and Dickson (2009) emphasized that the hospitality industry is a highly guest service–oriented business where encounters between employees and guests determine the success of the business.

GJMBR-A Classification : *JEL Code: M00, M19.*

RELATIONSHIP BETWEEN HUMAN RESOURCE PRACTICES AND EMPLOYEE TURNOVER INTENTION IN HOSPITALITY INDUSTRY

Strictly as per the compliance and regulations of:

Human Resource Practices and Employee Turnover Intentions in Hospitality Industry

S. Nivethitha ᵅ, Lata Dyaram ᵟ & T. J. Kamalanabhan ᵖ

I. Introduction

Employee turnover is an endemic issue in hospitality industry, worldwide. Employee turnover intention acts as a proxy for actual employee turnover. Being in customer service business, hospitality industry capitalizes heavily on its human resources to achieve its competitive advantage. Choi and Dickson (2009) emphasized that the hospitality industry is a highly guest service–oriented business, where communication between employees and guests determine the success of the business. Chand and Katou (2007) stated that since the hospitality industry is highly labour-intensive, the effective utilization of human resources can give an organization its competitive edge. This paper attempts to review the determinants of employee turnover intention from the human resource practices perspective.

Despite the unique feature of the hospitality industry being highly labour-intensive (Nolan, 2002), only few studies have so far investigated the impact of the human resource management practices on organizational performance (Namasivayam et al. 2007). These studies have focused only on a single aspect of the human resource management practices, which might inflate the results (Cho et al. 2006). In hospitality and tourism industry, human resource development has been rarely addressed in a proactive and planned sense (Baum et al. 1997). Ghebregiorgis and Karsten (2007) described that there is not much research on the employee's reaction to human resource practices and turnover intention. Given this, there is scant research pursuit in hospitality sector exploring the relationship between HRM practices and employee turnover intention.

While there is abundant research on human resource practices, studies concerning human resource practices in the hospitality industry is scant. Similarly, much of the work indicated is from the developed countries; there is growing interest from the developing countries too to explore the applicability of modern human resource management models and frameworks which suits their business contexts. This paper is an effort to comprehend the effect of firm's human resource practices on psychological contract of the employees

and in turn its effect on employee turnover intention in hospitality sector.

The paper initially presents an overview of the hospitality industry and specific taxonomy of the Indian hospitality sector. This is followed by an overview of the research trends in firm's human resource practices, concept of psychological contract and employee turnover intention. This paper further presents a conceptual framework aligning these constructs.

II. Hospitality Industry

Tourism is one of the most rapidly growing industries. According to the Tourism Satellite Accounting (TSA) research, released by the World Travel and Tourism Council (WTTC) in 2009: the demand for travel and tourism in India is expected to grow by 8.2 per cent between 2010-2019 and this will place India in the third position in the world and added that India's travel and tourism sector is expected to be the second largest employer in the world, employing 40,037,000 by 2019. World Tourism Organization (2009) reports that hospitality which is one of the major sectors of the tourism industry as the world's second largest employer. In India, it supports 48 million jobs directly or indirectly. In other words, it accounts for 8.27 percent of total employment and 5.83 percent of the GDP (Department of Tourism, GOI).

Worland and Wilson (1988) described the hospitality industry as organizations that provide one or more services that contribute to the function of hospitality as generally construed and as including four sectors: hotels, restaurants, licensed clubs and motels. Tourism, of which hospitality is a key sector capitalizes heavily on human resources and also has established itself as the one of the largest generator of employment providing more than 212 million jobs (Singh, 1997). In contrast to increasing employment opportunities in the hospitality industry, Davidson et al. (2010) found that the hotel labour market has two key challenges: on the one hand, it is difficult to attract suitable labour; and on the other, it has relatively high levels of employee turnover representing a significant loss of investment in human capital, training and quality. Hotels are the largest employers in tourism sector and the high mobility or turnover rate experienced within the industry is a common challenge throughout this industry worldwide (Collins, 2007). It is observed that it is relatively easy for

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workers to get similar jobs with other firms (Solnet and Hood, 2008).

Getz (1994) emphasized that jobs in tourism and hospitality industry are largely perceived to be undesirable and common features of hospitality employment are low wages, poor working conditions, lack of job security and promotion opportunities, which result in high staff turnover. In addition, Wood (1997) revealed a list of negative themes that were quite common in the industry including long and antisocial hours, low levels of pay, low status and high staff turnover, from his analysis about employment in hotels and catering. National Sample Survey Organisation's (2004-2005) employment survey data depicts that hotels and restaurants are the second highest (65.8%) employers of service workers. Deployment of employees across other occupations in hotels and restaurants encompasses: 20% of administrative, executive and managerial workers, 7.6% sales workers, 1.4% clerical workers and 0.1% of technical workers. The following table provides a brief description of common taxonomy to understand the challenges of this sector as adapted from The Service Sector in India's Development, (Nayyar, 2005).

Table 1 : Taxonomy of Indian Hospitality Industry

Attributes	Hotels and Restaurants in India	Description
Organized versus Unorganized	Partly organized , Partly unorganized	Large hotel chains on one hand and small catering and lodging service providers on the other.
Public versus Private Provision	Largely private	Traditionally, government has little or no investments in these sectors.
Intermediate versus Final Consumption	Largely final consumption	Due to the nature of activities of the industry, which are oriented towards consumption rather than usage in further production
Educational Barriers to Entry for Job Seekers	Low educational barriers to entry for job seekers	Entering the industry as managerial staff would require basic level of education qualification. However, non-professional service employees usually carry lower educational qualification.
Capital Intensity	High to Low capital intensity	Large hotels have high capital intensity and small restaurants and lodging places have low capital requirement.
Skill Intensity	Medium skill intensity	Employs both professional and non-professional employees.
Economies of Scale	Low scope for economies of scale	Dominated by large unorganized segment comprising small restaurants and lodging places.
International Trade	Medium tradeability of outputs	Rapid increase in tourism is likely to have strengthened the tradeability of hotels' and restaurants' service in international market.
Contribution to Technological Progress	Low contribution to technological progress	Firms do not invest in R&D
Incorporation of Technological Advance	Medium incorporation of technological advance	Large hotels are likely to incorporate technological advancements and small restaurants are unlikely to do so due to capital constraints.

III. HUMAN RESOURCE MANAGEMENT AND EMPLOYEE TURNOVER INTENTION

Traditionally, human resource practices play a crucial role in influencing employee attitudes and behaviour. Turnover intention reveals the subjective probability that an individual will leave the organization and thus reflects one's attitude towards the organization. Actual employee turnover represents an outflow of skills and may consequently seriously hinder competitiveness, efficiency and quality delivery (Redman and Mathews, 1997), which is dichotomous. Huselid (1995) stated that high performance work practices (such as promotion and labour-management participation teams) that contribute to employee development should enhance employee retention and found these practices had a negative relationship with employee turnover. High-performance human resource practices invest in improving service capacity through selection policies, training practices, integrated performance appraisal, competitive rewards and empowering employees in decision making, which would provide sufficient support to employees so that they can do their best to satisfy customers and to successfully carry out their tasks (Tang and Tang, 2011). Becker and Gerhart (1996) stated that human resource systems are path dependent, can be a unique source of competitive advantage and also added that it is difficult

to imitate human resource management practices and policies. Few studies indicate that human resource practices as having an additive effect on organizational performance (Gerhart and Milkovich, 1990; Becker and Gerhart, 1996), whereas others examines the joint effects of human resource practices on organizational performance (Delaney and Huselid, 1996; Delery and Doty1996). Allen et al. (2003) argued that organizational practices that signal development opportunities and investment on employees should reduce employee turnover. Yang et al. (2012) identified the following concepts as the determinants of employee turnover, such as salary and fringe benefits, working hours, workload, work pressure, training and development, leadership, career plans and family factors. In the following paragraphs we elaborate on how various human resource practices from recruitment and selection, training and development, performance management and compensation and benefits can influence the development of employee turnover intention.

Recruitment acts as a root for psychological contracts fostered by the firms (Rousseau, 1994). Recruiting sources have been subsequently related to employee performance, absenteeism and work attitudes. Individuals recruited through professional conventions and who apply directly to organizations (self-initiated contacts) possess more accurate and complete information about the job and the organization, and consequently employees have longer tenure than do individuals recruited via newspapers, college placement offices and employment agencies (Breaugh, 1981). Bonn and Forbringer (1992) noted that hiring almost any 'warm bodies' that are interested in this industry resulted in higher levels of employee turnover and suggested to recruit through sources like referrals, hiring of minorities, elderly and handicapped employees to reduce employee turnover. They also, added that employees selected through realistic job previews will have lower turnover intention. Sims (1994) stated that realistic job previews can be used in the recruitment to increase the likelihood of satisfactory psychological contract at employee entry stage. Paraskevas (2000) found that in the selection process behavioural interviews and bio-data verification are performed more but, references are not checked as done in other industries. Cho etal. (2006) noted that internal recruitment and poor training of those employees promoted leads to high turnover intention. Ghebregiorgis and Karsten (2004) emphasized that proper staffing can help keep the employee's morale high, because besides getting the right people recruiting has an important symbolic aspect. Hotels have been identified constantly as an industry with ill-defined recruiting practices, where a failure to match the hotel's requirements and the hiring specification is found (Collins, 2007). In the present unstable environment,

hospitality recruiters have a tendency for the job-fit rather than organization-fit of candidates (Paraskevas, 2000) and employees selected with better person–organization fit will have the intention to remain and perform better for the organization (Dawson and Abbott, 2011).

Davidson et al. (2010) have noted that training and skill development have been in the forefront of the challenges facing the hospitality industry for many years. According to them, both formal and informal training plays a vital role for a host of reasons, including the global expansion in the industry, to reduce employee turnover, the need for knowledge enhancement and career paths, increasing legal requirements and, most importantly, to enhance the quality of service delivered to customers. Getz (1994) attributed one main reason for high employee turnover in hospitality industry that it has not sought highly trained and qualified staff. Solnet and Hood (2008) described hospitality industry as being highly people – intensive, lacks in career growth opportunities and beset by employee turnover. On-the-job training is the primary method used in the hotels (Barrows, 2000; Nolan, 2002), but the employers fail to offer training from trained professionals (Poulston 2007), which affects the quality of training. Lack of training and career growth opportunities in the hotels make the employees to quit their job (Bagri et al. 2010). Hai-Yan and Baum (2006) found that hotels lack trained employees and, emphasized that training and professional development is essential to develop skills of front office employees to attain competitive advantage. Baum (2008) suggested that hospitality and tourism organizations need to focus on inclusion of all staff in training and increase in the amount of investment in training and development. Psychological contract between employer and employee should specify what each party expects to give and receive from one another through training relationship (Sims, 1994).Davidson et al. (2010) noted that hotels generally regard high turnover as part of the work group norm and employees frequently hold the belief that they are entering jobs with limited career development opportunities; turnover has wide cost ramifications such as loss of investment in human capital, training and service quality.

Performance management programmes appear to be increasing in use, especially in the upper segment of the hotel industry (Nankervis and Debrah, 1995). Performance management approaches, including appraisals must become a continuous process and should be used to address psychological considerations for receiving feedback and rewards (Sims, 1994). Rousseau and Greller (1994) noted that the understanding of a job role, fair and just evaluation of performance, and fair distribution of monetary and non-monetary rewards are the factors that influence contract-making features of performance management. Redman and Mathews (1998) stated that employee

performance standards should be linked with customer care policies and appraisal should be done against it, which needs to be realistic, achievable, and measurable. Poon (2004) findings exhibit that performance appraisal ratings are often used to make personnel decisions such as pay raises and promotions; therefore, bias in ratings will have adverse effects on job satisfaction and turnover intention. Browing (2006) emphasized that in the performance appraisal process, recognition from managers influences the service behaviour of employees. Aggarwal and Bhargava (2008) stated that performance appraisals must be followed up with appropriate compensation and training strategy; developmental appraisal aligned with long-term and specific/unspecific performance measures, career management and skills-based training will result in stronger employment relations.

Traditionally hotel employees have been perceived as the lowest paid among the workers in other industries, due to low skills and lack of union support (Nankervis and Debrah, 1995). Bonn and Forbringer (1992) found that monetary and educational incentives offered to employees will reduce turnover intentions in hospitality sector. Consequences of frequently underpaid and undertrained employees lead to low levels of motivation, job dissatisfaction, high turnover and ultimately dissatisfied customers. Hai-Yan and Baum (2006) found that high quality human resources are lacking in hospitality sector as employees do not want to stay long in hotel front office because of demanding work, low wages and uncertain opportunities for promotion. Namasivayam et al. (2007) found that correlation between salary and organizational performance was stronger for managerial employees - base and incentive pay motivates them for better performance; and for non-managerial employees the correlation was stronger between individual benefits and organizational performance - they are motivated by combination of benefits and wages to perform better. Tsuar and Lin (2004) found that if employees perceive their efforts to be rewarded, they are more likely to satisfy various customer needs. Baum (2008) stated that employers can actually focus on enhancing the work environment, notably in terms of pay and benefits to attract and retain talented employees at all levels. Chan and Kuok (2011) noted that salary and better benefits offered elsewhere are the major reasons for employee turnover in the hospitality sector. Blomme et al. (2010) highlighted that if organizations offer promotion opportunities and competitive salaries, then employees were less inclined to consider leaving the organization.

IV. Psychological Contract

The concept of psychological contract was coined by Argyris (1960) and it refers to the mutual obligations between the organization and the employee, held by both the parties. This implies that each of the parties might have different perceptions of what these obligations are. Rousseau (1990) defined psychological contract as an individual's beliefs regarding the terms and conditions of a reciprocal exchange agreement between an employee and the organization. Studies affirm the crucial role of organizational factors such as human resource practices influencing psychological contract of employees and organizational outcomes (Rousseau, 1990; Sims, 1994; Rousseau and Greller 1994; Aggarwal and Bhargava 2008). Rousseau and Greller (1994) stated that an employee's employment relationship with the organization is shaped by the human resource practices such as recruiting, training, performance appraisal, pay and benefits. In addition, they also stated that recognizing how human resource practices shape individual psychological contract will help the organization to work on more consistent communication and management of the contract. Blomme et al. (2010) stated that psychological contracts develop through an interactive process between employee and employer, which is influenced by number of human resource practices beginning from recruitment, training, compensation and performance reviews.

Rousseau (1990) categorized psychological contract into two types of contracts: first, transactional contracts, which refer to specific monetary exchanges such as rapid advancement, high pay and merit pay; and second, relational contracts, which encompass long-term job security, career development and support with personal problems. Coyle-Shapiro and Kessler (2000) found that much of the recent research focused on the employee's perspective of the psychological contract and downplayed the aspect of mutuality. Coyle-Shapiro and Kessler (2000) found that the importance an employee attaches to transactional obligations have negative effect, and in contrast the importance an employee attaches to relational obligations have positive effect on their obligation towards the employer and contract behaviour.

Aggarwal and Bhargava (2008) stated that human resource practices have their impact on psychological contract through two ways. First, human resource practices shape employees' skills, attitudes and behaviours, which in turn influence organizational performance (Huselid, 1995). Second, human resource practices impact organizational performance by creating structural and operational efficiencies. Contract fulfilment by the employer will lead to organizationally desired outcomes such as organizational citizenship behaviour (Robinson and Morrison, 1995; Coyle-Shapiro and Kessler 2000) and organizational commitment (Guest, 2004). In contrast psychological contract breach will result in negative responses, such as absenteeism (Derry et al. 2006), low organizational trust (Rousseau,

1990; Derry et al. 2006), diminishing commitment levels (Rousseau and Greller, 1994) and employee turnover intention (Aggarwal and Bhargava 2008).

V. Proposing a Conceptual Framework

Huselid (1995) noted that organizational human resource practices have received increased attention in recent times for their effects on employee turnover rates. In the proposed conceptual framework, four human resource practices are considered: recruitment and selection, training and development, performance appraisal and compensation & benefits. All the human resource practices in the framework are interrelated and inter dependent. Human resource practices play a vital role in signalling the message in terms of shaping the psychological contract. Human resource practices act as a means through which an organization communicates about the transactional and relational exchange relationship and which leads to the formation of psychological contract. Thus, we propose a framework depicting the relationships among human resource practices, psychological contract and employee turnover intention.
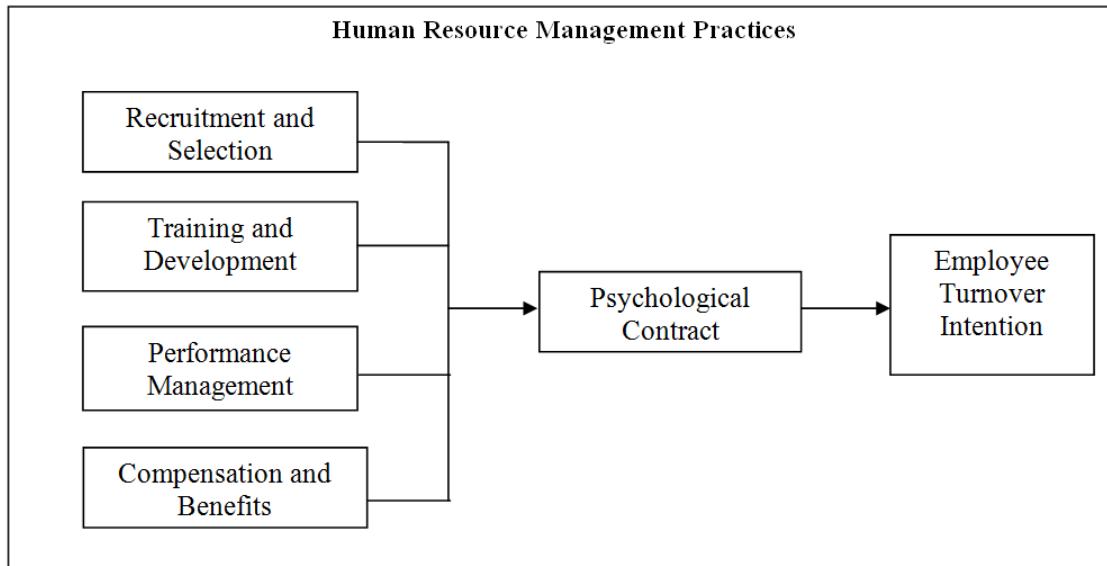
Figure 1 : Conceptual Model

VI. Conclusions

Employee turnover in the hospitality industry is generally viewed as inevitable. The paper highlights the need to focus on the employee's perspectives on human resource management practices and policies as it is argued as a major antecedent to develop employee turnover intention. Human resource practices influence psychological contract of an employee, which in turn influences employee's intention to quit. Therefore, hospitality industry must devise their human resource management practices keeping in view the above mentioned precursors to reduce employee turnover intention. Human resource practices and psychological contract should be analysed periodically based on the changing needs of the employees. Effective recruitment and selection practices are essential to employ potential candidates. Systematic training and career development opportunities has to be offered to employees in order to develop their knowledge, skills and abilities; which will in turn motivate employees to retain with the firm for longer duration. Performance appraisals has to be periodically conducted and results of appraisals has to be related with monetary and non-monetary benefits, which will

enhance employees' future performance. Pay is considered to be one of the major reasons for high employee turnover in this industry; key measures have to be taken to improve the standards of compensation in comparison with other service oriented industries. These are some of the very basic measures but promising steps that will result in retention of employees and develop the employment relationship.

The constructs of the framework provides a way through which human resource researchers might test the framework empirically and human resource practitioners might foster such management practices with the potential to reduce employee turnover cost. Exploring further the construct of psychological contract, both in terms of content and process with various methodologies, domains and contexts, will prove promising to understand the employment relationship of both employees and employers.

This paper contributes in understanding and examining the role of psychological contract in the employee turnover intention process. The relationship between psychological contract and employee turnover intention has also seen to be mediated by organizational commitment, organization citizenship behaviour and

organizational justice (Coyle-Shapiro and Kessler 2000). Thus, psychological contract may be seen as more a latent determinant of employee turnover intentions that affects the actual employee turnover. Therefore, future research can explore the role of various mediating factors influencing psychological contract and employee turnover intention. Frith et al. (2004) stated that reduced turnover intentions and subsequent employee turnover will result in minimizing the financial cost and effort involved in recruitment, training and replacement cost. Human resource management practices of the firm indicate to the employees about the extent to which the organization values for their employees and the employment relationship which in turn influences the employee engagement and retention.

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Life Cycle Costing Analysis of Energy Options: In Search of Better Decisions towards Sustainability in Indian Power & Energy Sector

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Abstract- The utilization of energy from fossil fuels has becoming important driver and plays a vital role for all the economies. The alternative resources have wider concerns over the issues of energy security and sustainable development in the sector. In this context, for meeting the national power deficit and addition to thermal power generation capacity, power generation from thermal plants has been a very important history of the Indian power sector.

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GJMBR-A Classification : JEL Code: M11, M19.

LIFE CYCLE COSTING ANALYSIS OF ENERGY OPTIONS IN SEARCH OF BETTER DECISIONS TOWARDS SUSTAINABILITY IN INDIAN POWER ENERGY SECTOR

Strictly as per the compliance and regulations of:

Life Cycle Costing Analysis of Energy Options: In Search of Better Decisions towards Sustainability in Indian Power & Energy Sector

Vivek Soni ᵅ, A.P. Dash ᵒ, S.P. Singh ᵖ & D.K. Banwet ᶜ

Abstract- The utilization of energy from fossil fuels has becoming important driver and plays a vital role for all the economies. The alternative resources have wider concerns over the issues of energy security and sustainable development in the sector. In this context, for meeting the national power deficit and addition to thermal power generation capacity, power generation from thermal plants has been a very important history of the Indian power sector. The optimization of electricity tariff and assessment of investments cost is significant in capacity addition. These investments contribution to overall achieving targeted national gross domestic product of the country. In continuing this investments tradition, the current agenda of sustainable development brings to ensure that new and renovated financial mechanisms which may meet the needs as effectively and efficiently as possible. In this context, the life cycle costing (LCC), the technique has emerged from practice of life cycle management (LCM) practices and approaches of UNEP global environmental agenda, which promotes the coherent implementation of the environmental dimensions of sustainable development.

This paper highlights a good literature review on LCC, learning from important international case studies, detailed methodology, its applications and feasibility of its applications in Indian power & energy sector. The data of typical thermal & solar power plants have collected from the plants managed by the national thermal company. It is found that, the total life cycle cost of the solar power plant for 25 years of operations is lesser than the levelized cost of the electricity produced by typical thermal power plant. The possibilities to have sensitivity analysis and breakeven point of comparison of LCC costs for both type of energy resources gives policy makers and investors to have clear picture on investments in thrust agenda of sustainability.

Keywords: *life cycle costing (lcc), life cycle management, thermal power plant, solar power plant, sustainability, india.*

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I. INTRODUCTION

Recent trends in the investment in energy sector required the decision making capability for a healthy economy. The international framework of United Nations Environment Program (UNEP) targets the mandate to become the leading global environmental authority that sets the global agenda, promotes the rational implementation of the Environmental dimensions of sustainable development. Thus the business guide to sustainability provides the linkages between the effective use of resources with better capacity to have better understanding and difference critical approach to deal with the shortage of resources. In this context the journey towards sustainability needs that businesses should find innovative ways to be profitable and at the same time expand the traditional frontiers of business to include the environmental and social dimensions, in other words take account of "the triple bottom line", and to introduce "Life cycle thinking".

The concept of life cycle management (LCM) projects with the effective role to minimize the environmental and socio-economic burdens associated with a product throughout its entire life cycle. LCM makes life cycle thinking and product sustainability operational for businesses through continuous improve-ements of product systems and supporting business assimilation of integrated product policies. It is worthy to say that LCM is not only a single tool or methodology but also management system collecting, structuring and propagating product-related information from various programs, concepts and tools. It incorporates the aspe-cts such as environmental, economic, asocial issues ofaproducts, which are applied throughout a product's life cycle. The organizations must 'go beyond its facility boundaries' and be willing to expand its scope of collaboration and communication to all stakeholders in the value chain LCM can be specifically adapted and gradually introduced, in any organization, including small and medium enterprises.

It is, therefore important to have clear picture on investments on the various energy supply options which factor in the electricity costs to the consumers. This paper flows in six parts and has numbered accordingly.

The part one of this study is the introductory part. The rest of the study is organized into another five parts. The second part of the study presents the contextual information, where it discussed about the emergence of the life cycle costing (LCC) technique from the international agenda of sustainability. Part three is the review of the related studies highlighting literature review from various international journals, important case studies and the possibility of its applications in Indian energy sector. This section also draws the gaps in the literature and the feasibility for its applications in the Indian energy sector. The next part four gives the research methodology and the reference to the nature and sources of data for the applications of methodology. Finally, the part six of the paper provides the conclusion and assumptions and few limitations that may point out the possible policy recommendations of the study.

II. Contextual Information of the Study

a) Introduction to life cycle thinking

Life cycle thinking is essential to sustainable development. It is about going beyond the traditional focus on production site and manufacturing processes to include the impacts on the grounds of environmental, social, and economic value of a product over its entire life cycle. Extended producer responsibility and integrated product policies mean that the producers can be held responsible for their products from cradle to grave and therefore, should develop products, which have improved performance in all stages of the product life cycle.

The main goals of life cycle thinking are to reduce a product's resource use and emissions to the environment as well as improve its socio-economic performance. This creates and ffacilitate the links between the economic, social and environmental dimensions within an organization and throughout its entire value chain.

b) Responsibility in the life cycle thinking

A Corporate Social Responsibility (CSR) strategy can be used to advance life cycle thinking. These CSR strategies are aligned at advancing integration. Many companies creates link for environmental and social responsibilities to address a range of issues associated with the product life cycle, including child labour, discrimination, abuse of union rights, as well as, to make positive contributions to the families of employees and the local community at large. The Principles of UN Global Compact That Can Be Used In Businesses World to Endorse Corporate Environmental and Social Responsibility. It is found that UNEP is responsible for environment related activities under this Compact. In brief, the principles of the UN Global Compact can be used throughout the life cycle to promote Corporate Environmental and Social Responsibility. The Compact was started in the year 2000 and it's voluntarily initiatives are for the business community to help promote sustainable development through the power of collective action. The Compact also seeks to promote responsible corporate citizenship so that business can be part of the solution to the challenges of globalization. Now days, most of the organizations all regions of the world, and international labour and civil society organizations are engaged in the Global Compact, working to advance ten universal principles in the areas of human rights, labour standards, the environment and anti-corruption. *(UNEP Official website).*

c) Life cycle management (LCM)

Life Cycle Management (LCM) is a product management system aiming to minimize environmental and socioeconomic burdens associated with an organization's product or product portfolio during its entire life cycle and value chain. In the business and management practices world, the term LCM is making life cycle thinking and product sustainability operational through the continuous improvements of product systems, and it also supports the all together business of policies such as integrated product policies. LCM is not a single tool or methodology but a management system for collecting, structuring and disseminating product-related information from the various programs, concepts and tools incorporating environmental, economic, and social aspects of products, across their life cycle. The organization must 'go beyond its facility boundaries' and be willing to expand its scope of collaboration and communication to all stakeholders in its value chain.

d) Business agenda and International thrust for life cycle costing

There are many approaches, programmes and activities in the life cycle thinking basket that are essential in a green economy. These approaches have been developed to assist in decision-making at all levels of effective deployment from its beginning and final disposal of the product. The applications can be done in all sectors, and offer the possibility to examine a range of key impact categories e.g. carbon and water footprints, as well as the ultimate effects of these on all three key sustainability pillars. In general aspects, the LCM puts life cycle thinking and LCA into a business context.

It has been now 20 years after the Earth summit, nations are again on the same path to Rio, but in a world which is mainly changed from that of 1992. Today, many of those challenges concerns are becoming a sobering reality, challenging not only our ability to reach the United Nation's Millennium Development Goals but also the very opportunity for close to seven billion people to be able to thrive in

increasing crowded world. The international agenda on Summit also provided the vision and set in place important pieces of the multilateral machinery to achieve a sustainable future. Along with the debate about corporate responsibility over the past two decades, which led to the ISO 26000 standard on social responsibility and to which UNEP contributed actively, there has been growing demand for direction and guidance on environmental challenges and how to incorporate social and economic issues into sustainability strategies and impact assessments, both in the public and the private sector. *(Green Economy Report, 2013).*

e) *About the SETAC*

The Society of Environmental Toxicology and Chemistry (SETAC) is a non-profit, worldwide professional society comprised of individuals and institutions engaged in conducting the study, analysis, and solution of environmental problems, management, regulations of natural resources, environmental education and the research and development. Its mission is to support the development of principles and practices for protection, enhancement and management of sustainable environmental quality and ecosystem integrity. SETAC also promotes the advancement and application of scientific research related to contaminants and other stressors in the environment, relevant education areas. *(Official website of SETAC).*

f) *About life cycle initiatives*

The United Nations Environment Programme (UNEP) and the SETAC launched in 2002 an International Life Cycle Partnership, known as the Life cycle initiative (LCI), to enable users around the world to put life cycle thinking into effective practice. During the Malmo Declaration which was started in the year 2000, the Initiative responds the call by Governments around the world for a Life Cycle economy. It also provides, the 10-Year Framework of Programmes to promote types of sustainable consumptions and productions, as discussed at the World Summit on Sustainable Development (WSSD) in Joannesburg during 2002. It aims to promote life cycle thinking globally and facilitate the exchange of knowledge of over 2,000 experts worldwide and four regional networks from different continents.

g) *Sustainability in energy sector: World & Indian focus*

As per the official discussion of UNEP, by 2030, it hopes that there will be universal access to modern energy services, a targeting the double share of renewable energy sources in the global energy mix. Still after decades of work to advance sustainable energy solutions, an energy gap continues to grow as energy systems around the world. Due to new upcoming type of challenges, the global demand for primary energy is expected to increase by between 27% and 61% by 2050. It is seen that the policy decisions reached during this historic moment of flux in energy policymaking could tip the balance.

The new editions of the World Energy Trilemma report released by the Oliver Wyman, examines the drivers and risks preventing the development of sustainable energy systems. It then recommends an aagenda for change to address these risks and to accelerate a global transition to more diversified, and therefore sustainable, energy systems that will present opportunities for economic growth. The report also reflects the results of the 2013 Energy Sustainability Index prepared by the World Energy Council (WEC). WEC defines as the 'energy trilemma' and the Index evaluates how well countries balance the three often conflicting goals of energy sustainability i.e. energy security, energy equity, and environmental sustainability. The Each of the three legs of the trilemma is vital to the economic and social development of a country. Secure energy is critical to fuelling economic growth, energy must be accessible and affordable at all levels of society, and the impact of energy production and energy use on the environment needs to be minimized to combat climate change and maintain good air and to combat climate change and maintain good air and water quality. *(World Energy Council Report, 2013).*

h) *Robust growth outlook in Indian energy sector*

In India, the eenergy has becoming as a `strategic commodity' and any uncertainty about its supply can threaten the functioning of the economy. Achieving energy security in this strategic sense is of fundamental importance not only to India's economic growth but also for the human development objectives that aim at alleviation of poverty, unemployment and meeting the Millennium Development Goals (MDGs) at large. Holistic planning for achieving these objectives requires either quality energy statistics that is able to address the issues related to energy demand, energy poverty and environmental effects of energy growth or clear picture to take decision on investments in various energy resources.

The country's energy basket has a mix of all the resources available including energy from the renewables. The dominance of coal in the energy mix is likely to continue in foreseeable future. At present India's coal dependence is borne out from the fact that 54 % of the total installed electricity generation capacity is coal based and 67% of the capacity planned to be added during the 11 Five year Plan -
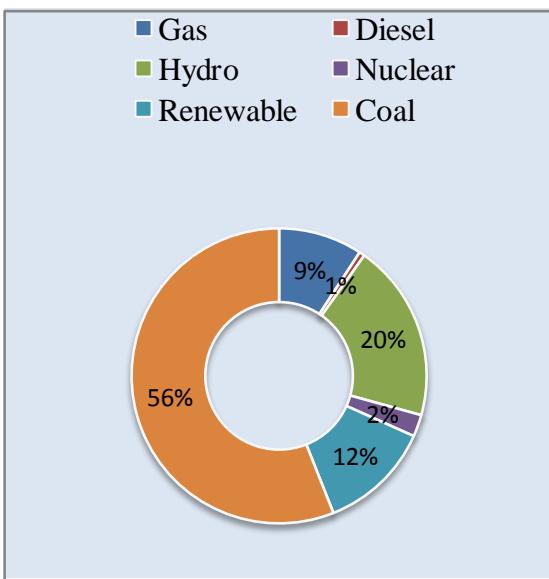
*Graph 1:* Status of installed capacity by mode
(Sources: CEA, 2012)

period 2007-12, is coal based. Furthermore, over 70 % of the electricity generated is from tcoal based thermal power plants. The sources of renewables such as wind, geothermal, solar, and hydroelectricity represent approximates 2 % share of the Indian fuel mix. Nuclear holds a around 1% share. *(Energy Statistics Reports, 2013 & Five Year Plan Document, Planning Commission, Govt. of India)*

Economies all over the world, including the Indian economy, are struggling with aftershocks of the global financial crisis that occurred in the year 2008. Consequent upon this, the Indian economy has also been gripped into the downward spiral. The national thermal company is playing major role in the resilience demonstrated by the Indian economy in coping with the first waves of the crisis. It is seen and believes that the Indian economy will weather the storms and regain its desired growth trajectory, aided by the company. Despite current economic downturn, the country has to work for regaining its growth momentum. The feeling goes to energy demand in the country is bound to grow due to increasing population, changes in standards of living, increasing urbanization and thereby industrial growth. While, on capacity expansion requirements, it feels that large power capacity requirement translates into an overall estimated capacity of 778 GW for 8% GDP growth and 960 GW for 9% growth by 2032. Thus the massive investments are envisaged in the power sector (about Rs. 15 lakh crore in the Twelfth Plan. As per the Planning Commission, the twelfth plan capacity addition target has been set about 88,500 MW. *(Annual Reports, NTPC Limited).*

i) *Security concern of renewable energy in India*

Energy security concerns: India ranks fourth and sixth globally as the largest importer of oil, and of

petroleum products. It is expected that the increased use of indigenous renewable resources is expected to reduce India's dependence on expensive imported fossil fuels. The key drivers for the renewable sectors in the recent years have be identified, which includes: Government support, climate change, Increasing cost competitiveness of renewable energy technology distributed electricity demand, favorable foreign investment policy.
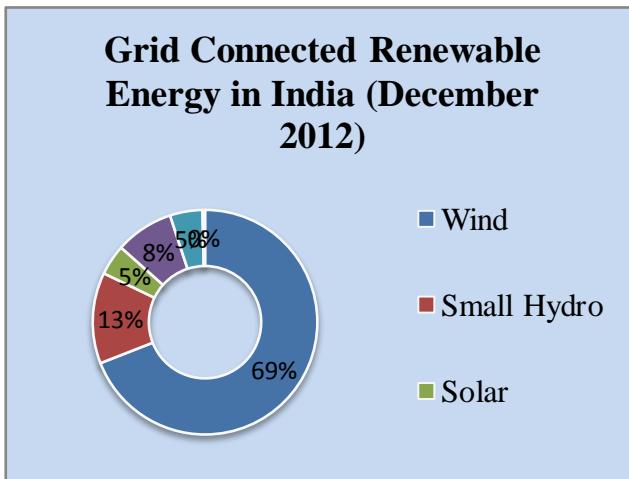
Graph 2 : Grid Connected Renewable Energy

(Sources: CEA, December, 2012)

j) *Need for better decision for investments in energy sector*

The primary fuels used for power generation in India are fossil based, such as coal and natural gas. By projecting the future power demand (9,50,000 MW by 2030), Indian government's focus has now shifted to capacity additions using cleaner fuels, such as renewable and nuclear energy. To this effect, it has taken several initiatives, such as promoting the Renewable Power Obligations Scheme, allowing 100 percent foreign direct investment through the automatic route, setting up of ultra mega power projects and encouraging joint ventures through the PPP route to step up private sector participation. It is also expected that the private sector is expected to contribute nearly 60% of the total capacity additions planned over 2012–17. Further, the Government has also allowed foreign investments up to a limit of 49 per cent in power trading to aid the rapid development of the sector *(Five Year Plan Document, Planning Commission, Govt. of India).*

III. REVIEW OF RELATED STUDIES

a) *Literature review*

The life cycle costing (LCC) technique has been widely used since long back in the history. The term LCC and its application used and found mainly in the United States and developed countries. The literature

and international studies shows that its applications and modeling are of the greater importance in the energy sector worldwide. It is also seen, just because of first understanding the technique and the dependency of the accuracy of the data, the previous studies tried to have emphasis on assessment of LCC in the various energy options including the renewable energies. While there has been a considerable research on LCC approaches, bulk of literature on LCC is largely conceptual in nature. There is less data available on what LCC approaches and applications are being used. Instead, the focus is on potential benefits of LCC and technical aspects. While doing preliminary research on the subject, the few literature documents in the different aspects of its applications have been listed on the next page.

b) Gaps identified in the literature reviewed

As per the need of managing the emerging issues of demand-supply and reporting practices for sustainable development, the investments in energy and power sector has emerged as citing area for the Government. On the supplements, due to complex Indian electricity tariff calculations, issues related to coal availability, blending, its prices and dependency for tariff calculation and coal mining, LCC study and its application focusing to Indian energy and power sector is totally missing in the literature. None of the author has depicted and found good use to assess the investments in the Indian energy sector using the technique. Previous five years of Indian economy includes the fluctuations and the decade has seen the global recession, thereby uptowns in energy sector with variations in national GDP figures. Thus it is important to government to have overall the picture factor in present values of total cost of the plant capacity. In such a scenario, the application of such methodology is found most viable. The next section discusses the research gaps, data sources, and methodological framework.

c) Salient points on research gaps

First issues are too much emphasis on financial returns: After the much heated debate on global warming worldwide, there is an overwhelming consensus among developers/procurers to factor in the socio-economic costs associated with different alternatives. Traditional pay back method completely avoids this critical aspect. Such gains/costs need to be demonstrated for wider acceptability of LCC method over the still being used pay back methodology. Apart from calculating the Net Present Value (NPV), Internal Rate of return (IRR) for a project, LCC can be extended to introduce the concept of Economic Internal Rate of return (EIRR) which gives a much more holistic picture of actual costs from the economic perspective.

Second issue is top Inclusion of renovation and modernization(R&M) cost: In the currently used pay back methodology, the focus is on the time period when the entire costs are recovered i.e. the pay back

threshold. However, for assets like generation assets, lifetime is often enhanced by undertaking R&M at the end of asset life. Such costs are very important but often ignored. Hence, there is a wide scope for introduction of LCC methodology in valuing power generating alternatives which we intend to explore. Though many businesses are aware of benefits of LCC methodology, its applicability is far from being systematic and calculation methodologies are far from being robust because of data constraints in most practical research on the subject. As a result of no clear demonstrations on the subject, Developers are not able to use LCC to make more sustainable and strategically advantageous decisions. The above analysis highlights that the decision makers get carried away by immediate gains and if more practical and mathematical findings on benefits of LCC are established, they will be able to make more sustainable and financially viable investment decisions. This builds a strong case for testing the applicability LCC methodology in valuing power generation alternatives so that the concepts like "thinking for whole life and beyond" and "green power costing" can be suitably highlighted for use presently and in times to come.

d) Why is LCC important to a utility?

The LCC analysis allows utility to examine projected life cycle costs for comparing competing capital and O&M project solutions and allows for appropriate comparison of alternatives of different capital values, and lengths of time. Given the condition of the utility's assets, the amount of capital available from the budget, and historical evidence, the project manager must decide which project alternatives will incur the least life cycle costs over the life cycle.

Table1 : Overview of LCC related literatures and case studies

Year	Author name	Research for the country	Title of the LCC case study/ research orientations	Identifying research issues
2002	Joan M. Ogden et.al.	Car industry: Global reach	Societal lifecycle costs of cars with alternative fuels/engines	Formulating a strategy toward the car of the future
2004	European Commission	EU	Procurement in municipalities for integrated solutions on energy	A life cycle costing: A guide for local authorities
2005	G.A. Keoleian et al.	USA	Life cycle cost model for evaluating the sustainability of bridge decks	Addresses our macro scale research effort and presents life cycle based environmental, economic and social indicators for assessing the sustainability of a bridge deck
2006	Priscilla Bloomfield	USA	Incorporating Sustainability into asset management through critical LCC analysis	Applying the hidden synergies leading to efficiency improvements possible through whole systems design, coupled with the relative ecological impact assessments
2007	Matthew S. Orosz and Amy Mueller	Southern Africa	Small scale solar ORC system for distributed power	Solar thermal organic rankine cycle (ORC) mentioning affordable energy supplies in remote regions. Construction and testing , including benchmarking of scrolls expanders and the field testing of solar collectors, the results shows construction of a full-scale 3kW solar ORC power system designed to support a rural health clinic in the country
2008	Lyle Turner et al.	Australia	Life cycle cost analysis report	Describing engineering cost method, Analogous cost method, Parametric cost method, Parabalistics estimation method
2010	C. Richard Donnelly et al.	North America	An assessment of the life cycle costs and GHG emissions for alternative generation technologies	Comparison of life cycle costs of various low emission technologies with coal-fired generation
2010	Oshani Perera et.al.	USA	A white paper on life cycle costing: A question of value (International Institute of Sustainable Development)	Using LCC as robust methodology, Moreover, procurers are not using life cycle costing to inform strategically advantageous decisions. Criticizing the sustainable public procurement model is not delivering the best value for tax payers 'money.
2011	Erwin M. Schau et al.	Germany, India or Sierra Leone	Life cycle costing in sustainability assessment: A case study of remanufactured alternators	Investigating the application of LCC as part of a wider sustainability assessment where also social life cycle assessment (SLCA) and LCA are combined
2011	A. Boustani	USA	Appliance remanufacturing and life cycle energy and economic savings	To evaluate the energy and economic consequences of appliance remanufacturing relative to purchasing new / total life cycle energy and economic savings potential of extending the service life of an old appliance through remanufacturing
2012	Amy S. Rushing et.al.	USA	Energy price indices and discount factors for life cycle cost analysis – 2012 (Annual Supplement to NIST Handbook 135 and NBS special publication 709)	Supporting the life-cycle costing methodology described in 10 CFR 436A and OMB circular A-94 by updating the energy price projections and discount factors that are described, explained, illustrated in NIST Handbook 135
				Also supports private-sector life-cycle cost analysis by updating the energy price indices that are described, explained, and illustrated in NBS Special Publication
2012	M. L. Marceau and L. Bushi	USA	Life cycle assessment for sustainable design of precast concrete commercial buildings in Canada	Presenting the cradle-to-grave LCA of precast concrete commercial buildings with precast structure and precast wall envelope, relative to alternative wall envelope systems
2013	Michael Dale	USA	A comparative analysis of energy costs of photovoltaic, Solar thermal, and Wind electricity generation technologies	Presenting meta-analyses of life-cycle assessments (LCA) of energy costs of three renewable technologies: solar photovoltaic (PV), concentrating solar power (CSP), and wind., The findings suggest that wind energy has the lowest energy costs, followed by CSP and then PV

As a study result, the LCC analysis will enable the utility to:

i. Make decisions for capital and O&M investments based on least life cycle costs
ii. Rank each of the projects based on total cost of ownership
iii. Combine the costing data with the Project Validation and Risk Reduction scores to prioritize the projects
iv. Make more informed decisions, and allow better reporting to key stakeholders

e) The nature and source of data for analysis

It is always found that the outcomes and assessment from the results depends on accuracy of the data. The methodology and technique itself has criticized and also depends on the availability and quality of the appropriate data. It is therefore essential to discuss about the nature, sources, and limitations of the data that one may encounter in empirical analysis. This paper considers the data of a typical thermal power plant managed by the national thermal company (best performance among all the thermal power plants of the country),has been taken to assess the its life cycle cost based on some assumptions and parameters fixed by the Central Electricity Regulatory Commission (CERC) and tariff regime fixed by Ministry of Power, Govt. of India.

On the other hand for making comparative scenarios between the investment options for energy from thermal and solar power plants, the 5 MW typical solar plant is studied and its operations is being managed by the same thermal company. All data taken from the plants, its detailed project report, feasibility report and the project development documents submitted for certified emission reductions (CERs) to United National Framework Convention on Climate Change (UNFCCC).

IV. Research Methodlogy

a) Life cycle costing as technique

LCC as a technique to calculate and manage costs, especially for large investments has been used to support decision-makers in procurement and investments for decades, with a rigorous focus on private costs. In this methodology, future costs, such as operation and maintenance costs associated with an item, have to be discounted to their present values before adding them to the item's acquisition or procurement cost. Over the years, many formulas have been developed in the area of economics for converting money from one point of time to another. Such formulas are considered indispensable in LCC.

This section presents various aspects of economics considered useful in performing LCC studies. Time-dependent formulas for application in life cycle cost analysis, includes as follows and may vary model to model in consideration.

i. Single Payment Future Worth Formula
ii. Single Payment Present Value Formula
iii. Uniform Periodic Payment Future Amount Formula
iv. Uniform Periodic Payment Present Value Formula
v. Formulas to Calculate Value of Annuity Payments When Annuity's Present and Future Values Are Given

Experience indicates that engineering equipments procured at the lowest cost may not necessarily be that which also costs the least amount of money over its useful life. More specifically, the equipments ownership cost could be quite significant and frequently exceeds the procurement cost. For example, various studies performed by the United States Department of Defense indicate that the maintenance cost over equipment's useful life could be many times the procurement cost. Combining detailed engineering math with robust financial, the following is the general formula of for estimating the total LCC. In general, the flow of methodology to adopt for any general applications is given as:

Determine life cycle cost analysis objectives
Define and scope the system/support system
Choose the effective estimating methodology/ life cycle cost models
Obtain all essential data and make the appropriate inputs to the selected methodology
Conduct sanity checks of outputs and inputs
Conduct essential sensitivity analysis and risk assessment
Formulate life cycle cost analysis results
Document the life cycle cost analysis
Present the life cycle cost analysis as appropriate
Update the life cycle cost analysis as appropriate

However, the general LCC formula may be modeled according to the different issues and priority of the models in considerations.

Life Cycle Cost = Initial capital costs+ Present values of (Life-time operating costs + Life-time maintenance costs + Capital rehabilitation costs +Disposal costs - residual value)

Knowing with certainty the exact costs for the entire life cycle of an asset is, of course, not possible; future costs can only be estimated with varying degrees of confidence. Future costs are usually subject to a level

of uncertainty that arises from a variety of factors, including

i. The prediction of the utilization pattern of the asset over time
ii. The nature, scale, and trend of operating costs
iii. The need for and cost of maintenance activities
iv. The impact of inflation
v. The opportunity cost of alternative investments
vi. The prediction of the length of the asset's useful life.

The main goal in assessing total LCC is to generate a reasonable approximation of the costs (consistently derived over all feasible alternatives), not to try and achieve a perfect answer.

b) The management of cash flow

The application of LCC analysis to find that alternative with the lowest LCC figure is important, but there will also likely be organizational cash flow issues that need to be considered. There will always be competing demands for the available cash resources of the organization at any given time. Management of cash flow is simplified if the pattern is predictable over the long term. It is conceivable that the lowest cost solution might not be the best solution from the aggregate cash flow perspective. Thus the technique provides a sound basis for projecting cash requirements which can assist in managing the cash cycles of the organization.

The typical learning from the international projects studies, literatures gives analysis for the life cycle cost analysis to consider not only the "first costs" of a thermal power plant (design and construction expenses) but also long-term costs, including operations and maintenance, cost of employing manpower.

In the pursuit of a cleaner and sustainable environment, solar photovoltaic (PV) power has been established as the fastest growing alternative energy source in the world. This extremely fast growth is brought about, mainly, by government policies and support mechanisms world-wide. Solar PV technology that was once limited to specialized applications and considered very expensive, with low efficiency, is becoming more efficient and affordable. Solar PV promises to be a major contributor of the future global energy mix due to its minimal running costs, zero emissions and steadily declining module and inverter costs. Indian Government and businesses are waking up to the business case of sustainable development. "Green" and socially preferable assets may carry considerably higher price tags than their less sustainable substitutes. Decision makers should now be conscious that price premiums paid for sustainable assets may be largely offset through efficiency gains, cost savings during the product/project lifetime. To achieve the goals of sustainable development, approaches like LCC have to gain wider acceptance

over the traditional methods which may cover purchasing cost and all associated costs such as delivery, installation, commissioning and insurance, operating, including utility costs such as fuel and water use and maintenance costs and social and environmental costs. Thus the extensive literature survey and research gaps strongly recommend having a rough picture on the least life cycle cost of the various energy options available to the Indian government.

The next section highlights the application of the technique on the live data of a typical thermal and solar power plant available in the northern part of the country.

c) Estimating the LCC in Indian thermal power plants

The power sector in India is currently in the developing stage, and supports the growth of various sectors, such as infrastructure, manufacturing, commercial enterprises and railways. Therefore, it is a key enabler for India's economic growth, and has historically shown similar growth trends as compared to the economy. For the sake of better investment decisions, the cost components of a typical thermal power situated in the northern part of the country is taken for estimating its total LCC value. The different cost component like capacity charges, variable charges and significant cost of operations and maintenance has been calculated at the present value over the regulatory –life of the plant. All together sums up of NPV give the total value of LCC.

Table 2 : Cost components and Project details of thermal power project

Cost components of thermal power plant		Tariff components (CERC regulations)block 2009-14	Remarks / Assumptions
A	Capacity charges		
	Return on Equity	15.5	Pre Tax , allowed additional .5 % of project commissioned after April 2009
	Interest on loan capital	As per actual	DER : 70:30 (Re- financing -1/3 benefits retention allowed)
	Depreciation	5.28%	Previously, AAD/ Presently (3.6% to 5.28%)
	Interest of working capital	Based on normative parameters	Coal stock, SFOS, Sales Receivables, O&M Expenses, Maintenance Spares,
	Operations and Maintenance Costs	Based on normative parameters	Rs. Lakhs /MW (13 for MW) / For multiple units -Multiply reduction Factor
	Cost of Secondary Oil	Based on normative parameters	Based on parameters & on PAF
	Special allowance in lieu of Renovation & Modernization	Based on plant life	Added to previously approved gross block to determine future tariff / Now avail beyond the useful life of the plant
B	Energy charges	Based on normative parameters (CERC Regulation)	
	Plant load factor (PLF)	0.85	
	Gross station heat rate (500 MW & Above Capacity)	2425	
	Specific fuel oil consumption (ml./kWh)	1	
	Aux. consumption (500 MW & Steam driven)	6.5	

Table 3 : Financial parameters of thermal project

Financing parameters		Values
C	Equity (Project cost)	30%
	Debt	70%
	Domestic Debt	40%
	Foreign Debt	30%
	Domestic debt interest rate	12.50%
	Foreign debt interest rate	11%
	Repayment period from COD (years)	12

Table 4 : Working capital components

Working capital		Values
D	Fuel stock for coal (months)	2
	Fuel stock for oil (months)	2
	O&M expenses (month)	1
	O&M spares (%age 0f O&M cost)	20%
	Receivables (months)	2
	Interest on bank finance	13.5%

a) *Application of LCC in Solar-PV based plants in India*

While it may be argued that coal-based power is the cheapest electricity source, cost of environmental degradation must also be factored into determination of cost of power. Further, future from Europe's declining solar sector. It has attracted investments worth $4.2 billion in 2011, growing nearly seven-fold from 2010.

The Ministry of New and Renewable Energy has set a target of generating 3800 MW of solar power in the Twelfth Five-year Plan and 16 000 MW in the Thirteenth Five-year Plan. The CERC had also noted that the solar PV industry had seen significant cost reductions over the last three years showing a declining trend of over 20-22% on annual basis. It was pointed out that the cost of solar PV crystalline module cost was in the range of 0.6-0.65 USD/Wp during recent years. This remarkable reduction in module prices was due to a combination of factors like economies of scale, technological advances and manufacturing process advances, and over production vis-avis demand. *(MNRE, Govt. of India & CERC official website)*

b) Various cost components and assumptions in typical Solar PV -power plant

In the pursuit of a cleaner and sustainable environment, solar photovoltaic (PV) power has been established as the fastest growing alternative energy source in the world. This extremely fast growth is brought about, mainly, by government policies and support mechanisms world-wide. Solar PV technology that was once limited to specialized applications and considered very expensive, with low efficiency, is becoming more efficient and affordable. Solar PV promises to be a major contributor of the future global energy mix due to its minimal running costs, zero emissions and steadily declining module and inverter costs. The various cost components has been considered in different way to look up to calculate rough LCC in different countries. The replacement and maintenance cost of the battery has significant cost and present values of the same contributes much in assessing the rough LCC of the project. In the given calculations the same has not been considered.

As per the detailed report of the plant, the total energy available to the grid yearly as per METEONORM data =7263088.94 kWhr (7.26 Million Units). On estimating the LCC of the solar power plant, it is assumed that no maintenance and replacement cost is invested over the period. Simply, the capital and operating cost for the plants have been considered.

V. Applications & Results Discussions

The data analyzed in MS Excel Ver. 2010. The empirical results includes analysis using graphs representations, tables outputs, have been laid down in five sub-sections. Sub-section *(a),* there is a preliminary analysis using graphs analysis. Sub-section *(b) Defining and selection of time period of the study in both the case of thermal power plant and solar power plant c)* Net present value of the total cost followed by total life cycle costing.

a) Comparison of LCC values

After making relevant assumptions in both the case of LCC application estimations, the total LCC for a solar power plant is approximately 2.5 less than that of a thermal power plant of equivalent capacity i.e. 1000 MW. This lesser factor is high on the assumptions that no maintenance and replacement cost is invested over the period. The above LCC of solar is estimated and extended at the capacity of 1000 MW for the comparison purpose.

Table 5 : Solar PV module-cost components

Cost components particulars of a typical 5 MW Solar PV plant	Capital cost for Solar PV Project (Rs. Lakhs/ MW)	% Total cost
PV modules	344.5	43%
Land cost	16.8	2%
Civil & general works	94.5	12%
Mounting structures	105	13%
Power conditioning units	60	7%
Evacuation cost	105	13%
Pre-operative & Interest during construction (IDC)	80	10%
Total capital cost	805	100%
# Operating cost	58.15	-

Remarks : Not considering replacement and renovation cost, # as per the plant detailed feasibility report

Table 6 : LCC of Coal based power plant

Sl. no.	Cost components	Sub-Components	Rs. Cr.
1.	Capital cost		6,000
2.	Running costs	O&M cost	1,072
		Coal cost	14,519
		Oil cost	142
		Int. on term loan	1,385
		Int. on working capital	327
3.	*Terminal value (10% SV)	-	600
	Total LCC value	-	22,846

* Not On Basis Of Actual Definition Of The Terminal Value (Not Considering To Carbon Emission Reduction)

Table 7 : LCC of Solar based power plant

Sr. no.	Cost description	Rs.
1.	Capital cost	80,50
2.	Operating cost	5,80
3.	Total cost	86,30
4.	Total LCC value	8,630 (Rs. Cr.)

The assumptions in the applications have very important and the accuracy of LCC analysis diminishes as it predicts further into the future. While the technique is little time consuming as one has to have fair idea

about the tariff structure of the technology used. During the literature survey, it is found that for making the analysis at the micro levels, the sensitivity analysis may be carried out using the few software applications available free of the cost. For assessing the close values of total LCC, the model may be incorporated and simulation work can be done to have better picture on the application area.

VI. Conclusion and Limitations

Using and application of LCC could increase propagation of knowledge for taking effective decision towards sustainable energy systems and help enable governments to enact long-term energy policies. The importance and benefits of such methodology in using sustainable energy systems are clear but creating a policy framework to achieve those goals remains a challenge for all countries. These challenges may include the complex tariff structure and cost components and lack of manpower to handle the new technologies. The limitation of the paper is that the accuracy of LCC analysis diminishes as it predicts further into the future and is time consuming. However for projecting and comparing the nearest LCC values, one can have the simulation based approach, but again LCC is an expensive concept, not appropriate for all applications.

In case of power from Solar energy, sometimes the direct normal irradiance in the prominent states has been questioned which is dominating factor for estimating the generation cost from the module. Governments view the energy industry as a key player in managing the technological and behavioural change needed to realize sustainable energy systems. By providing information about evolving energy options, the cost of energy, the benefits of new technologies, and the need to foster energy efficiency, the clear cut investment approach in alternative energy resources can support this transformation.

Lastly, this paper may be useful for development of the draft guidelines based on the more comparatively study. These guidelines define LCCA, explain their relevance to the plants, projects, and instruct plants /project teams on their implementation to adopt least energy cost and further this may provide technical specifications for preparing LCCA studies in India. But it will always be restricted to the assumptions taken for the LCC applications.

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Development of Ethical Business: An Islamic Framework

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Abstract- Ethical business attempts to establish justice to all of its stakeholders by satisfying their ethical desires. But lack of ethical desires of the stakeholders is a major hindrance to developing an ethical business. In a larger-scale-enterprise, owner, management, and accountant play vital role in initiating, establishing, and ensuring ethical guidelines for all of its stakeholders. In the way to ethical business development, one or two of these three parties are not able to ensure justice independently rather needs a mutual cooperation.

Keywords : ethics, ethical business, development, and framework.

GJMBR-A Classification : JEL Code: M16.

DEVELOPMENT OF ETHICAL BUSINESS AN ISLAMIC FRAMEWORK

Strictly as per the compliance and regulations of:

Development of Ethical Business: An Islamic Framework

Md. Hafij Ullah

Abstract- Ethical business attempts to establish justice to all of its stakeholders by satisfying their ethical desires. But lack of ethical desires of the stakeholders is a major hindrance to developing an ethical business. In a larger-scale-enterprise, owner, management, and accountant play vital role in initiating, establishing, and ensuring ethical guidelines for all of its stakeholders. In the way to ethical business development, one or two of these three parties are not able to ensure justice independently rather needs a mutual cooperation. In this ethical business development process, management plays the role of middleman and owner and accountant play the role of push-factor and pull-factor respectively. The present study is a noble effort in formulating a framework for developing ethical business through a mutual cooperation among owner, management, and accountant in Islamic point of view.

Keywords: ethics, ethical business, development, and framework.

I. Introduction

Ethics is the standard of differentiating the 'right' from the 'wrong'. Ethics can be recognized as 'doing the right thing' in terms of morals, fairness, respect, caring, sharing, no false promises, no lying, cheating, stealing, or unreasonable demands on employees and others, etc. In addition, business ethics calls for corporate social responsibility and addressing social problems such as poverty, crime, environmental protection, equal rights, public health and improving education. The present day global recession has evident that traditional business practices are increasingly being brought into question and hence consequently, more people and organizations are realizing the importance of acquiring services from ethical businesses. A truly ethical business can come in many different shapes and sizes – what sets them apart is the way their ethical focus underpins everything they do and also reflected in the way they talk about their work.

Development of organizational culture or organizational structure involves owners, managers and accountants of the respective organization. Accountants provide suggestions, necessary information and alternative options to both owners and managers who find ways to choose in developing an optimum organizational structure. Managers choose the best alternative way and play vital role in implementing the selected alternative. Among all, the owners are the most Powerful

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and influential party who evaluate the information received from both managers and Accountants, choose the best alternative and suggest the managers taking necessary measures in implementation of the selected alternative.

As the importance and necessity of ethical business is now acknowledged throughout the world, therefore, many researchers conducted researches in directing guidelines in establishing ethical organizations and increasing the ethical standards of the employees as well as organization itself. But, so far my knowledge concern, no study was conducted providing an optimum framework for developing ethical business specifically developing ethical business through a mutual cooperation among owner, management, and accountant in Islamic point of view.

II. Objectives of the Study

The objective of the study is to formulate a framework for developing ethical business through a mutual cooperation among owner, management, and accountant in Islamic point of view.

III. Methodology of the Study

The methodology followed in this study is mainly of library work basically based on the study of Qur'an, Hadith and the related literatures written in conventional and in ethical perspective. On the basis of the literatures, the study identified the needs for an ethical business and tried to formulate a framework in developing ethical business to meet the ethical desires of all stakeholders of the enterprise.

IV. Needs for Ethical Business

Ethics are pivotal in determining the success or failure of an organization and they affect a company's reputation and help to define a business model that will thrive even in adversity (Smart, Barman & Gunasekera, 2010). Ethical business not only contributes more to society but also enhances competitiveness, helps to build greater confidence in the brand and means the business is better prepared for the future. Ethical business is expected to bring the company's core values to life as it translates them into specific commitments and expected behavior in relation to the organization's key stakeholder groups like customers, employees, suppliers and contractors, providers of

finance and community. Moreover, Ethical business offer positive social impact and take a 'more than profit approach' to their work, which means that they are not entirely driven by their bottom line. This doesn't mean to say that ethical businesses aren't profitable, far from it in fact as implementing a more ethically minded approach is increasingly good for business; it's just a more considered way of working that is now more sustainable for the future than traditional business practices. The link between ethics and business success has become far clearer in recent years, as companies realize that corporate interests must be aligned with the broader concerns of society if they are to survive (Smart, Barman & Gunasekera, 2010).

But unfortunately many business organizations behave unethically for generating short-term gain in which process the involvement of owners, managers and accountants is directly noticeable. More specifically accountants of the firm either for their own interest or because of the cooperation and pressure from managers and owners provide misleading and wrong information in the name of 'creative accounting' or 'earnings management'. Creative accounting, the widely used accounting techniques, permit corporations to report financial results that may not accurately portray the substance of their business activities and hence it is recognized as a synonym for deceptive accounting (Sen, and Inanga, 2005, and Metcalf, 1977). On the other hand, 'earnings management' occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of a company or influence contractual outcomes that depend on reported accounting numbers (Healy and Wahlen, 1999). In other words, profit figures are deliberately manipulated by management for the purpose of meeting company's objectives and finally making the owners happy. But real world experience reveals that it is in most cases practiced in an undesirable way to attract investors by presenting an exaggerated, sometimes misleading and deceptive state of an organization's financial affairs (Sen, and Inanga, 2005). Sometimes, management creates unethical pressure on accountants in different ways including pressure to overstate valuation, pressure to participate in fraudulent activity, pressure for false accounting, breaching the rule of confidentiality and non-disclosure to auditors (CCAB, 2011). Most of the recent sordid stories of corporate scandals (Enron, WorldCom and Martha Stewart) involve senior management and CFOs that have manipulated the books to make their companies appear more profitable. The independence of outside CPAs becomes compromised when management places pressure on them to accept such representations at face value (Walter M. Einhorn, 2003).

V. Interrelationship among Owners, Managers and Accountants

The relationship among owners, managers and accountants are interrelated with each other and one party required depending on another party in discharging their own responsibilities in a particular organization. The relationships among these three parties are discussed as below:

a) Relationship between Owners and Managers

Management plays a vital role in planning, controlling and decision-making in any business (Collis and Jarvis, 2000). Managers are the agent of the owners in business concern and hence manager must know the expectations of the owners. The main purpose of financial reporting is to provide information 'for assessing the stewardship of management and for making economic decisions' (ASB, 1999). But the profit figures are deliberately manipulated by management for the purpose of meeting company's objectives and finally making the owners happy. Although both parties may recognize that their welfare depends on the company's survival, management may not always act in the best interest of the owners.

b) Relationship between Owners and Accountants

Business owners and managers typically rely on managerial accounting information in making decisions. Previous research shows that the owner-managers are the main users of the annual financial accounts prepared by the accountants (Page, 1981; Carsberg et al, 1985; Barker and Noonan, 1996 and Dugdale, Hussey and Jarvis, 1998) and owners of companies see the statutory accounts as a primary aid to the management of the business (Carsberg et al, 1985). In most of the cases, the owners of companies would rely on professional advice when it comes to meeting their obligations in such a complex and heavily regulated area as financial reporting. But managerial accountants who act unethically and report inaccurate or irrelevant information can distort the decision process and ultimately they can also lose the trust of business owners and managers.

c) Relationship between Managers and Accountants

As Managers are generally held responsible for achieving financial performance targets, information provided by accountants have a significant impact on the careers of managers (Lanen, Anderson & Maher, 2011). Previous research shows that the owner-managers are the main users of the annual financial accounts what they use as key sources of information for managing the company (Page, 1981; Carsberg et al, 1985; Barker and Noonan, 1996 and Dugdale, Hussey and Jarvis, 1998). Carsberg et al, (1985) also opined that the owners of companies see the statutory accounts as a primary aid to the management of the

business. The study of Collis and Jarvis (2000) found that great majority of companies (82%) receive some form of additional annual information from their accountant out of which information regarding management advice is (41%). But sometimes management creates unethical pressure on accountants in different ways (CCAB, 2011) and management accountants also provide inaccurate information to the management.

VI. Ethical Business Development: An Islamic Framework

Ethics differentiate between the 'Right' from the 'wrong'. The standards of determining the 'right' and 'wrong' depend on the legal framework, culture, and organizational policies, etc. But the legal framework, culture, and organizational policies, etc. differ organization to organization and one country to another country. There may have some legal provisions and organizational policies which are not ethical in the light of Islam (the unified life guidelines proved by the almighty for human being). Some provisions or policies may be ethical to owners but not to the employees of the organizations. Therefore, organization should develop an ethical organization which will ensure the rights of all the stakeholders of the organization and for developing that organization, an Islamic framework is a must.
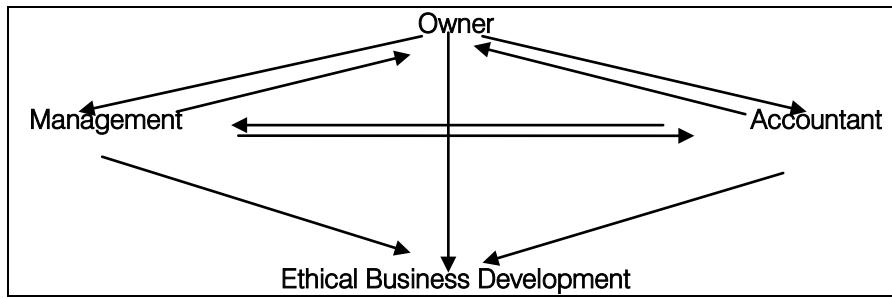

Figure 1 : Depicts framework ethical business development

Source: Developed by Author

The framework suggested here should be based on absolute Islamic philosophy of business concern and the rights and obligations of each Muslim as per Islamic Shari`ah. This framework suggest Islamic ethical role of the owners, managers and accountants for establishing or developing an ethical business because policy making, structuring and designing of an organization highly depend on the active participation of these three parties. Especially following ethical values, standards, policy statements should be started from the higher authority (Smart, Barman & Gunasekera, 2010 and Werner, 2009). As per Islamic views, higher authority would be more responsible and accountable to Allah (SWT) as they are directing their followers and if they do not guide them through right way then the higher authority (as initiator of the wrong work) would be asked for their own activities and also of their followers.

The present framework place the owners at the highest level because of their role in the organizations and basically the other two parties, that is, managers and accountants, are appointed and directed by the owners. The framework designates the owners as the 'push factor' as they have the position of imposing and directing anything to the other two parties in conducting the business (Collis and Jarvis, 2000). But the framework does not ignore the role of other two parties as mangers and accountants provide feedback, performance reports and necessary information to the owners. The role of accountants designated here as 'pull factor' since they may pull the managers and owners to a particular way by giving necessary information and recommendations for decision making. That is, the accountants may influence the decision of the managers and owners by their information. On the other side, owners and managers also direct and ask for necessary accounts and information from the accountants. The managers are nominated here as middlemen who gets suggestions from owners and collect information from the accountants and implement it in the organization. The framework depicts that these three parties interrelated with each other and each of them have the role to affect the activities of other two parties. Therefore, the role of all these three parties is acknowledged here in this framework in developing an ethical business.

VII. Activities in Ethical Business Development Frame Work

The following sequential activities are pre-requisites and mandatorily required to be performed for developing an ethical business:

The first step is Understanding the Needs for Ethical Business to be developed. The stakeholders, most importantly the owners, managers and the accountants, who are directly involve in the decision making process should understand and recognize the importance of ethical business and vice versa the negative consequence of unethical business practices

in terms of legal provisions and Islamic Shari`ah rulings. All the parties involve must adhere that they would be asked for whatever they perform (Al-Qur'an, 2:281 and 2:284). It would be better for the organization if other employees also understand the needs of such business (Lanen, Anderson & Maher, 2011 and Werner, 2009).

Secondly, the decision makers should come forward in Developing Ethical Organizational Structure because organizational structure can instigate ethical behavior or sometimes is responsible for giving the

chance of unethical behavior. The organization may appoint Shari`ah Supervisory Board and introduce Shari`ah audit in the organizational system. Ethical or unethical behavior in organizations is a function of both individual characteristics and contextual factors (Meyers, 2004). Among these contextual factors, organizational culture is considered to be one of the most important influences (Trevino, 1986; Cohen, 1993; Meyers, 2004 and Werner, 2009).

| Understanding the Needs for Ethical Business |
| Developing Ethical Organizational Structure |
| Developing Ethical Standards or Policies |
| Ensuring the Rights of all Related Parties |
| Identifying the Violations of Ethical Standards with Reasons |
| Updating and Adjustment of Ethical Standards |

Source: Developed by Author

Third step is Developing Ethical Standards or Policies where the owners and managers should develop ethical standards or policies that are to be followed by all the people dealing with the ethical business. As the ethical values inevitably are influenced by the personal and professional values and principles of the owner-managers, hence it is considered good practice to consult employees (and even other stakeholders) about this (Al-Qur'an, 3:159).

Fourthly, the organization should ensure the Rights of all Related Parties. If any party is deprived of any right then there will create conflict of interest and the deprived party will engage in unethical behavior for their rights. Sen, and Inanga (2005) opined that the real causes of unethical behavior lie in the conflicts of interest among different interest groups in the organization and unethical behavior puts one group or two to advantageous position at the expense of others. Jamshidinavid and Kamari (2012) stated that the most fundamental reason people engage in unethical behavior is that it benefits them in some way. Prophet Muhammad (pbuh) emphasized on the rights of the weak people at the last moment of his life saying 'Uushiikum bis shalati, wa maa malakat aimanuku - take care of the saalat and take care the weak people among you'. Therefore, personal values, particularly an individual's concern for others, make that person less likely to engage in unethical behaviors (Shaub et al 2005). Islam emphasizes on ensuring justice for all the staffs, employees and workers (Ather, 2006).

Fifth step suggests Identifying the Violations of Ethical Standards with Reasons that the evaluation of the ethical behavior of the organization itself and also all the parties deals with the organization. The important aspect in this step is the identification of the reasons of violation of the ethical standards because it would help the firm to take effective necessary corrective measures in this process. Owners and managers need to be aware that their behavior sets an example to their employees (Al-Qur'an, 61:2). For the standards to be effectively followed, it is important that they are regarded as people of integrity, adhering to high ethical standards, as leadership is often mentioned as one of the most important elements of an organization's ethical culture (Trevino, 1990; Brown & Trevino, 2006).

Finally, Updating and Adjustment of Ethical Standards as per the needs of the changes in organization structure, technology, culture, and employee behavior (Werner, 2009). The updating of the standards may also upgrade the ethical standards of the organization.

In addition, Jamshidinavid and Kamari (2012) suggested four things for ethical developments in an organization: (a) clearly articulate ethical values to employees (Mathenge 2012); (b) understand its employees' values well enough in the hiring and promotion process to ensure that there is an adequate correlation between individual and corporate values (IMA, 2008); (c) one of organizational key resources is the degree of organization leaders' commitment to

ethical leadership (Royaee & Mohammadi, 2011 and Armstrong, 2003) and (d) reward employees who uphold those values, and punish the ones who undermine them with a public enough enforcement that everyone clearly gets the message (Shaub et al, 2005 and IMA, 2008).

VIII. Recommendations of the Study

The present study recommends the following points to be adopted for making the framework a success:

(a) Taking pains in incorporating study of ethics in the curricula of the schools to make the people understand the importance of ethics.
(b) Taking steps in teaching ethics in the employing organization and trying to change the beliefs of the employees as per the demand of ethical standards.
(c) Ethics are to be embedded in decision making and long-term strategy of the organization (Smart, Barman & Gunasekera, 2010).
(d) As owner-managers emphasized the importance of trust as a basis for continuing the relationship with their accountant and hence accountants must maintain high ethical standards for ensuring the accuracy of the decision making process.
(e) Senior managers and business leaders must demonstrate an ethical approach by example. This will show that middle and junior managers will be rewarded for taking an ethical stance and create the appropriate organizational culture (Smart, Barman & Gunasekera, 2010).
(f) Providing reward for high ethical standards and punishment for repeated violations.
(g) Ensuring an ethical strong bondage among the owners, managers and accountants.

IX. Policy Implications of the Study

Among others, the present study expected to benefit the following parties:

a) Owners are expected to have guidelines from this article in developing and maintaining ethical business and harvesting the maximum benefits from their business concerns.
b) Managers are expected to have guidelines in discharging their responsibilities ethically and maintainning an ethical relationship with owners and accountants of the organization.
c) Accountants in ethical business may usefully consider the issues Raised in this article in performing their recording, valuation and reporting activities and maintaining an ethical relationship with the owners and managers of the organizations.
d) Researchers in ethical and Islamic business concerns may find the ways from this paper for more comprehensive and practical study in this area.

X. Limitations of the Study

Among others, the limitations of the study include: as the present work is almost a new one, the author found very limited literatures for enriching it up to an expected level of standard and the author found very limited time for the present study. The author has keen expectation to enrich work in future.

XI. Future Study Direction

The present study recommends the following future study in line with the present study:

a) Ethical Business: Implications to the Stakeholders
b) Constraints in Developing Ethical Business in Bangladesh
c) Differences between Ethical Business and Islamic Business

XII. Conclusion

Developing ethical business organization is the demand of time at this crucial business arena. Developing a meaningful and effective ethics policy and their successful implementation will support high standards of business behavior and aid ethical decision-making that will ultimately help in achieving the target of ethical business development.

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Performance Measurement and Management System – Inter Company Case Study Approach - Tamilnadu, India

By S. Venkatesh & Dr. S. Ramachandran

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Abstract- The field of performance measurement and management (PMM) is well filled with frameworks, models and guidelines addressing what to measure and how to design a performance measurement system (PMS). However, what has been less examined so far is how to ensure that PM Evolve in tandem with their environments. Further, the few approaches available today are prescriptive and outlines how or what practitioners should do in order to manage change in their PM.

Keywords: *performance measurement, performance measurement systems, performance management*

GJMBR-A Classification : *JEL Code: M16.*

PERFORMANCE MEASUREMENT AND MANAGEMENT SYSTEM INTER COMPANY CASE STUDY APPROACH – TAMILNADU, INDIA

Strictly as per the compliance and regulations of:

Performance Measurement and Management System – Inter Company Case Study Approach - Tamilnadu, India

S. Venkatesh [α] & Dr. S. Ramachandran [σ]

Abstract- The field of performance measurement and management (PMM) is well filled with frameworks, models and guidelines addressing what to measure and how to design a performance measurement system (PMS). However, what has been less examined so far is how to ensure that PM Evolve in tandem with their environments. Further, the few approaches available today are prescriptive and outlines how or what practitioners should do in order to manage change in their PM. Thus, a gap exists in understanding how organisations manage change in their PM in practice. Thus, the purpose of this paper is to outline and compare the approaches of three case companies for managing PM change. In order to fulfil the purpose of the paper, the data presented has been collected through the deployment of case studies. The choice of case studies as means for data collection stems from the possibility of an in-depth and holistic examination of the formulated phenomenon. All three case companies belong to the same company-group that operates within the transportation industry. The industrial footprint of the company is global with operations and sales spread out over the world. The findings suggest that all three companies have processes in place for managing change in PM. However, the approaches differ in design and context. Furthermore, employee involvement seemed to be the biggest challenge for all three companies.This paper makes a contribution both through describing how three companies manage PM change and through elaborating on the underlying factors affecting functionality.

Keywords: performance measurement, performance measurement systems, performance management.

I. Introduction

Performance measures (PM) are used in organisations for a wide array of reasons: to gauge performance (Slack et al., 2004), direct behaviour and improve motivation (Spitzer, 2007), continuously improve processes (Cross and Lynch, 1992), enhance productivity (Bernolak, 1997), identify areas of attention, improve communication, increase accountability (Waggoner et al., 1999), implement strategy (Kaplan and Norton, 2001), support goal achievement (Tapinos et al., 2005) and provide information on strategy implementation (Neely, 1999). Regardless of the reason to why PM are deployed, it is

Widely recognised in the literature that PM need to be aligned with the strategic priorities, as well as the internal and external environments of the organisation (Neely et al., 1996; Bourne et al., 2000; Bititci et al., 2001; McAdam and Bailie, 2002; Hass et al., 2005; Lima et al., 2009). However, as these strategies and business environments are dynamic in nature (Simons, 1995), organisations need to ensure that they are capable of managing change in their PM (Bititci et al., 2000; Kennerley et al., 2003). Sticking to your PM for too long has been described by Likierman (2009) as one of the five traps of performance measurement.

The field of performance measurement and management (PMM) is well filled with frameworks, models and guidelines addressing what to measure and how to design a performance measurement system (PMS) (Paranjape et al., 2006), most notably the Balanced Scorecard (Kaplan and Norton, 1992). However, what has been less examined so far, is how to ensure that PM evolve in tandem with their environments (Kennerley and neely 2003). Barrows and Neely (2012) argue that contemporary methods do not adequately address the challenges associated with managing performance in an increasingly turbulent business environment. Further, the few approaches available today are prescriptive and outlines how or what practitioners should do in order to manage change in their PM. None of the approaches take a descriptive stance and outlines how organisations take on the challenge today. Thus, a gap exists in understanding how organisations manage change in their PM in practice (Bourne, 2008). This gap is further amplified by the fact that only a few organisations have procedures in place to manage the change of their PM (Neely, 1999; Bititci et al., 2002).

With this background in mind, the purpose of this paper is to outline and compare the approaches of three case companies for managing PM change. The motive for the paper is to bridge the knowledge gap, by contributing to the understanding of how PM change is managed in practice and assist in the development of adequate theoretical models by shedding light on the problems encountered in practice. The paper is divided into six sections. The following section presents the theoretical background. The third section outlines the methodological approach and presents the case

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studies. This is followed by a presentation of the empirical findings. The succeeding section then contrasts the empirical and theoretical findings through a cross-case analysis. The sixth section summarises the findings and discusses the necessities of a future research agenda, highlights the contributions and underlines the limitations of the conducted research.

II. Theoretical Background

Even though change in PM, in contrast to design of PM, remains an under-researched area, several academics have addressed the topic over the last decade. The progress made so far is presented in this section.

Neely et al. (2002b) argue that a process needs to be in place in order to ensure that temporary PM are abolished and indispensable PM are fine-tuned continuously. For this purpose, an audit with 10 questions is provided within their Performance Prism framework. Kennerley and Neely (2002; 2003) list a process that that reviews, modifies and deploys PM as one of four critical factors in their framework for keeping PMS up to date. Neely et al. (2002a) argue that PMS are often allowed to expand to the extent that they become unmanageable and thus a PM review process needs to be in place. It is underlined that the understanding of the process evolves over time. Medori and Steeple (2000) concurs and lists periodic maintenance as the last step in their framework for auditing and enhancing PMS. They argue that a periodical PMS review is required as PM relevant at one particular moment in time may become redundant at another point. Meekings (2005) has developed a set of requirements for a functional review process, including a defined structure, connection throughout the organisation, deliver value and PM change management. Kaplan and Norton (2005; 2008) argue that two parameters are needed for managing PM change, a clearly defined and recurring process, and the establishment of an entity responsible for its management and success. Bourne et al. (2000) support and develop earlier findings by arguing that four processes need to be in place to review targets of current measures, review current measures, Develop new measures and to challenge the strategy. Bititci et al. (2000) highlights in their dynamics PMS model that a PM review mechanism is needed which uses the performance information provided by the internal and external monitors. Further, a deployment system is also required in order to revise objectives and priorities to business units, processes, and activities using performance measures are required.

Besides the review process, the role of organisational culture is emphasised in the literature. Waggoner et al. (1999) underline the impact that organisational culture can have on PMS evolution. They argue that a culture, which discourages risk taking and innovation, can block steps that are essential for successfully changing a PMS. Kennerley and Neely (2002; 2003) concur and underline the need of a culture within the organisation that ensures that the value of measurement, and the importance of maintaining relevant and appropriate PM are appreciated (Table 1). Salloum and Wiktorsson (2011) argue that in order to realise a dynamic PMS, a culture is needed that encourages organisational involvement, openness, information sharing, and resource availability. Farris et al. (2011) identified two critical factors for a supportive organisational culture in their investigation of the PM review process: employee empowerment (including focus on teamwork, ownership of problems, participation and entrepreneurship) and a focus on continuous improvement.

Table 1: Barriers and enablers for culture (Kennerley et al., 2003

S.No	Cultural Barriers to Measures Evolution	Cultural Enablers of Measures Evolution
1	Management inertia towards measures due to other priorities	Senior management sponsorship
2	Ad hoc approach to measuremen	Consistent communication of multidimensional performance to staff
3	Measures not aligned to strateg	Open and honest application of measures
4	Actions not aligned to measure	No blame / No game environment
5	Lack of management concern for non-investor stakeholders	Integration and alignment of reward systems

Further, the role of management is another factor that is recurring in the literature. Waggoner et al. (1999) highlight the impact and importance of management from several perspectives; top-level support, internal influence, process, and transformational issues. Spitzer (2007) concurs and underlines that PM change has to be driven by the leader, from the top of the organisation. Kennerley and Neely (2002; 2003) argue that management commitment and training are two factors needed in order to facilitate PMS evolution. Further, Kennerley et al. (2003) highlight the risk of management inertia towards PM as a barrier for evolution. In an empirical study conducted at a large manufacturing unit, it was concluded that management commitment, style, competence, and politics are factors that have a high impact on the dynamic abilities of a PMS (Salloum and Wiktorsson, 2011). Kennerley and neely (2002; 2003) further stress the availability of flexible information technology to enable the collection, analysis and

reporting of appropriate data as crucial for the evolution of a PMS (Table 2). Wettstein and Kueng (2002) argue that IT capabilities are pivotal for initiating and accelerating PMS change. They argue that IT consistently offers new opportunities to automate processes, enhance communication, and develop data analysis sequences. In the integrated model forwarded by Bititci et al. (2000), the required capabilities for dynamic PMS are divided into two categories,

framework capabilities and IT platform capabilities. For the IT platform, four requirements were identified:

a) Able to provide an executive information system.
b) Capable of accommodating and incorporating all the elements of the framework.
c) Integrated within the existing business systems.
d) Capable of handling simple rules, such as alarms and warning signals, to facilitate performance management.

Table 2 : Barriers and enablers for systems (Kennerley et al., 2003

S.No	System Barriers to Measures Evolution	System Enablers to Measures Evolution
1	Inflexible legacy system	Investment in IT hardware and software
2	Poorly or partially implemented ERP system	Data mining / warehousing capability
3	Difficult to tailor 'off-the-shelf' performance reporting software	Readily customisable information systems
4	Poor use of graphical representation	Internal systems development and adaptation capability

a) *Synthesising the theoretical background*

The advancements within the PMM field regarding PM change can be perceived through two perspectives, structural and behavioural. The structural perspective stresses the need for processes, mechanisms and procedures for managing PM change. Furthermore, within the structural perspective, emphasis is put on the capabilities and flexibility of the IT-systems. The need to have a process/mechanism/procedure in place for continuously reviewing and changing PM is a feature that the researchers in general highlight as important.

However, how the process/mechanism ought to be designed and function is not agreed upon. The previous research ranges from only mentioning the need for a review process (Medori and Steeple, 2000) to literature studies (Waggoner et al., 1999) and models for how manage PM change (Bititci et al., 2000). Some frameworks (Neely et al., 2002a; Bourne et al., 2000) elaborate on the responsibilities of such a process but provide little direction on how it might take shape in practice. Others (Kennerley and Neely, 2002; Neely et al, 2002a) debate and argue more on the design by outlining important factors to consider, questionnaires to deploy, and management tools to implement. From a behavioural perspective, the role of senior management, culture and employee involvement/empowerment are all underlined as important factors (Waggoner et al., 1999; Kennerley and Neely, 2002; Kennerley and Neely, 2003; Salloum and Wiktorsson, 2011; Farris et al., 2011).

Previous research generally neglects the context that PM operates in and research within manufacturing organisations is missing. PM are deployed across organisations, from executive management teams to shop-floor teams. The further down in the organisation you look, the more PM you will find in need of review. Hence, any functional review process to work

in practice needs to take a wide perspective and incorporate the whole organisation. The approaches presented in the theoretical background appear to take a managerial rather than an organisational perspective to the review of PM. Moreover, PM works in open production systems, heavily influenced by their temporal, cultural, and social contexts. In practice, PM are surrounded by a considerable amount of contingency (Tangen, 2005).

Thus, the final applicability and functionality can depend upon a number of factors beyond the actual review process. In regards to the purpose of this paper the theoretical foundation is limited. None of the previous publications neither illustrate how PM change is managed in practice nor takes an organisation-wide perspective. Hence, no research has been found that can be contrasted with the empirics presented in this paper. Instead, the empirics will be put in juxtaposition to the characteristics and advocacies of the theoretical background and discussed from the basis of commonalities and divergences.

III. METHOD

In order to fulfil the purpose of the paper, the data presented has been collected through the deployment of case studies (Table 3). The choice of case studies as means for data collection stems from the possibility of an in-depth and holistic examination of the formulated phenomenon (Merriam, 1994; Bell, 1999). The unit of analysis (Yin, 1994) in all three cases has been the way of working for managing change in PM. Three factors have guided the selection of case companies; the existing procedures for handling PM change at each case company, the knowledge about the company practices that the researcher could obtain before the case execution and the possibility to get unrestricted access to interviewees and databases.

The theoretical findings presented in Section 2 played several important roles in the research. It has helped to develop sharper and more profound objectives and questions in line with the arguments by Yin (1994). Further, it has also served as an initial guide to the case study design and data collection and as a part of the iterative process of data collection and analysis (Eisenhardt, 1989). The interview questionnaires used within the interview studies have been based on the literature presented in the theoretical background. The interview questionnaires consisted of three parts. The initial part focused on the design and features of the deployed PMS. The second part revolved around how the case company managed PM change whilst the concluding part focused on the factors and mechanisms that, in the perception of the interviewee, affected the management of PM change. Each case study was analysed in isolation through of data reduction, theme clustering and pattern-matching (Miles and Huberman, 1994; Yin, 1994; Merriam 1994) before the cross-case analysis. The cross-case analysis was executed in line with what is advocated by Eisenhardt (1989) (Table 3).

Validity and reliability are highlighted by Yin (1994) as important research quality factors to consider.

In order to ensure validity, the research conducted has been structured in a logical flow with problem statement, current state of the art and empirical investigations. The end-result describes how the studied phenomenon acts in real organisational settings. Further, representative case companies and triangulation between data collection components have been after sought (Table 3). Considerations in regards to the validity and reliability have to be made in the case study design phase as it deals to a great extent with the choice of case studies/companies. By collecting data from several companies the risk of conducting research in an exceptional and non-generalisable context is mitigated. Further, Yin (1994), argues that the concept of analytical generalisation is useful for establishing validity. Analytical generalisation dictates that the concluding research findings ought to be juxtaposed against the existing base of theory. The comparison will underline the gap between the research findings and the existing theory and highlight, depending on the extent of the gap, if more research is needed. Throughout this paper, the theoretical findings have been compared to their empirical dittos.

Table 3 : Deployed case study methodology

	Case Company 1 CC1	Case Company 2 CC2	Case Company 3 CC3
Employee Size	800	1000	1100
Geographical Location	Chennai	Coimbatore	Madurai
Business Area	Heavy automotives	Complex components	Heavy Machines
Number of Interviews	20 interviews (from five organisational levels)	19 interviews (from five organisational levels)	21 Interviews (from six organisational levels)
Interviewees	Site manager, production manager, finance manager, production engineering manager, logistics manager & quality manager. Six first-line managers. Six team leaders and two assemblers.	Overall production manager, 2 production function managers, 4 second-line managers, 6 first-line managers, 3 team-leaders, 3 assemblers	Site manager, production manager, quality manager, logistics manager, finance manager, HR manager, financial controller, logistics engineer, HR-partner, 6 first-line managers, 2 second-line managers, 2 team-leaders, 2 operators.
Interview Durations	7-51 minutes per interview	4-58 minutes per interview	5-48 minutes per interview
Interview Material	Transcribed and validated by interviewees	Transcribed and validated by interviewees	Transcribed and validated by interviewees
Within case data analysis	Data reduction, clustering, pattern-matching	Data reduction, clustering, pattern-matching	Data reduction, clustering, pattern-matching
Validity	Triangulation, representative case study, analytical generalisation	Triangulation, representative case study, analytical generalisation	Triangulation, representative case study, analytical generalisation

Reliability	Choice of case study/company, establishment of a case study database	Choice of case study/company, establishment of a case study database	Choice of case study/company, establishment of a case study database

IV. Findings

Table 4 gives an overall outline of the findings made in each case study. The findings suggest that all three companies have approaches in place for managing change in PM. However, the approaches differ in design, execution and context. Each approach is presented in the sections below from two aspects, structural and behavioural. The structural aspect focuses on how the case companies report that they ought and want to work with PM change. The behavioural aspect focuses in contrast on how the intended ways of working have unfolded. The distinction between the structural and behavioural sides provides a useful contrast of how the case companies want to work vis-à-vis how they actually work.

Table 4 : Findings per case company summarized

	CC1	CC2	CC3
Type of approach	One process with two loops (deployment and agreement/feedback)	Two processes: business plan (BP) and operational development (OD)	Unstructured meetings
Ownership and facilitation of approach	Site manager owns the process. Facilitated by the production system exper	CEO owns both processes. The OD process is facilitated by internal consultants	No owner & no facilitator
Frequency of approach execution	Twice a year: June & December. No alterations in between	BP: Yearly (autumn). OD: Every 6 months. No alterations in between	Yearly (each autumn). Alterations in between depending on function.
Time to execute the approach	2-3 weeks	BP: 1-5 months. OD: 1-3 weeks	Uncertain. Around 3-4 months
Defined and documented approach	Defined and documented	BP: defined and vaguely documented OD: defined and documented	Not defined nor documented
Factors affecting decision-making	Current performance, requirements from above, organisational politics, business environment, appropriateness of current PM	BP: Review of strategy, current performance, internal and external environments. OD: Strategic dialogue, one mutual focus	Requirements from HQ, strategic targets, current performance, market demand, appropriateness of current PM
Organisational involvement	Down to first-line managers	BP: Employee involvement fragmented. OD: all employees involved	Organisational involvement limited and fragmented
Top-management support	Supportive according to interviews	Supportive for both according to interviews, OD reduced due to prioritisation	Supportive according to interviews
IT-infrastructure	IT-systems fragmented after function and inflexible. High level of manual impositions through Excel	IT-systems limited and inflexible to extraction of data. Data quality doubted at some organisational levels.	Newly implemented and integrated IT-system. Problems with extracting data and developing competence.

Level of beneficial culture	Hierarchical culture, hard to get wide involvement	Blame-game culture, characterised by reactivity	Reporting-culture, measures decided from above

a) Case company 1 – The single process approach

i. Structural aspect

Management system documentation and management interview results revealed that CC1 deployed a process labelled the KPI review. Interview responses from managers across the organisation exhibited that the process was based on a set of meetings initiated and closed by the top-management team. The inputs to the first meeting of the process are outlined in Table 4. Once the top-management finished their review meeting, the function management did the same exercise with the above hierarchy's (top-management) output as input. This interlinked chain of meetings was meant to continue down to the production teams in order to create alignment in the goal and PM review. Once all the review meetings have been executed a set of meetings referred to by the top-management interviewees as the agreement/feedback meetings were initiated. The purpose of these meetings was to foster consensus of the goals and PM for the coming year and was held between members of two hierarchical levels. The KPI review was accomplished once the top-management team held the last agreement/feedback meeting. The top-management team has the power to either accept the proposed PM or ask for refinements. However, during the interviews these managers underlined that even though the general manager was the owner of the process the local production system expert facilitated it. The role played by the expert was hailed by several management interviewees. One first-line manager explained that the expert was instrumental to him in getting the work done. Moreover, the interview results strongly advise that the review process was an established way of working at CC1 as 16 of the 20 interviewees acknowledged it. It is notably however that the four employees not recognising it came from the lower levels of the organisation. In order to enhance the communication and promote the use of PM, a payback tracker was publicly accessible at the intranet. The tracker communicated the financial effects of the PM to the organisation. Moreover, all PM were connected throughout the hierarchical levels of the organisation through the use of publicly available KPI-trees (Figure 1). The general manager explained: "…And then we do have these KPI-trees that show how everything is related throughout the organisation… I think that they [the KPI-trees] can play an important role in explaining that yes it [the measures] matters".

ii. Behavioural aspect

Even though interview results, especially from the top-management team, made it explicit that the intention was to involve everyone, the process was never deployed on a team level in production. One team-leader elaborated when asked how he though his team felt about working with PM: "I do not think they care…painting is pretty much all that they are interested in that…how can I say it…their main goal is the paint and to keep painting. So that is pretty much all that they are worried about…"
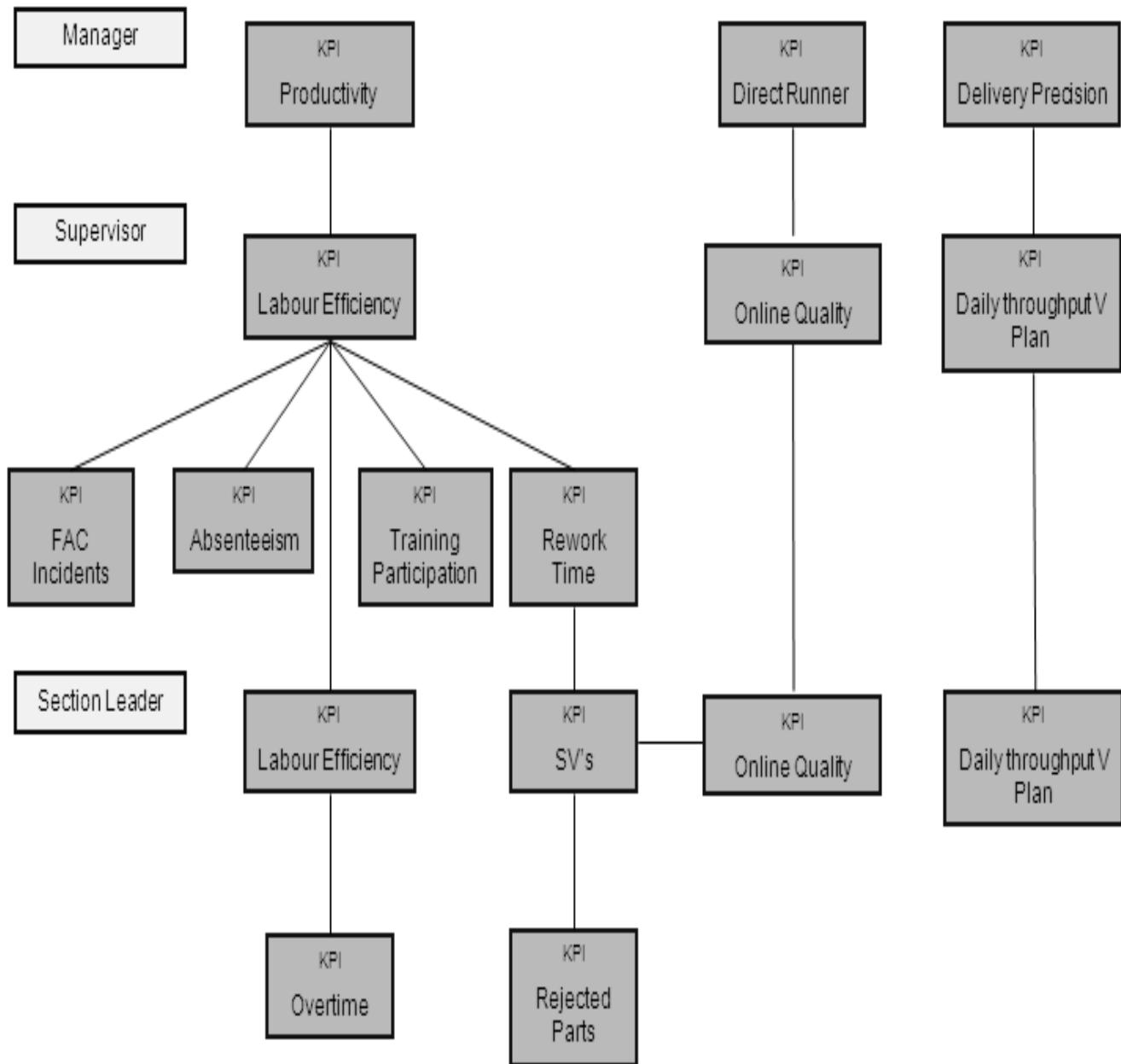
Figure 1: Example of one measurement tree for the cost, delivery and quality PM at a department

The interviewees for the top-management team were united in their view that they had not reached out fully and had a contribution to make in order to engage the whole organisation. The general manager explained that an attempt had been made to involve the teams but it was deferred as many others things came up that needed to be dealt with. The general manager described the attempt as "half-hearted". However, all six top-management interviewees still believed that the KPI review was important and supported it. One of the managers argued that the attempt failed due to the lack of management understanding regarding how to make the organisation to want to get involved. The consequences of not involving the masses in the KPI review were believed to be negative and were best expressed by the production engineering manager who argued that the involvement of the teams was crucial for the ability of the whole organisation to get something worthwhile out of the PM. Further, another contributing factor to the lack of involvement was the culture of the organisation. The production manager argued: "Here at this plant, to engage your employees equals to inform them and nothing else. No dialogue or feedback exists. You must always control that things are getting done. This is fundamentally wrong and in order to redeem this we must change the culture…this journey starts with us, the top-management team".

When asked about the culture and its impact on the PM, several managers highlighted the negative behavioural effect that the PM ownership structure had. The quality manager argued that the ownership needed to be driven down beyond the team-leaders in order to trigger involvement. Those thoughts got support by recently promoted team-leaders that expressed that their acquired PM responsibilities made them get involved. Further, the organisation did not offer any PM training to the production teams. This education was given once an operator/assembler became a team-leader. The team-leaders highlighted that the education was important for their understanding of the PM. Moreover, direct observations and interview results indicate that that CC1 had problems with their inflexible and disintegrated IT-systems. All five top-management interviewees underlined that the IT-system was inflexible in regards to what they wanted to measure. High levels of manual impositions for collecting and compiling data encroached on the time for analysis, limited the measurement scope and amplified the risk for human errors. The general manager explained that it sometimes felt like a project to just start measuring a new PM.

b) Case company 2 – The dual process approach

PM process documentation and interview responses exhibit that CC2 deployed two processes for managing PM change. The first process, labelled at CC2 as the business plan and goal steering process (BP&GS) adopted a top-down approach and was confined to all the main strategic and operational PM. In converse, the second process, named the operational development process (OD) was designed as a bottom-up approach with focus on a single strategic goal.

i. Structural aspect

Analysis of management system guidelines and interview responses from across CC2 revealed that the first review process adopted a top-down approach and consisted of two loops, a business planning (BP) loop and a goal steering (GS) loop (Figure 2). According to management interviewees and documentation obtained from the intranet, the purpose of the BP loop was to ensure that the strategy of the organisation had been reviewed whilst the GS loop aligned the PM scorecards across the organisation with the reviewed strategy. Once the top-management team had finished their BP loop and updated the strategic material and main PM, the objectives and PM of the organisation were reviewed through the GS loop. The BP loop was thus the first process step and was confined, participation wise, to the top-management. Process material and interview responses exhibit that the GS loop was executed in a chronological fashion with output of higher hierarchical levels serving as input for the lower dittos. Moreover, the output was meant to become more specific and detailed the further down the GS loop was drilled (Figure 2). At, first-line management level specific actions were meant to be assigned to the PM and goals through the development of local business plans. The GS loop was concluded once the lowest levels of CC1 had reviewed and updated their PM and goals for the coming year.
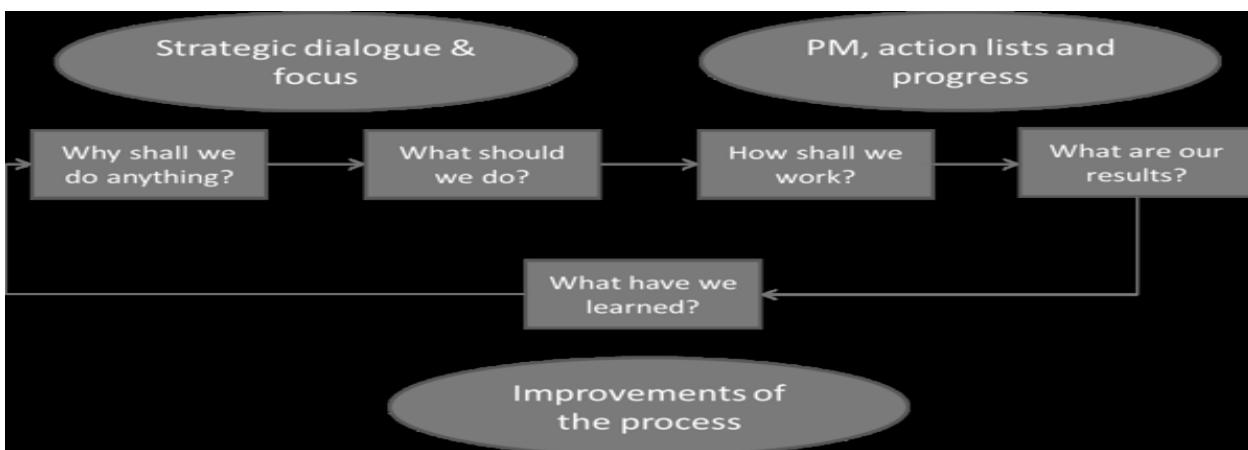

Figure 2: The OD process. The process steps are highlighted in rectangles and the outputs in spheres

ii. Behavioural aspect

It was underlined by several interviewees that the BP&GS process did not work as intended, some first-line managers admitted that this was the first time in several years that they got any input from their managers. Others acknowledged that they received their input only after they had finished reviewing their PM and assignment of actions. The first-line managers that received input perceived it to be problematic that the upper management absorbed much time and thus reduced the time left for them. One of top-managers acknowledged the problem: "The further down you come the organisation the less time they have and I think that is generally speaking…we need to get better here that thing is clear…considering the vast change in activities that this work [the GS loop] creates I do believe that we are putting down too little resources and time…"

First-line management interviewees established that they did not have a coherent way of engaging their production teams in the GS loop. These arguments were strengthened by the non-existence of process documentation. A couple of first-line managers described how they gathered all the operators for an afternoon in order to together create the business plan. In converse, other managers argued that they had no possibility to engage their production teams in the process due to the impact on production output. One first-line manager explained why he could not engage his production teams: "…the thought is that we should involve our teams, we have not done that yet…it has not been possible to involve the teams because we have shift teams that work on different hours...we cannot involve everyone because that would require paying overtime and supplementary allowances…"

The consequence of not being involved was highlighted by one of the team-leaders: "It only becomes a number, the culture here is that it is really cool to measure stuff, but then nothing is really done. You measure and pile it up and then they go "bother! Let's measure this instead". Not many union workers [the blue collars] are interested in it [the performance measures]."

Questions about the culture and the support that it lends to the PMS generate diversified answers. According to the top-management a culture existed in which people did not question, challenge or improve the operations. It was a culture characterised by reactivity, something needs to be dysfunctional in order to trigger an action. In contrast, one blue collar respondent argued: "…we on the shop floor are not interested in measuring anything. We know that they [the PM] are flavours of the month. We have so much fact that it is ridiculous but no actions are taken".

Top-management interview responses revealed that the top-management team supported the BS&GP process. However, the support of the OD process was not as established as it had been severely reduced in scope. CC2 was undergoing a transformation of the production system from functional to lean and the general manager argued that the resources were not sufficient for both. The OD process was still active in some parts of the organisation, however, the decrease in utilisation had a distinct effect on the cost savings made from, from 4, 1 to 1, 9 MUSD. Moreover, the functionality of the IT-systems was emphasised by interviewees across the organisation. Interviewees from the higher organisational levels acknowledged that the IT-systems had limitations, were inflexible in regards to data extraction and that the data quality was not always fully reliable. The production manager shared an example: "…a typical and good example of this is when the hours logged in the system are suspiciously low…after asking around you get the answer that the central finance department made a small definition error in the system..."

c) Case company 3–The unstructured meetingapproach

i. Structural aspect

The accounts on how the review was executed differed widely across CC3. Further, no documentation was identified nor acknowledged by the interviewees. However, several top-management interviewees acknowledged that the approach started with a top-management meeting in which the PM and objectives were reviewed. In the review several factors would guide the decision-making (Table 4) but it was emphasised by several interviewees (general manager, finance manager, production manager) that much of the changes were dictated by the company HQ. According to the general manager it was not unconventional that CC3 were simply handed new PM and goal levels without space for questioning. Interview responses from top-management members underlined that the execution of the review meeting would differ from year to year. The unstructured characteristic of the process was acknowledged as burdensome by the general manager: "We need to make it [the review process] distinct… we are in a phase in which we need to type out the process I can admit that it does not work well today… I addressed all the leaders [managers] with the factory measures and goals just before December…they were however not finished until March. But that is too late, it is not functional".

Interview responses by functional managers revealed that after the top-management had decided on their PM it was their responsibility to take the review to the next hierarchical level. It was underlined in interviews with top and second-line managers that the involvement of the organisation in the review was something that was often repeated as important. However, it was at the same time acknowledged as the most challenging part to do according to the production manager: "Involving everyone is the most difficult thing to do when working with KPI´s. You really want to get everyone to feel that they can contribute…in my world, if PM are generated by the factory management [top-management] then it needs to be taken down to the local departments...bad PM will lead to bad behaviour, no one will care because no one will be able to exert influence over them [the PM]".

When asked about the autonomy to select PM in the lower levels of the organisation the general manager explained: "SQD [Safety, Quality, Delivery], these are the measures that should be on the shop floor level and that is enough...this is simple and contributes to the whole. SQD… first we need to get our review process functioning and then we can look into how to give autonomy to the teams".

ii. Behavioural aspect

Interview accounts from functional managers underline that no formal requirements on how to push the PM review to the next organisational level existed. Interview responses from the finance manager and one controller revealed that the finance function discussed and decided on the PM at a department meeting. The controller explained that this was a satisfactory way of working as the department only consisted of four members. In contrast, the logistics department had a PM review day with the whole function. The logistics manager explained why he wanted his function to work in this manner: "…I do not do this, it is the function because they are the ones that will be working with this in there group. We do this in order to create the environment that makes them feel "that this is my way, this is what we should do in our group".

The logistic function´s procedure was positively perceived by interviewees across the organisation and was referred to as a good standard by a second-line production manager. The production function, which was the most employee heavy function, deployed a contrasting procedure according to interviewees from within the function. The second-line managers would receive the PM and goal levels to be deployed with suggestions of how to cascade them down further to first-line managers, team-leaders and production-teams by their superior. Accounts from team-leaders further strengthened this notion as they were simply handed their new PM from their managers. These accounts were strengthened by the production manager: "…I believe that we use a commando-structure here, we do not really have that anchoring or cascading of the measures".

Questions regarding how well the IT-system facilitated change in PM generated different responses. Two (HR top-manager & production second-line manager) out of the 21 interviewees were positive about the IT-system. However, the majority of the respondents felt that the IT-system inhibited their ability to measure. Several interviewees blamed the new IT-system and argued that the structures of queries that were built around the old system had now vanished without anything replacements. Some interviewees however believed that with time, the new IT-system would become more flexible and better than the old system. Other argued that once the competence of how to handle the new IT-system increased the possibilities would surpass the old system´s. The interviewees' perception of the culture at CC3 was diversified. On one side of the extreme the finance manager felt that the organisation had a large quantity of PM that no one really cared about. In contrast, the HR manager argued that the leadership at the site was very ambitious about the PM and that they understood the need to have good measures over time. The answers were diversified throughout the organisation regardless of hierarchical belonging. However, several responses were consistent in regards to the reporting and control characteristics of the culture.

V. CROSS-CASE ANALYSIS

a) Structural aspect

From a structural perspective, all three approaches revolved around the notion of top-down execution with strategy as a starting point. The top-down feature seems to be in place in order to create PM alignment across the organisation. Both the CC1 and CC2 approaches had this feature explicitly designed through the chain of execution. Even though CC3 lacks an explicit approach, the chain of execution is evident in how they managed PM change. The OD process (CC2) facilitated the alignment directly between the teams and strategic focus. Further, the input to the decision-making is similar across the case companies (Table 4). This validates the established belief that PM and strategy need to achieve alignment. Further, the approaches were executed annually/semi-annually and were thus seen as recurring activities as argued by Neely et al. (2002b), and Medori and Steeple (2000). Further, the liberty to develop PM is another common feature. CC1 and CC2 allowed their employees to develop PM if they supported the overriding organisational direction. PM autonomy seemed to be perceived as an important function for gaining the involvement. It seems that the underlying notion was that PM autonomy would amplify involvement that in turn would drive performance. Involvement of employees is underlined by Spitzer (2007) as pivotal factor.

Further, the possible relationship between the level of documentation/facilitation and the execution time needs to be highlighted. The approaches with facilitators and documentation were executed between 1-3 weeks whilst the dittos without took between 1-5 months to execute. These findings strengthen the calls for ownership of the PM change process (Kaplan and Norton, 2005; 2008) and a structured and defined approach (Meekings, 2005). Thus, if adequate resources are dedicated from the start the conditions for involving the organisation are plausibly greater. Furthermore, such a proactive stance will lead, in the long-run, to a process that requires fewer resources to execute (Neely et al., 2002a). Moreover, several researchers underlined the need of adequate IT-capabilities (Bititci et al., 2000; Wettstein and Kueng, 2002; Kennerley et al., 2003).The IT-system was highlighted across the case studies as an influencing factor. The challenge highlighted was not being able to measure due to inflexibility. Further, fragmented IT-systems had consequences beyond inflexibility such as time for data extraction, compilation and human errors. Further, another aspect is the structure built around a given IT-system. CC3 replaced an old fragmented system with a new and integrated ditto that would enhance flexibility. However, with both competence and

supporting structures erased the new system was perceived as less flexible and more problematic.

b) Behavioural aspect

Even though the role of employee involvement was underlined as sought-after and important, all three companies had problems in making it a reality. Several plausible explanations exist based on the empirical evidence. The rigid and hierarchical chain of execution might make more damage than good. It became evident at CC2 that the chain of execution can become a problem if not accompanied with the appropriate level of resources. The managers at the lowest levels did not get their input in time and were not cleared resources to try to involve their production teams. The OD approach deviated from the hierarchical execution and allowed each team to develop goals and PM in support of the strategic focus without any intermediaries. The OD approach of structuring the review process required less time to execute while including the whole organisation. Moreover, in relation to the chain of execution, size matters. At CC3, the finance function had no problems involving the employees. The employee-wise larger logistics function could involve most of its employees but had to work around the production planning. In contrast, the function with the highest number of employees (production), simply deployed the changes brought to them. Thus, a negative correlation seems to exist between the department size and the level of involvement. An increase in size equals an increase in needed resources, mainly time and additional labour costs. However, as illustrated at CC3, if resources are not made available the involvement will be suffocated. The need to give sufficient resources is highlighted by Spitzer (2007). Further, the challenge of employee involvement is further amplified by the lack of top-management understanding. As illustrated in CC2, little time was given to the lower levels. Instead, the higher management levels consumed the larger portion of the time available leaving the organisation, at best, with time constraints. As gatekeepers of organisational resources, top-management plays an important role in establishing a functional review approach. Several of the major hurdles identified regarding the involvement have their roots in management action and decision-making. The top-management needs firstly to understand the requirements of executing a PM review approach characterised by a chain of execution and secondly to make the required resources available.

However, there are other aspects of the challenges of involvement that are evident in the empirical data. The situation at CC1 illustrates that ownership and education can be two barriers of employee involvement. Once these two were given to promoted individuals they got involved. These two factors built a barrier at a CC1 which had; a defined and documented process, designated facilitators, visual aids

and no resource complains (Spitzer, 2007). Thus, even though CC1 had, in contrast to the other case companies, better conditions, it was restrained by a lacklustre employee attitude towards involvement that was only dispersed through education and ownership. Top-management support is highlighted (Kennerley et al., 2003) as a factor affecting the ability to manage change in PM. The empirical data underline that respective top-management team is committed to respective review approach. However, if the commitment would be juxtaposed to the actions of respective top-management team a different picture would emerge. CC2 confined the OD process regardless of the considerable cost savings. Moreover, none of the CC2 and CC3 top-management teams did provide enough resources for execution. Top-management´s actions at CC1 seem to be more in line with their claim of commitment. Even though their attempt to involve the organisation was postponed, their process had both a facilitator and solid structure. Moreover, Kennerley et al. (2003) underline the need of a beneficial measurement culture. Judging by both interview responses and how each approach was executed, there is evidence that none of the organisations had PM beneficial cultures in place. Even though the cultures shared this commonality, they seemed to differ in characteristics. At CC1, the hierarchical rigidness made it challenging to involve the employees and discussion was synonymous with informing. At CC2, the top-management teams and employees perceived each other to be reactive with neither willing to act on the PM. At CC3, the limitations in autonomy and liberty of action reduced PM to a reporting vehicle to be decided upon by superiors.

VI. CONCLUSIONS, FUTURE RESEARCH, CONTRIBUTION AND LIMITATIONS

Even though the case companies had different approaches in place to manage change in PM, they shared several commonalities. Commonalities were shared in the way of execution, process input and challenges in IT and culture. Furthermore, employee involvement seemed to be the biggest challenge for all three companies. From the empirics and conclusions presented in this paper, several interesting areas have emerged suitable for the future research agenda:

a) More descriptive case studies are needed that sheds further light on how PM change is managed in practice. Even though this paper has helped to bridge the knowledge gap, more research is needed.

b) How to gain organisational involvement is pivotal. This paper has elaborated over the causes but more research is needed that specifically focuses on the involvement of the employees.

c) The relationship between involving employees and driving performance ought to be investigated. As illustrated, involving the masses from an organisation of considerable size requires resources. If the involvement does not impact on the performance it would be counterproductive to have it in a review approach.

However, the findings put forward in this paper are limited as they are confined to three companies from the same company-group. More studies, both from within and outside the company-group, are needed in order to establish a solid base of empirical data for generalisation. Further, the theoretical background presented in this paper is confined to the field of PMM. Even though there are limitations to the research put forward in this paper, it helps to bridge the gap of knowledge regarding how PM change in managed in practice. This paper makes a contribution both through describing how three companies manage PM change and through elaborating on the underlying factors affecting functionality. Furthermore, the paper also provides insights for practitioners regarding the challenges faced by manufacturing units in managing change in PM. As the challenges seem to be similar across the case companies one implication could be to increase the cooperation and benchmarking across company-groups in order to capitalise on best practices and proven solutions.

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A Focus on Throughput: Lean Improvement of Nurse Scheduling in the Operating Theatre

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Abstract- The utilization of operating theatres and efficiency of nurse scheduling has an impact on patient outcomes, hospital finances and clinical effectiveness. To date, research has tended to focus on the output rather than on the process of nurse scheduling. We report on use of the Lean mapping tool, Makigami, in operating room (OR) nurse scheduling. This study was conducted at a large surgical department in the Netherlands.

Keywords: nurse scheduling processes; lean management; makigami; fishbone analysis.

GJMBR-A Classification : JEL Code: I00, M12.

A FOCUS ON THROUGHPUT LEAN IMPROVEMENT OF NURSE SCHEDULING IN THE OPERATING THEATRE

Strictly as per the compliance and regulations of:

A Focus on Throughput: Lean Improvement of Nurse Scheduling in the Operating Theatre

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Abstract- The utilization of operating theatres and efficiency of nurse scheduling has an impact on patient outcomes, hospital finances and clinical effectiveness. To date, research has tended to focus on the output rather than on the process of nurse scheduling. We report on use of the Lean mapping tool, Makigami, in operating room (OR) nurse scheduling. This study was conducted at a large surgical department in the Netherlands. A multidisciplinary team of nine health-care professionals used Makigami, including five steps: (1) the current state of OR nurse scheduling, (2) setting the ideal state and the first target condition, (3) performing a fishbone analysis, (4) conducting actions and (5) mapping the revised process of OR nurse scheduling. The current OR nurse scheduling process showed 44 transfers, 42 documents and 64 types of waste, which collectively led to 35 errors in 7 days. The first target condition was to guarantee quality of care: the right employees, at the right time, in the right place without errors. The revised process, as a result of the action plans that emerged through the fishbone analysis, led to an outcome of two errors in 7 days with a reduction in waste of 41%. The use of Makigami led to an optimized OR nurse scheduling process: the right OR nurses, with the right qualifications, were scheduled for the right surgical procedures. A focus on process led to a reduction in transfers and errors, which indicate a higher quality of care.

Keywords: nurse scheduling processes; lean management; makigami; fishbone analysis.

I. Introduction

The operating theatre (OT) of a teaching hospital is a critical and costly resource in the delivery of health care.[1] Usually comprising several operating rooms (ORs), the overall utilization and working efficiency of the OT is an important consideration for health-care managers because these factors have a significant impact on patient outcomes, hospital finances and clinical effectiveness. It is a challenge to balance clinical requirements with the need for process

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flexibility, standardization and efficiency in busy hospital environments with numerous stakeholders. As a result, clinical governance/quality management systems (activities designed to monitor, review and improve the quality of care) are necessary, and the responsibility for overseeing these usually rests with hospital managers.[2] In the OT, typical examples of quality management activities include using standardized procedures and resource forecasting, such as appropriate allocation of equipment and nursing staff.[3,4]

There are a number of validated quality management systems that lend themselves to health care. One of the most popular systems is Lean; with its origins in Japan, Lean is designed to improve the efficiency of processes by eliminating unnecessary activities in terms of variation (in Japanese: mura), overload (muri) and waste (muda).[5,6,7]

The identification and elimination of waste to optimize process flow can be achieved by a Lean process mapping system known as value stream mapping (VSM), which was originally developed by the automobile manufacturer Toyota. Womack and Jones (2003)[8] define a value stream as "the specific actions required to design, order, and provide a specific product, from concept to launch, order to delivery, and raw materials into the hand of the customer". They describe VSM as "identification of all the specific activities occurring along a value stream for a product or product family".8 VSM can thus be seen as a technique to identify, reduce and eliminate waste and errors that prevent the smooth flow of products and information through a value stream. From a practical perspective VSM involves outlining the key stakeholders, resources, activities and processes on a chart. It provides an understanding of how resources are utilized and highlights any inconsistencies. It is a useful communication tool in visualizing products or services for all staff to review, and value-adding and non-value-adding activities can be readily and systematically identified. Processes can then be revised by omitting non-value-adding elements. A comprehensive type of VSM is Makigami.[9] Makigami (which is Japanese for a roll of paper) is especially designed for mapping processes in complex environments were the product is not directly visible or physical, for example in offices, laboratories or hospitals. This is with the aim of providing a better service or creating a product that

adds value for the customer or, in the context of health care, the patient.

The transfer of Lean principles to clinical settings means that health-care managers should be concerned with the input, output and throughput of their processes to steer and realize improvements that increase value for the patient. Several studies have shown that Lean methods can be used to optimize clinical workflow. In 2011 Kuo et al. proposed a new method, the Lean Six Sigma System, to improve workflow in post-operative settings. [10] In a systematic review, DelliFraine et al. (2010) examined the evidence for Lean methods leading to improved clinical outcomes, cost-effectiveness and clinical effectiveness.[11] In the case of caring for patients with hip fractures it has been shown that Lean methods are associated with more efficient patient flow from admission to discharge, with reduced mortality and waste.[12] An example of such a process is patient scheduling, the efficiency of which is of vital importance to the patient and also to the medical team.[13] The use of the Lean method has also been shown to improve OR efficiency in terms of time management.[14]

Most research into the benefits of Lean and other quality improvement systems in the OR have tended to focus on outputs rather than on the Processes of OR planning, patient scheduling or nurse scheduling. In other hospital areas, scheduling of nurses using their experience is known to have an impact on clinical effectiveness.[15,16,17] In the OR, the scheduling of nurses is particularly challenging because of the way in which staffing needs vary with surgical procedures, from day to day and shift to shift, and therefore it is an interesting environment in which to test the utility of Makigami. As far as the authors are aware, no published study has assessed the use of Makigami to improve OR nurse scheduling. In this study we test the application of Makigami to reduce waste and improve clinical effectiveness during the process of OR nurse scheduling. The rationale behind using Makigami was that in the existing situation patient safety could not be guaranteed and last-minute changes were found to lead to a high workload and increased annoyance among staff. These problems occurred due to daily problems such as shortage of staff on a given day, or abundance of staff on other days, and no guarantee of qualified (trained) staff being present during surgery.

II. Materials and Methods

a) Design

In this study we observed the application of Makigami to nurse scheduling in the OR of a teaching hospital.

b) Study site and participants

This study was conducted at the VU University Medical Center OT, which has 16 ORs and employs 289 OR staff. In 2012 the OT had an annual volume of 13 527 patients and 18 176 surgical procedures, of which 14 762 are elective.

A multidisciplinary team of nine health-care professionals was involved in mapping the current state of the OT using Makigami. The team, accompanied by a Lean methods consultant, consisted of various health-careprofessionals: the head of the OT, an OR nurse, the team lead of surgical assistants, a scheduler, a nurse specialist (orthopaedics), a day coordinator, a workplace trainer and a secretary. The team members were selected based on their involvement in the process of OR nurse scheduling. This approach was chosen because continuous improvement efforts have been shown to be most effective when employees who are directly involved in the work develop solutions to problems that they deal with on a daily basis.[18]

The team had an introductory meeting that explained Lean thinking and were subsequently introduced to the Makigami method that was going to be used to map the process. The Makigami technique was applied at the OT to eliminate non-value-adding waste from the process of OR nurse scheduling. The focus was set on the entire process of scheduling from the annual blueprint to the day of surgery. The establishment of the final schedule depends on various information sources, but the process examined in this study solely shows the process that is arranged by the OT.

c) Makigami 1:mapping the current state

The current-state Makigami was made in three sessions that took8 hours in total, us inga Makigami chart with hand written notes and post-it stickers. The Makigami chart consisted of four elements: 1) activities performed by different professional roles, 2) documents and figures used in the communication process, 3) records of activity duration and 4) identified problems and waste. An activity was classified as waste if it could be categorized according to one of the seven most common contextual wastes proposed by Toyota, namely overproduction, waiting, transportation, over-processing, inventory, motion or defects[19] The Makigami Makigami chart was created by following the steps of the information-route process of OR nurse scheduling. First, the identified steps were organized by professional role. The group then identified the waste per process step and quantified the types of waste before recording the steps of the process that added value.

Parallel to mapping the current-state Makigami, the problems that occurred on a daily basis as a result of the OR nurse scheduling process were monitored. The day coordinator assessed the process, focusing on three issues: the right employees, allocated to the right place, at the right time. The assessment was based direct observation sover7 days spread out over 2 months. This direct observation was in line with the Lean methodology "to go and see" (in Japanese:

genchi genbutsu), with the aim of truly understanding what happens on the work floor. The assessment pre-intervention took place in April–May 2012 and assessments were also made following the improvement efforts in May–June 2013.

d) *Makigami 1: the ideal state and the first target condition*

Next to mapping the current state of the OR nurse scheduling process, the team also mapped the ideal state. The ideal state is intended to provide direction for the process and should contain only value-adding steps in succession: the right things, at the right place, at the right time, in the right quantities, without waste and leading to the outcomes desired by the patient. In order to map the ideal state, value from thepatient's perspective was defined. Next, the ideal state was stated and a first target condition was set, upon which various actions were plotted. Together, the mapping of the current state and the ideal state are referred to as Makigami 1.

e) *Makigami 2: actions and renewed process*

During the process, the team had a meeting once every 2 months. During each meeting, the gaps between the current situation and the target condition were analyzed and discussed. A fishbone analysis (Ishikawa diagram) assisted in the gap analysis. This fishbone analysis can be applied to any type of problem solving to identify all possible root causes. As a result of each meeting, actions were plotted and discussed at the meeting thereafter. After a period of 17 months a new Makigami, referred as Makigami 2, was constructed with the team to capture the renewed OR nurse scheduling process.

III. Results

a) *Makigami 1: the current state*

The current-state Makigami (Makigami 1) was created and graphically organized on a Makigami chart. Figure 1 shows a photograph of the Makigami wall chart. The Makigami showed 78 procedural steps in which 44 transfers took place. Table 1 outlines the assessment of the current state, which shows the transfers, the number of figures and documents, and the waste within the process.

The outcome following 7 days of measurement, which had the goal to identify the number of errors and changes made due to the scheduling process, identified 19 defectsin scheduling the right employees, 8 defects concerning the timing of employee scheduling and 8 defects concerning the location of employee scheduling (Table 2).

b) *Makigami 1: the ideal state and the target condition*

The first step of setting the target condition was to map Patients needs. As research has shown that the difficulty with the Lean technique in healthcare is the specification of end-user, or patient, needs[20] the team mapped the various users of the process. For each of these – the patient, nurse assistant, specialist or day coordinator – the question, "What is the need of the user?" was answered. Next, the team created the ideal state by answering the question, "What does the ideal process look like?" The team developed eventually four main themes: pull planning, no waste, scheduling of student nurses, and process and allocation of functional roles. Within these themes, various ideal sub-states were formulated. In order to reach the ideal state a first target condition was set. The first priority was given guaranteeing quality, which meant the right people, at the right time, in the right place. Moreover, this target condition had the outcome measure of no errors or changes made due to the scheduling process.

c) *Makigami 2: actions and renewed process*

The Makigami 2process map was created and graphically organized on Makigami paper. Figure 2 shows a photograph of the Makigami 2.

This Makigami showed 72 procedural steps in which 39 transfers took place. Tables 1 and 2 summarize the assessment of the renewed process, showing the transfers, the number of figures and documents, and waste within the process.

The outcome 7 days post-measurement, which aimed to identify the amount of errors and changes made due to the scheduling process, identified two defects in scheduling the right employees, no defects concerning the employees scheduled at the right time and no defects concerning employees scheduled in the right place (Table 2).

IV. Discussion

Nowadays, the majority of hospitals are confronted with increasing demands to reduce costs and yet improve safety, efficiency and quality of care. To guarantee quality and clinical effectiveness in the OT the quality of OR nurses should be ensured. The aim of this study was to analyse the scheduling process for OR nurses in real practice with the use of Makigami Lean mapping tool. The literature on nurse scheduling and its role in clinical effectiveness is quite extensive.[21,22,23,24,25]

The results of our study indicate that Makigami can assist in optimizing OR nurse scheduling in a high-volume hospital setting and help to identify waste and indicate relevant improvements. Application of this method was found to reduce outcome errors by 90% and waste in the process by 41%. Furthermore, the existing processes used to schedule OR nurses had evolved without specific attention to process and design. The Makigami tool assisted our team members in better understanding and identifying who was responsible for doing what work in the scheduling process. This insight enabled the team to review that process and to improve it considerably.

In addition to the 90% reduction of errors and 41% reduction of waste, it is likely that the Makigami tool also taught the team members the importance of a multidisciplinary approach. This assumption is supported by previous VSM research in which the importance of cultural change has been reported.[26] It can be difficult for workers, particularly those who have been in positions for a long time, and with deeply engrained work habits, to accept new guidelines for work processes because they believe that they already know how to perform their role correctly. The team members and OR nurses lacked an awareness of the power of Lean VSM techniques. However, workers will follow new guidelines when they understand the rationale behind them.[27]

We found that one of the most significant benefits of using VSM was visualization of waste. The research team also found that reducing transfers (11%) and the number of documents used to schedule OR nurses (14%), better use of existing scheduling software and a decrease in manual scheduling benefitted the OR nurses because it lead to higher-quality schedules while the employee in charge of scheduling reported to enjoy the positive benefits of fewer repeated tasks.

We identified a number of challenges; for example, the demand for information and requirements varied between the OR nurses in charge of nurse scheduling. The monitoring and resolution of this situation was found to be a challenge. We also found that the incentives of various stakeholders were not always aligned, making it a challenge to involve the different stakeholders in the process. We therefore recommend that educational applications should be introduced in parallel to train OT management and employees in charge of scheduling. A further challenge was related to coverageof demand. The OR enviro-nment is less standardized than that of an automobile factory, where Lean methodology was conceived. Chan-ging patient mix, evolving needs of the OT and no relia-ble way to estimate future demands were all factors in this regard.

This case study has a number of limitations. First, its scope was limited to observation of one specific clinical process only; therefore, the findings may not be representative of other clinical processes. However, our study illustrates the potential for further effective application of Lean methods, in particular the Makigami, to the health care environment. Second, the study was performed in a large hospital, a referral centre, in the Netherlands. Therefore the processes studied may not be applicable to smaller units. Finally, the observations are qualitative, without statistical support, and were collected over a short space of time. Further, longer-term, studies looking at different processes are needed. We also suggest that future work could examine other OR personnel as well. The number of attending OR nurses is only one of many components influencing the performance of an OT. To gain a better understanding and to identify areas for improvement it will be necessary to extend this study to anaesthetists and recovery nurses as well. We also suggest developing quality- and patient-oriented scheduling solutions that offer new opportunities for research on systems design for OT scheduling.

In general, this study adds further evidence that Lean techniques such as VSM can improve OR scheduling processes and therefore are useful management systems withwhich to improve the quality of care. Our findings suggest that, as a specific type of VSM, Makigami can help to identify current processes and performance. We found Makigami to be a focused and structured improvement tool that can help visualization of scheduling-process improvements in hospital practice. Previous studies of VSM have also shown its utility when applied to dynamic, high-volume surgical settings to identify waste and promote improvements in existing processes.[28]

V. Conclusion

VSM and Makigami are based on simple and structured problem-solving concepts. These Lean concepts promote continuous improvement, allowing monitoring and measurement of the effectiveness of change. Although our results indicate that the use of the Makigami enhanced the OR nurse scheduling process, challenges still remain. This study, however, achieved its purpose in showing that the Lean method – specifically the application of Makigami – is effective as a means of reducing waste and for standardizing processes in OR nurse scheduling.

VI. Acknowledgements

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Table 1: Makigami process: number of transfers, documents and figures, and amount of waste

Process	Total number		Improvement
	Makigami 1	Makigami 2	
Transfers	44	39	−5
Documents and figures	42	36	−6
Waste	64	38	−24

Table 2 : The number of errors arising in Makigami 1 and 2

Error (waste)	Makigami 1	Makigami 2
Right employees		
Under qualification	8	0
Over qualification	4	0
No employee scheduled for handwash instruction	3	0
Not enough employees scheduled	2	1
Wrong employee name on schedule	1	0
Officeday for specialized OR nurses not scheduled	1	0
Right time		
Agreements with employees unknown to day coordinator	7	0
Employee rostered while not scheduled	1	0
Right place		
Employee scheduled at wrong place	7	0
Employee not scheduled while rostered	1	1
Total:	35	2

Figure 1 : Photograph of the Makigami 1 process map

Figure 2 : Photograph of the Makigami 2 process map

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Developing Key Performance Indicators from Mission and Vision Statements of an Engineering College in Oman

By Ilango Sivaraman, Dr. Ahmed Al Balushi & Dr. D.H. Rao

Caledonian College of Engineeering

Abstract- The purpose of this paper is to trace the method of developing the Key Performance Indicators (KPI) from the Mission and Vision statements of an Engineering College in Muscat, Oman. In this context, KPIs provides parameters for measuring the quality and standards of the institute. For an educational institute the KPIs extend into areas that are beyond the realm of financial fields as the primary aim here is to develop students from the high schools in to responsible and capable engineers and the monitory returns, perhaps, take a very important second position status.

Keywords: KPI, stakeholders, engineering college.

GJMBR-A Classification : JEL Code: I25.

DEVELOPING KEY PERFORMANCE INDICATORS FROM MISSION AND VISION STATEMENTS OF AN ENGINEERING COLLEGE IN OMAN

Strictly as per the compliance and regulations of:

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Ilango Sivaraman [α], Dr. Ahmed Al Balushi [σ] & Dr. D.H. Rao [ρ]

Abstract- The purpose of this paper is to trace the method of developing the Key Performance Indicators (KPI) from the Mission and Vision statements of an Engineering College in Muscat, Oman. In this context, KPIs provides parameters for measuring the quality and standards of the institute.

For an educational institute the KPIs extend into areas that are beyond the realm of financial fields as the primary aim here is to develop students from the high schools in to responsible and capable engineers and the monitory returns, perhaps, take a very important second position status.

The process involves identifying the primary stakeholders and selecting performance indicators from the perspectives of these stakeholders. These indicators can be qualitative and are to be translated into quantitative indicators for meaningful performance indication.

The preparatory phase for such a process should originate from the Management of the Institute. Therefore, the Mission and Vision statements formulated by the College Management can be the initiating grounds for the development of KPIs. These KPIs are developed from the perspectives of three primary stakeholders, namely, Students, Teaching staff and the Management of the college.

The KPIs developed also will be matched to the Strategy map as proposed by Dr.Kaplan and Dr.Norton.

Keywords: KPI, stakeholders, engineering college.

I. Introduction

The private Engineering college in which, this study was undertaken is located in Muscat. The college has a student population of over 2000 and strength of over 100 teaching staff. The College has three Engineering departments with supporting departments such as Maths and Educational and Professional departments.

The college offers a two year diploma and a four year honours degree programs to all students succ-essfully finishing their high school secondary education programs.

The Mission and Vision statements of the college are in the public domain and are available in the college website.

II. Mission and Vision Statements

"The indispensable first step to getting the things you want out of life is this: Decide what you want"- To quote, Ben Stein, an American actor, writer, lawyer, and commentator on political and economic issues.

In the case of higher education institutes, deciding what you want – is a complex procedure. This is precisely because, the stake holders are so varied and many, and their expectations also can be wide ranging. In this context, it is essential to decide or list the expectations and develop a system for their measurement. The list of expectations can be drawn by the management of the institutes, who should be well aware of the expectations of all the stake holders. Generally the expectations are transcribed as Missions and Visions of the college Therefore, the KPIs are a derivative of Missions and Visions of the college or the Universities concerned.

The statements of Mission (What we are doing now?), Vision (what can be our destination), values and objectives, become the working platform for identifying the Key Performance Indicators (KPI) of any corporate or Institution.

The Mission and Vision statements of the college are given below:

Table 1 : Mission and Vision statement of the college

MISSION	To provide an innovative, creative and environmentally-aware learning experience for those who seek technological education.
VISION	To be the premier institute in the region for human resource development through innovation, research and technological advancement so as to serve the community.

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(SERDAR, A.M, 2010) Mentions that "As a result we collected information regarding the vision, mission and goals of the institution that were the basis for defining critical success factors and the set of key performance indicators".

KPIs should be clearly linked to the strategy, i.e. the things that matter the most. Once you have agreed, defined and mapped your strategic objectives you can design KPIs to track progress and gain relevant insights to help manage and improve performance. (MARR, B., 2010)

Further as per the workshop organized by Ministry of Higher Education(Oman) and Oman Academic Accreditation Authority(OAAA), Key performance indicators are related to goals or objectives and provide means for tracking performance against these goals or objectives (PALERMO, J. and Carroll, M., 2006).

In the case of higher education institutes, there are several non-financial parameters or KPIs, like the quality of teaching, student learning, student satisfaction employability etc., which should also be monitored and measured along with financial metrics to get a balanced view of the performance.

III. Balanced Score Card (BSC)

The way forward was first proposed in the early 90s, by Drs. Kaplan and Norton of Harvard Business School and is referred as Balanced Score Card (BSC).

The characteristic of the balanced scorecard and its derivatives is the presentation of a mixture of financial and non-financial measures each compared to a 'target' value within a single concise report. The report is not meant to be a replacement for traditional financial or operational reports but a succinct summary that captures the information most relevant to those reading it. It is the method by which this 'most relevant' information is determined (i.e., the design processes used to select the content) that most differentiates the various versions of the tool in circulation. The balanced scorecard also gives light to the company's vision and mission. These two elements must always be referred to when preparing a balance scorecard. (http://en.-wikipedia.org/wiki/Balanced_scorecard, 2013).

This is further reiterated by (NEFSTEAD, E.W and Gillard, A.S, 2006).Generally these financial measures report on outcomes, also known as lagging indicators. This after-the-fact approach, does not communicate the real drivers of future performance. What is needed is to define and manage indicators that show value through investments in students, faculty, staff, technology and innovation. To address these issues the BSC was developed by Kaplan and Norton to help overcome limitations of managing only with financial indicators.

There are 4 essential elements of a Balanced Score Card (BSC) of Dr Kaplan and Dr. Nortan is reproduced in Table 1 below.

Table 2 : BSC

(http://www.bing.com/images/search?q=Balanced+score+card&FORM=HDRSC2#view=detail&id=2B5B1B9EE0 84095253AD17B713A5723536F2373B&selectedIndex=4)
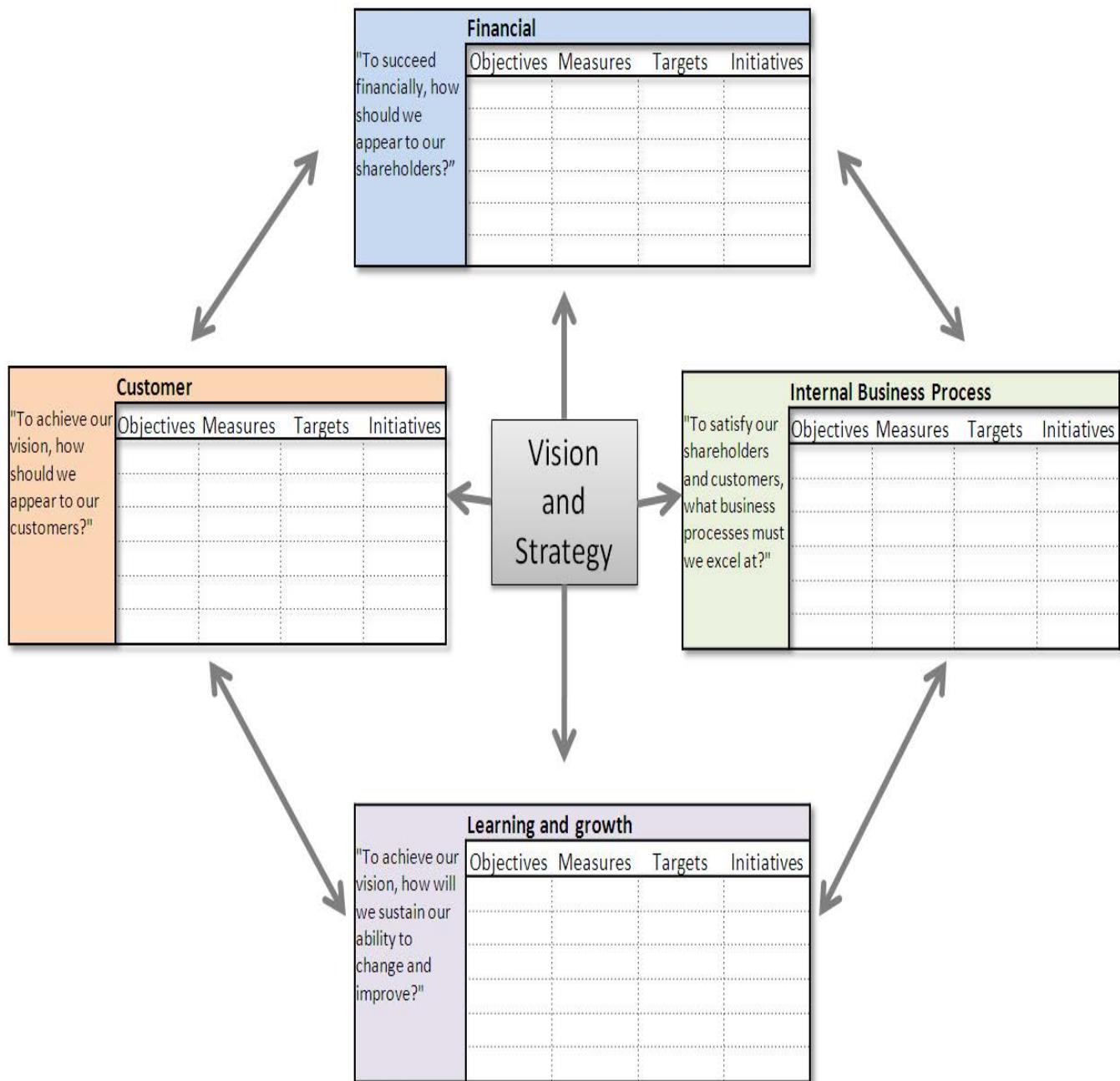
As per BSC, the four elements are:

a) *Financial perspective*

How do we (the enterprise or the institute) look to stake holders? is the main point in this element of BSC. In the case of an Engineering college, the main stake holders are the management, the students and the staff members of the college.Others include the Ministry (Government), the parents, the employers and even the society in which the college is located.

The financial perspectives would include, for instance, the number of students, (hence the income), the expenses, cash flow, the funds from research and consultancy, the grant /aid from the Govt., etc. However, the financial perspectives are not considered, in this paper as these are quantitative figures and are easily measured by regular financial reports.

b) Customers Perspectives

How do customers see us? - is the main focus in this category. For an Engineering college, the main customers are the students in the college. The student's perspective of the college and their learning experience in the college are taken into account, while framing the KPIs. The employers perspective of the product (student), is also taken in to account while designing the key performance indicator in this section.

c) Internal process perspestive

what must we excel at? -is thetheme in this element of BSC. The internal processes and internal growth perspectives show how the organization creates the outcomes of Financial and Customers perspectives. This way, managers can identify a causal chain from the performance drivers to financial outcomes. In the case of the college,the internal process perspective relate to the quality of the teaching staff, the quality of teaching, the research and consultancy work, the operational excellence, etc.,

d) Learning and Growth perspective

How can we continue to improve and create value? The set of KPIs look at the institute as a whole and relate to the vision of the college and how the Board, Management and staff learn from their own experience and take the path towards growth. The staff development activities, Currency of the programs of the college, etc., come under this set of KPIs.

The financial perspectives are perhaps easier to measure interms of income, expenditure and return on investment etc. The focus here is to develop and classify the KPIs for the Engineering College as per the remaining categories of BSC.

IV. KPIS FROM THE MISSION STATEMENT OF THE COLLEGE

Consider the mission statement of the college:

To provide an innovative, creative and environ-mentally- awarelearning experience for those who seek technological education.

The words in bold italics reflects the colleges'-/Managements' perception of their existing operation. The task is to develop KPIs that would measure the performance of the college with respect to their objective of offering an innovative, creative and environmentally- aware learning experience to the students of the college.

The impact of mission statement should be viewed from the stakeholder's point of view. A possible list of the stakeholders for an Engineering college is given below.

Table 3 : List of stake holders

S.No	Stakeholder
1	Students studying in the college
2	Staff members of the college
3	Management of the college
4	Ministry /Government departments connected with the policy/procedures of education
5	Employers /Business/Industry
6	Parents of the students
7	High schools (feeders for the college)
8	Board of trustees
9	Residents of the college location(Community)
10	Alumni of the college
11	Affiliates/Research associates/professional associations
12	Sponsors (For scholarship/welfare)
The list is not an exhaustive one	

From the above list of stakeholders, the three primary stakeholders are students, teaching staff and the management of the college who are involved in the day to day functioning of the college. For the purpose of this research, these three primary stakeholders are considered, while developing the framework of KPIs.

Translating the mission statement key words into a table, we get the following.

Table 4 : Innovative learning experience
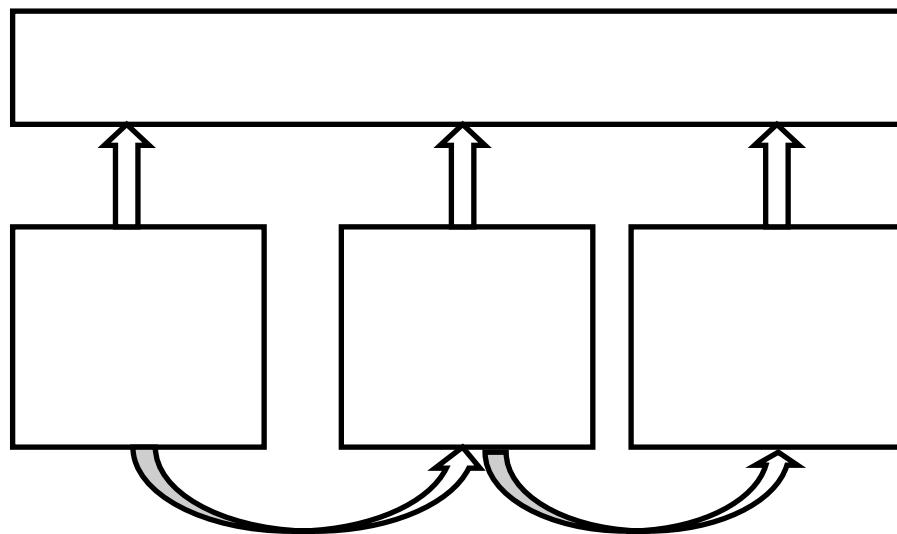
There is an interconnection and interdependencies between the three primary stakeholders, in terms of teaching, research and knowledge transfer.

As per Jongbloed et al (2008), one plausible consequence of such interdependent relationship is that it would require anew governance and accountability approach, highly professional management and are thinking of the university's business concept.

Further as reported by these authors, that is the way in which the university/College creates value and how it assesses its value (de Boer et al. 2007).

The interdependent relationships with respect to the Mission derivative of creativity and innovation is illustrated in the following scheme (Figure 3.4)
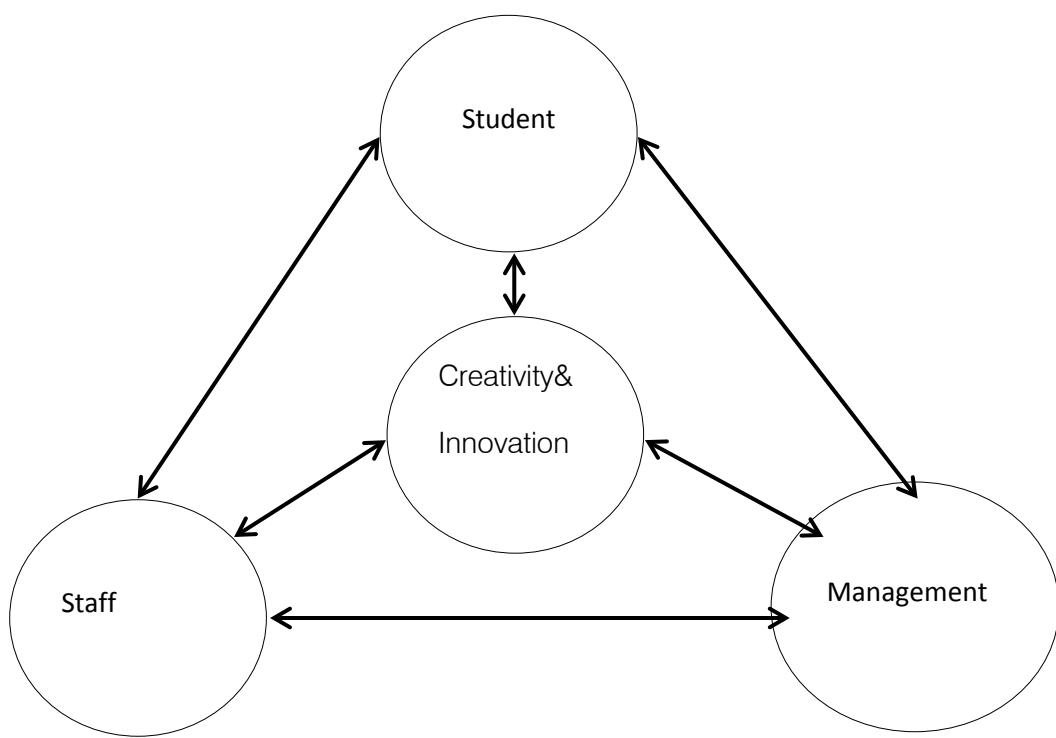

Figure 1 : Prime stakeholders and the their interrelated roles in creativity and innovation

As per Oxfords Advanced learners dictionary Creativity is involving the use of skill and the imagination to produce something new or a work of art and innovation is the introduction of new things, ideas or ways of doing something.

Examining more closely, to understand the difference between creativity and innovation, -Creativity refers to the ability to come up with new ideas, the ability to think widely, to have a free and open mind and to approach matters in a new way, whereas innovation is the ability to confine the creative ideas and make them turn into reality so as to achieve successful performance.

Considering the defined meanings of creativity and innovation, it is to be noted that the driving force for innovation is creativity and innovation is measurable as compared to creativity, as creativity is a thought process and innovation is converting the thought process in to an effective action. According to (Ned, 2007), Innovation is the result of creative activity, however all creativity does not necessarily lead to innovation.

We shall, in this chapter, identify KPI's that enhance the institutional climate to facilitate innovation and creativity. This will be seen from the perspectives of the three main stakeholders (i. e) the students, the staff and the management of the college.

a) *KPIs for enhancing institutional climate to facilitate innovation and creativity*

i. *Developing KPI on creativity and innovation- from the student's viewpoint.*

As per the report 'Creative and Innovative good practices in compulsory education in Europe' (Shakuntala, 2010) group work on cross-curricular project on a given theme embedded in formal assessment, develops creativity and innovation among students.

Taking a cue from the above theme, a cross curricular project opportunity given to the students could be a source for measuring the students' creativity and innovation.

The assignments and exam assessments measure the students understanding of concepts, applications, and memory, but, the student's innovation can be measured, in modules, where the students are given open ended tasks, (like in projects) that provide room for students expression of creativity and innovation. In an educational context(Ned, 2007), the development of creativity is not dependent on the random ignition of the 'spark of genius 'but rather on equipping the students with tools, techniques and conceptual strategies to harness the inner creative flame.

A report (Karlyn, 2006) recommends that the usage of problem and project based learning has shown significant promise to increase a broad range of thinking abilities, including creative thinking, and help link education to relevant ill defined, real life experience.

In a project module the problem formulation is by the student and it does not warrant a single best answer, as applicable to most of the other modules that the students go through in their selected program or discipline in Engineering.

The following modules of the Engineering College, allow the students to conceive their own ideas, formulate it as a project problem, analyse, design and express them in the form of prototypes or models or simulated solutions –thus giving a vent to express their creative ideas in the form of possible innovative projects.

Table 5 : Modules in the Engineering College with student projects as the main theme.

S.No	Modules that provide open ended tasks for students	Level (Year)	Remarks
1	Engineering applications	1	Team project- students are allowed to form their own teams (about 5 members) and design and develop a working model.
2	Project Methodology	3	Team project- students are allowed to form their own teams(about 3 members) and choose a project for study, design and fabrication of a working prototype Module offered to Mechanical, Electrical, Electronic, Telecommunication programs.
3	Mechatronic case studies	4	Team project- Students are allowed to form their own teams (about 2 members) and choose a mechatronic project for study, design and fabrication of working model.
4	Technical Project	4	Individual project – Student should identify a project preferably in his selected program and study/analyse/and present a research report.

Therefore, the number of modules available and the number of students taking up the modules can provide an indication of the creative and innovative learning experience experienced by the students. The first three modules also promote team work and group learning concepts.

Further projects undertaken by the students that involve 'environment and its impact' can become one of themeasurable indicators for 'environmentally aware learning experience of the students.

Another indicator for the measurement, is the number of projects from the above modules that is

recognized by the staff of the college as a good one,and sent for any competition or exhibited in a conference /workshop /gathering.

While projects such as above helps us to identify creativity and innovation in students'work, the higher education institutes also need to provide an atmosphere that foster creativity. Student mobility (Jan., 2008)is the key component of shared learning, creativity and increases the flow and sharing of knowledge between institutions, helping them to break out of national or local patterns.

In Europe under a program known as 'Erasmus' (EuRopean Community Action Scheme for the Mobility of University Students) now known as Lifelong learning program, students and staff have exchange programs with partnering universities in different countries and as per the surveys (Anon., 2011)conducted ,it is believed that such program fosters creativity and innovation in learning and teaching.

Therefore, on the basis of the above, an additional indicator for innovation and creativity is the number of students sent to other universities on exchange programs. To summarise the following are the three key performance indicators that fosters innovation and creativity among the students.

All KPI measurements in the lists that follow are quantitative. However, the reflection is qualitative. For instance, in table 3.5, the first KPI measurement is number of projects displayed in the project fairs and competitions. This number is not merely quantitative, as only a few good projects go up by a notch and qualify to be exhibited in the fairs and competitions. Hence careful consideration is given, in such a way that the numbers also reflect a qualitative measurement.

Thus the numbers are tweaked to represent the qualitative aspect of the KPI measured.

Table 6 : KPIs for Creativity and innovation (Students)

No	Indicator / KPI Code	KPI Measurement
1	Student Projects	St1Number of projects displayed in the project fairs/competitions
2	Student projects rewarded-students/	St2Number of projects that earned recognition by way of prizes and certificates
3	Student projects with environment as theme-students	St3Number of projects that has environment or non renewable energy as the theme
4	Student exchange programs-students	St4Number of students participating in student exchange programs –student mobility.

Each student KPI is coded as St.

Under the same umbrella of creativity and innovation, we have to envision the roles of the staff and management in nurturing creativity and innovation and accordingly decide on the KPIs for these two stakeholders.

ii. *Developing KPIs from the staffs 'point of view*

According to Wikipedia, the term Research and Development, reflects two primary models. One model is to develop new products and in the other model, the primary function of an R&D group is to discover and create new knowledge about scientific and technological topics for the purpose of uncovering and enabling development of valuable new products, processes, and services.

The higher education institutes are considered to be the primary breeding ground for research, thereby promoting creativity and innovation.

As per the report of the strategy group titled 'National Strategy for Higher Education to 2030' (Ireland)

"The exposure of all students to the passion and insights of research-active academic staff can be a special force for personal development and creativity (Anon., 2011)"

Universities / Colleges also promote consultancy opportunities of their teaching faculty. The consultancy involves the staff member to provide a professional or technical service to benefit a specific client on the consideration of certain amount of payment. It has been found that faculty with consulting experience are often more effective in the classroom (Whitford 2000 cited in Shugan, S, M).The same author also goes on to say that outside consulting activities can produce valuable input for academic research.

Considering these aspects, KPIs from these two specific areas of research and consultancies by the academic staff of the college are taken in to account.

Table 7 : KPIs creativity and innovation(Staff)

No	Indicator/KPI code	KPI Measurement
5	Active Research	Stf1Number of Journal papers from the teaching staff. Stf2 Number of collaborative research projects undertaken
6	Consultancy projects	Stf3Number of active consultancy projects awarded to the college. Stf4 Number of research proposals submitted.

Each staff KPI is coded as Stf.

iii. *Developing KPIs from the viewpoints of Leadership/ Management of the institute*

The management of an institution plays a pivotal role in meeting the challenges of the environment and its capacity to respond innovatively so that all the stakeholders benefit from the foresight of the management.

The direct transfer(Kroll, 2012)of know-how by patenting and licensing and technological innovations among other things, depend on the university itself – and the university management plays a major role in invigorating and sustaining the creative climate in the institute.

The institutions that understand the true value of professional development, culture, innovation and creativity also recognize the value of continuously educating their employee base. These organizations are the ones that will be better positioned to adapt to the rapidly changing demands of today's work environment.

Higher education has become a part of internationalization (Qiang, 2003) It is believed that Internationalization in higher education is an inevitable result of the globalized and knowledge-based economy of the 21st century and staff exchanges, university linkages, patterns of mobility, and international and regional arrangements among universities to a great extent contribute towards diversity and promote innovation and creativity among the staff members. For such staff exchanges to take place, the management should come to an agreement with other existing universities and colleges that transcend beyond the national borders.

Across Europe (Erasmus program), USA (Atlantis & Fulbright programs), in Australia and also in other countries including India, the importance of staff exchange programs are recognized and mechanisms/agreements are in place to facilitate staff exchange programs.

In consideration of above factors, M2(KPI for Management-Refer table 3.7) is included as one of the KPIs from Management point of view. To understand the depth in the measurement of such programs, we must have the number of such programs and the number of staff, taking part in such programs.

In relation to the academic conferences/Seminars/ workshops, it is said that innovation and providing cutting-edge services cannot happen without the opportunities to see what is beyond the walls of the Library.((Gibson, 2013).Staff and students attending such events share and carry ideas that promotes contribution to their own creation of literature and future direction of studies. With this as a background M3 (KPI for Management- Refer table3.7) is added.

The future of innovation will be more characterised by interaction of organization and society (Roolf, 2009). Taking a cue, we need to have ideas, innovation and creative methods that sprout due to interactions with other affiliates engaged in similar field of work. With this concept, KPI, M 5 and M6 (Refer table 3.7)are introduced.

To ensure that the interactions with the affiliates remain active, the measurement includes, the number of affiliates active during the year (M6)

Table 8 : KPIs for Creativity and innovation (Management)

No	Indicator/KPI code	KPI Measurement
7	Staff development programs	M1Number of staff development programs organized per year
8	Staff exchange programs	M2Number of staff exchange programs organized per year M3 Number of staff taking part per year in the staff exchange programs
9	Conferences /Seminars /Workshops.	M4Number of conferences /seminars organized per year.
10	Affiliations/Associations	M5 Number of affiliations / Associations valid during the year. M6 Number of affiliations/Associations active during the year.

Each Management KPI is coded as M

The listed KPIs can be in place only at the behest of the institutions' management.

The essence of this chapter was to find the originating source for identifications of KPIs of an engineering college .As the literatures evidences, the Mission and Vision statements of the college lights up the preliminary pathway towards setting up the KPIs.

For the Engineering College that is taken up, based on the Mission and Vision statements, we could identify 14 KPIs from the perspectives of the three identified stake holders' i.e students, staff and the management of the college.

These are tabulated together in the Table as below:

b) *Summary of KPIs from the Mission and Vision statements of the college*

Applying the Strategy map concept of Drs Kaplan and Norton, the KPIs identified is regrouped as per the classified elements in the following table.

Table 9 : KPIs as per BSC elements

S.No	Students'KPI Measurement	Classification as per Strategy Map concept
1	St.1Number of projects displayed in the project fairs/competitions	Learning and growth perspective
2	St.2Number of projects that earned recognition by way of prizes and certificates	Learning and growth perspective
3	St.3Number of projects that has environment or non-renewable energy as the theme	Learning and growth perspective
4	St.4Number of students participating in student exchange programs –student mobility.	Learning and growth perspective
No	Staff KPI Measurement	
5	Stf1Number of Journal papers from the teaching staff. Stf2Number of collaborative research projects undertaken	Internal perspective
6	Stf3.Number of active consultancy projects awarded to the college. Stf4.Number of research proposals submitted.	Internal perspective
No	Management KPI Measurement	
7	M1Number of staff development programs organized per year.	Learning and growth, Internal& Stakeholder perspective.
8	M2Number of staff exchange programs organized per year M3. Number of staff taking part per year	Learning and growth, Internal & Stakeholder perspective.
9	M4. Number of conferences /seminars and workshops organized per year.	Learning and growth, Internal & Stakeholder perspective.
10	M.5 Number of affiliations / Associations valid during the year. M.6 Number of affiliations/Associations active during the year.	Learning and growth, Internal & Stakeholder perspective.

From the above table, it is evident that many of the Managements' initiatives that form the core of KPIs (for Management) cover the three strategic areas as out lined in the Strategy map concept of Dr. Kaplan and Dr. Norton.

Conclusion: The paper shows that the Mission and Vision statements are not coined as a show case for the public but can transform the organization to a potentially performing one. The elements for measuring the performance are embedded in the Mission and Vision statements.

It also lends credence to the statements themselves as they are not merely ornamental in application but has functional implications.

It is possible to add weightage to the KPIs which are classified in the strategic map as per above table 9. The weightage is given by the management and staff as per the importance of KPI to the college.

With proper dash board software, it is possible to monitor the KPIs for effective performance measurement of each of the element and the individual KPI.

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Combined Effect of Competitive and Manufacturing Strategies on Export Performance of Small and Medium Enterprises in Malaysia

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Abstract - It is generally accepted that business strategy has a significant influence on the success of many organizations. However, it has been rarely tested in the context of export operation and performance on SMEs. Thus, the objective of this research is to determine the combined effect of competitive strategy and manufacturing strategy on export performance of small and medium enterprises (SMEs) in Malaysia. Quantitative survey method was employed and data were collected from 201 exporting SMEs through structured questionnaires.

Keywords: *Competitive strategy, manufacturing strategy, export performance, small and medium enterprises.*

GJMBR-A Classification : *JEL Code: L39.*

COMBINED EFFECT OF COMPETITIVE AND MANUFACTURING STRATEGIES ON EXPORT PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES IN MALAYSIA

Strictly as per the compliance and regulations of:

Combined Effect of Competitive and Manufacturing Strategies on Export Performance of Small and Medium Enterprises in Malaysia

Harcharanjit Singh [α] & Rosli Mahmood [σ]

Abstract - It is generally accepted that business strategy has a significant influence on the success of many organizations. However, it has been rarely tested in the context of export operation and performance on SMEs. Thus, the objective of this research is to determine the combined effect of competitive strategy and manufacturing strategy on export performance of small and medium enterprises (SMEs) in Malaysia. Quantitative survey method was employed and data were collected from 201 exporting SMEs through structured questionnaires. The results from regression analysis found both competitive strategy and manufacturing strategy have significant and positive relationships to export performance. Manufacturing strategy was also found to be a more significant contributor to export performance of SMEs. These findings emphasize the importance of adopting both the competitive strategy and manufacturing strategy among the owner/managers of SMEs to enhance their performance and be successful in the international markets.

Keywords: Competitive strategy, manufacturing strategy, export performance, small and medium enterprises.

I. Introduction

Small and medium enterprises (SMEs) play an increasingly important role in a country's economy, and thereby the well-being of these businesses is a necessity for that country's future success. Malaysia boost around SMEs which employ over 56 percent of the total workforce and contributes 32 percent to the country's GDP, and makes up 19 percent of the nation's total export (Singh, 2013). The extent of this sector's economic consequence is highlighted by the fact that 99.2 percent of the total business establishments in Malaysia are SMEs (Business Times, 2012). Despite the increased attention paid to this sector, comparatively little is researched on SME export performance in Malaysia (Singh & Mahmood, 2013).

Past literature have seen a variety of variables being engaged to determine the effect on firms' export performance (Cadogan et al, 2002; Zhang et al, 2003; Styles et al, 2008; Boehe & Barin-Cruz, 2010) but only a few researches have incorporated the element of in

strategy relation to the export operation and export success (Namiki, 1989; Singh & Mahmood, 2014). In addition, most of the studies on business strategy were focused on the domestic capacity, and research on the relationship between business strategy and export performance is still limited (Cavusgil & Zou, 1994; Salavou & Halikias, 2009). The business strategy which is a firm's internal element is a vital determining factor for the firm's success in exporting because it influences export performance directly (Aaby & Slater, 1989). Notwithstanding most studies on strategy-performance relationship have also been mainly focused on large or well established firms, and research on export related topics on SMEs has been scanty (Al-Hyari etl al., 2012; Okpara, 2010; Altintas et al., 2007; Anderson et al., 2004; Singh & Mahmood, 2013). Thus, there is a suggestion that more research should be conducted to examine the role of business strategy and its impact on export operation and export performance (Namiki, 1989; Boehe & Barin-Cruz, 2010). Hayes and Wheelwright (1984) argued that for the strategy to be effective there must be synergy in important areas such as competitive strategy and manufacturing strategy. Amoako-Gyampah and Acquaah (2008) and Raymond and Croteau (2009) have also called for a more research on business strategy and export performance to be carried out. Given that the business strategy is seen to be a critical determinant of success in many organizations, greater understanding of the implementation of both competitive and manufacturing strategies in this context is a highly desirable research direction.

Thus the purpose of this study is to determine if significant relationships exist between competitive strategy, manufacturing strategy and export performance. It is also the aim of the study to identify which of the two strategies is the most significant contributor to the export performance of SMEs.

a) Competitive Strategy and Export Performance

Porter (1985) proposed that business strategy such as competitive strategy is strongly linked to profit performance. Strategy execution is the key link between competitive strategy and firm performance (Ward & Duray, 2000). Day (1994) who linked the competitive

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advantage with performance argued that firms who possess higher competitiveness will relatively gain higher business performances. A well-structured business firm and product differentiation from its competitors in the industry generates firm's competitive advantage that leads to higher business performances (Hitt et al., 2004). Firms that pursue competitive strategy tend to create unique image in the mind of the customers by offering products that are inimitable by their competitors (Miller, 1988). The ability of the firms to offer this strategy in their product in terms of reliability, durability, features and aesthetics generates higher performance (Mintzberg, 1988; Dean & Evans, 1994; Amoako-Gympah & Acquaah, 2008). Therefore, competitive strategy generates a firm's competitive advantage over its competitors and results in higher performance (Amoako-Gympah & Acquaah, 2008).

Based on the resource based view, the collection of a firm's internal resources and capabilities generates competitive advantage that leads to superior performance (Porter, 1985). Competitive strategy and the resource based view are two sides of the same coin (Wernerfelt, 1984). The firm poses unique internal resources and capabilities which can become firm's competitive advantage against its competitors and enhance its business performance and survivability (Barney, 2002; Day & Wensley, 1998; Penrose, 1959; Peteraf, 1993; Wernerfelt, 1984). Porter's proposition that competitive strategy creates competitive advantage for a firm and results superior business performances was also supported by many studies (Campbell-Hunt, 2000; Julien & Ramagalahy, 2003; Mandy, 2010; Young, 2005). Therefore, it was posited that competitive strategy has a significant relationship with export performance. Grounded on the argument above, the following hypothesis is proposed:

H1: There is a significant relationship between competitive strategy and export performance of SMEs.

b) *Manufacturing Strategy and Export Performance*

Past researchers have highlighted the importance of manufacturing strategy towards attaining higher performance (Leong et al., 1990; Kim & Arnold, 1992; Ward & Durray, 2000). Amoako-Gyampah and Acquaah (2008) argued that there is a direct relationship between manufacturing strategy and firm's performance. Miltenburg (2008) suggested that firms that apply manufacturing strategy are most likely to achieve higher return on sales and better profit before tax to sales ration. Corporate performance is positively related to role of manufacturer managers in strategic decision making (Swamidass & Newell, 1987). Anderson et al.'s (1989) findings indicated that production competence is a measurable function of production and related to firms competence. Quality assurance and the firm's capabilities to deliver their products and services were also found to be significantly related to the firm's

performance (Williams et al., 1995). Advanced operating procedures and firm capabilities tend to build efficient delivery process; low operation cost generates competitive advantage and increase firm performance (Day, 1994). Nevertheless, no significant differences were found between firms using mixed (efficiency and flexibility) strategy and firms using a single strategy of efficiency or flexibility and their business performances (Ebben & Johnson, 2005). In addition firm's performance is not fully depending on manufacturing strategy; rather, it also depends on manufacturing strategy configuration and strategic configuration interaction (Popovska & Boer, 2008).

Manufacturing strategy dimensions of cost, quality, flexibility, and delivery were also studied in relation to firm performance and they are all found to be significantly related to the firm's financial performance (Butt, 2009). However, Swamidass and Newell (1987) found that flexibility was more related to the firm's business performance, while Amoako-Gyampah and Acquaah's (2008) study found that only quality appear to have a significant influence on the firm performance. Similarly other researchers also found manufacturing dimension of quality to be an important predictor of the firm performance (Flynn et al., 1994; William et al., 1995; Ward & Durray, 2000). Chi et al. (2009) indicated that the alignment between business environment characteristics, competitive priorities and supply chain structure improve firm performance. However, cost leadership strategy must be combined with manufacturing strategy capabilities in order for the cost reduction to be effective. Manufacturing capabilities focused on flexibility are more suitable for differentiation strategy adaptation. Dr. Silveira and Sousa's (2010) results indicated that capability learning and firm best practices are positively related to firm performances (flexibility and dependency) while firm's internal fit is negatively related to flexibility improvements. Popovska and Boer (2008) argued that firm's performance is not fully depending on manufacturing strategy; rather, it could also depend on manufacturing strategy configuration and strategic configuration interaction. Based on the above discussions, this research intends to examine the relationship between manufacturing strategy and firms export performance. Thus, the following hypothesis is formulated:

H2: There is a significant relationship between manufacturing strategy and export performance of SMEs.

II. Research Methodology

a) *Sample and data collection*

The sample for the study was drawn from the Federation of Malaysian Manufacturers (FMM) directory of manufacturing SMEs. From the listing, only firms which fulfilled the following criteria; manufacturing firms

with an annual sales turnover of between RM250,000 and less than RM25 million, or manufacturing firms with fulltime employees ranging from 5 to less than 150, and engaged in the exporting activity, were chosen. A total of 779 SMEs made up the target population. Based on Krejcie and Morgan (1970), a sample size of 260 was determined, and due to response rates of between 20 to 25 percent for a mail survey, the number of questionnaires sent should be four or five times than the intended sample size. A questionnaire accompanied by a cover letter and a postage-paid return envelope was mailed to the owner/manager of each firm. Owner/managers were targeted in this study because they were involved in the overall running of the businesses, and their views often represent the views of the entire firm. A total of 201 useable questionnaires were received, yielding a response of 25.8 percent.

There is also an issue of a non response bias in the data collection. Non response bias exists when there is significant difference between the answers of those who responded and those who do not respond. To test for non response bias, an extrapolation method as suggested by Armstrong and Everton (1977) was employed where the early respondents were compared with the late respondents. No significant differences were found in the mean responses for any of the constructs, suggesting no indication of non response bias in this study.

b) *Measures*

The instruments for this study were developed using established measures from previous studies. The competitive strategy scales were adapted from previous study by Young (2005), and the items were measured on a seven-point Likert scales where '1' represents very strongly disagree and '7' represents very strongly agree. The manufacturing strategy of fifteen items was measured using scales adapted from Ward and Duray (2000). This measurement was selected because it has been shown to possess valid psychometric measure properties. Self-report technique was used to measure export performance, and subjective assessment was employed because it was expected that owner/managers would be unwilling to disclose full financial data. This study measured export performance with four items; sales volume, profitability, market share, and new markets, and the owner/managers were asked to rate their export performance on a seven point rating scale. It has been found that the subjective measures of performance are correlated with the objective measures of performance (Dess & Robinson, 1984).

c) *Reliability and validity*

Cronbach's alpha was used to assess the instruments reliability. Generally, 0.70 or higher is considered to be agreed value for alpha's reliability (Hair et al., 2011). Table 1 below shows that all the variables have values which vary from 0.75 to 0.97 which are considered acceptable for exploratory research.

Table 1 : Reliability scores for variables

Variable	No. of items	Alpha value
Manufacturing strategy	15	.97
Competitive strategy	13	.95
Export performance	4	.75

Factor analysis was conducted to verify the construct validity of the variables. Before performing the analysis, the suitability of the data was assessed through two tests; Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) and Bartlett's Test of Sphericity. The KMO values were 0.889, 0.958 and 0.755, and the Bartlett's Test of Sphericity was significant at $p<0.001$ (See Tables 2, 3 and 4). The results support the factorability of the data. Varimax rotated principal component analysis has resulted in single factor loading in each of the three constructs; competitive strategy, manufacturing strategy, and export performance that explained 79.045 percent, 75.338 percent, and 58.118 percent of the variance, respectively. Only factors with a loading value of 0.50 and above were considered, and therefore no items were deleted (Hair et al., 2011).

Table 2 : Factor Analysis – Competitive Strategy

No.	Item	Loadings
1.	Reduce inventory	0.915
2.	Increase capacity utilization	0.882
3.	Increase equipment utilization	0.912
4.	Reduce production costs	0.905
5.	Statistical process control	0.851
6.	Real time process control systems	0.925
7.	Updating process equipment	0.889
8.	Developing new process for new products	0.851
9.	Developing new process for old products	0.875
10.	Lead time reduction	0.718
11.	Setup time reduction	0.861
12.	Ability to change priorities of jobs on the shop floor	0.875
13.	Ability to change machine assignments of jobs on the job floor	0.763
14.	Provide fast deliveries	0.867
15	Meet delivery promises	0.904
	Eigen values	11.301
	Percentage of variance explained	75.338
	KMO	0.958
	Bartlett Test of Sphericity:	
	Aprox Chi Square	3793.105
	Df	105.00
	Sig	0.000

Table 3 : Factor Analysis - Export Performance

No.	Item	Loading
1.	The level of our export sales volume.	0.747
2.	The profitability of our export operation.	0.709
3.	Our share of export market sales.	0.828
4.	The rate at which we are able to enter new markets.	0.759
	Eigenvalues	
	Percentage of variance explained	2.325
	KMO	58.118
	Bartlett Test of Sphericity:	0.755
	Approx. Chi Square	
	Df	189.328
	Sig.	6.000
		0.000

III. Findings and Discussions

a) Hypotheses Test

The first hypothesis (H1) stated that there is a significant relationship between competitive strategy and export performance, while the second hypothesis (H2) stated that there is significant relationship between manufacturing strategy and export performance. To test these hypotheses, multiple regression was used where the dependent variable (export performance) was regressed simultaneously on the two independent variables; competitive strategy and manufacturing strategy. Table 5 displays the result of the analysis which reveals the value of R squared as 0.544 indicating that 54.4 percent of the dependent variable (export performance) was accounted and explained by the two variables; competitive strategy and manufacturing strategy. The results also show significant and positive relationships between competitive strategy and export performance, and manufacturing strategy and export performance. Thus both hypotheses H1 and H2 are supported. It can be inferred that the more the SME owner/managers adopt the competitive and manufacturing strategies in their firms, the higher the export performance is yielded. In addition, the strength of the relationships as measured by (β = 0.323) for competitive strategy and (β = 0.560) for manufacturing strategy shows that manufacturing strategy is also a more crucial predictor of export performance. This result is consistent with previous studies and the general notion that manufacturing strategy is associated with superior firm performance.

Table 4: Relationship between Competitive Strategy, Manufacturing Strategy and Export performance

Independent Variable	Standardized Beta	T	Sig. (p-value)	R^2
Competitive Strategy	0.323	10.931	0.000	0.544
Manufacturing Strategy	0.560	6.302		

IV. Discussions

Most of empirical studies showed that firms that could successfully implement those generic strategies in their business settings would outperform their competitors successfully. These studies also found that competitive strategy and manufacturing strategy could enhance the firm's performance.

Competitive strategy is a part of firm's internal element and it is a vital determinant factor for the export success, because this strategy influences export performance directly (Aaby & Slater, 1989). The findings of this research concurs to many past studies that found competitive strategy contributes significantly towards improving the firms export performance. According to the literature there are two types of competitive strategy which are commonly found in the small and medium types firms, that is differentiation strategy and focus strategy. Firms that pursue differentiation strategy tend to create unique image in the mind of customers by offering products that are inimitable by their competitors. The ability of these firms to offer differentiation in their products in terms of reliability, durability, features and aesthetics generates competitive advantage over their competitors and results in higher performance. In addition, by adopting focus strategy such as targeting a niche market, these firms have better chances of survival and growth rather than competing in a broad area to market their products.

The link between manufacturing strategy and export performance of manufacturing SMEs was investigated in this study. It was found that positive and significant relationship exists between manufacturing strategy and export performance. Thus adopting manufacturing strategy in the firm would result in higher export performance. However, the firm's ability to gain positive benefits from the manufacturing strategy will depend on the availability of resources, such that firms with higher availability of resources will be able to make better use of the strategy for achieving superior performance. This links well with resource-based view of the firm which postulates that the presence of assets that are difficult to imitate are associated with the firm's competitive advantage (Barney, 1991). The finding of this research concurs with many past studies that manufacturing strategy contributes significantly towards improving export performance.

The ability to regulate the manufacturing capacity instantaneously as part of the firms' flexibility ability in manufacturing strategy will enable them to meet greater demand from their customers while maintaining lower production cost and greater products quality. SMEs' flexibility to meet market demand will not only increase its goodwill but also retain customer loyalty and increase its export performance. Similarly, firms that emphasize on lead time reduction, set-up time reduction, are able to change priority on the job floor, able to change machine assignment and maintain high flexibility qualities could increase their market share and sales growth. Less wastage and theft on raw material would occur, as they would purchase their product inputs just in time which reduces chances of obsolesce of stock or damage to their resources. These firms may also increase the production capacity whilst utilizing their machinery efficiently. The ability to make on time delivery of product and reliability will capture higher customers' satisfaction which in turn would increase greater market share and sales growth. Those that are able to produce and deliver its products earlier that what was promised also retain customer satisfaction and trust which builds customer loyalty which, in turn could increase export performance. The firm's ability to delivery on time is an important determinant of a firm effectiveness in the eyes of a customer. An organization should have high order rates, short order cycle time, up-to-date shipping information and frequent delivery time as all these elements could build firms capabilities; increased customer satisfaction leads to higher market performance (Tracey et al., 1999). Therefore, firms that are able to increase their delivery value in the customer's eyes would increase their export performance (Cavusgil & Zou, 1994). The firm's ability to achieve low cost, high flexibility, dependability and quality is a form of manufacturing process that enables it to increase its competitive advantage based on manufacturing strategy (Cleveland et al., 1989; Hayes & Wheelwright, 1984; Hill, 2000; Vickery et al., 1993). Thus, the manufacturing strategy is a competency and advantage that a firm builds around its operation process that gives the firm a competitive advantage over the rivals.

V. Conclusion

This research adds to the existing knowledge by providing empirical evidence of the contribution of both competitive strategy and manufacturing strategy to export performance of SMEs in Malaysia. This research

also responds to calls for more exploration of the business strategy in an international context and its impact on performance. In addition, this research provides owner/managers of SMEs with more information for making right decisions in selecting appropriate strategies to achieve competitive advantage and enhance performance. These strategies act as an impetus that affects firm's manufacturing capabilities and competitive advantage which consequently have effects on export performance. Thus SME owner/managers should focus efforts on adopting competitive strategy and manufacturing strategy in order to realize the potential value of the international markets.

This study is a novel attempt to investigate the variables of influence to export performance of SMEs in Malaysia but it also contains several limitations. First the relatively low sample size may limit the generalizability of the findings. The resultant sample cannot be accurately described as a truly representative sample. Furthermore, the sample frame was based on a data set comprising only SMEs that were registered with the Federation of Malaysian Manufacturers (FMM), and there are many SMEs which were not registered with the FMM. Therefore, it would be meaningful in the future to conduct research by surveying a wider range of SMEs. Second, the use of a single respondent for each firm may be subject to common method bias. Only owner/managers of the firms were chosen to collect the data for the study. Although the owner/manager may be the key person in the SME, one person's authority cannot represent the entire strategy of the firm. In addition, the perceptual opinions of the owner/manager may be biased because of subjective judgments of his or her own firm. Nevertheless, necessary steps were taken to minimize any biases that may have resulted, and future research might consider employing multiple informants. The third limitation was the cross-sectional nature of the study. Cross-sectional study may only provide data of a snap shot at one point of time and does not provide information on changes in the firm environment. Thus, future research should consider the use of a longitudinal investigation that would allow firms to be studied over time and provide further insights into the dynamic nature behind the findings.

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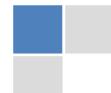
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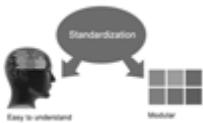
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Metric SI units are supposed to generally be used excluding where they conflict with current practice or are confusing. For illustration, 1.4 l rather than 1.4 × 10-3 m3, or 4 mm somewhat than 4 × 10-3 m. Chemical formula and solutions must identify the form used, e.g. anhydrous or hydrated, and the concentration must be in clearly defined units. Common species names should be followed by underlines at the first mention. For following use the generic name should be constricted to a single letter, if it is clear.

Structure

All manuscripts submitted to Global Journals Inc. (US), ought to include:

Title: The title page must carry an instructive title that reflects the content, a running title (less than 45 characters together with spaces), names of the authors and co-authors, and the place(s) wherever the work was carried out. The full postal address in addition with the e-mail address of related author must be given. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining and indexing.

Abstract, used in Original Papers and Reviews:

Optimizing Abstract for Search Engines

Many researchers searching for information online will use search engines such as Google, Yahoo or similar. By optimizing your paper for search engines, you will amplify the chance of someone finding it. This in turn will make it more likely to be viewed and/or cited in a further work. Global Journals Inc. (US) have compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

Key Words

A major linchpin in research work for the writing research paper is the keyword search, which one will employ to find both library and Internet resources.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy and planning a list of possible keywords and phrases to try.

Search engines for most searches, use Boolean searching, which is somewhat different from Internet searches. The Boolean search uses "operators," words (and, or, not, and near) that enable you to expand or narrow your affords. Tips for research paper while preparing research paper are very helpful guideline of research paper.

Choice of key words is first tool of tips to write research paper. Research paper writing is an art.A few tips for deciding as strategically as possible about keyword search:

- One should start brainstorming lists of possible keywords before even begin searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in research paper?" Then consider synonyms for the important words.
- It may take the discovery of only one relevant paper to let steer in the right keyword direction because in most databases, the keywords under which a research paper is abstracted are listed with the paper.
- One should avoid outdated words.

Keywords are the key that opens a door to research work sources. Keyword searching is an art in which researcher's skills are bound to improve with experience and time.

Numerical Methods: Numerical methods used should be clear and, where appropriate, supported by references.

Acknowledgements: Please make these as concise as possible.

References

References follow the Harvard scheme of referencing. References in the text should cite the authors' names followed by the time of their publication, unless there are three or more authors when simply the first author's name is quoted followed by et al. unpublished work has to only be cited where necessary, and only in the text. Copies of references in press in other journals have to be supplied with submitted typescripts. It is necessary that all citations and references be carefully checked before submission, as mistakes or omissions will cause delays.

References to information on the World Wide Web can be given, but only if the information is available without charge to readers on an official site. Wikipedia and Similar websites are not allowed where anyone can change the information. Authors will be asked to make available electronic copies of the cited information for inclusion on the Global Journals Inc. (US) homepage at the judgment of the Editorial Board.

The Editorial Board and Global Journals Inc. (US) recommend that, citation of online-published papers and other material should be done via a DOI (digital object identifier). If an author cites anything, which does not have a DOI, they run the risk of the cited material not being noticeable.

The Editorial Board and Global Journals Inc. (US) recommend the use of a tool such as Reference Manager for reference management and formatting.

Tables, Figures and Figure Legends

Tables: Tables should be few in number, cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g. Table 4, a self-explanatory caption and be on a separate sheet. Vertical lines should not be used.

Figures: Figures are supposed to be submitted as separate files. Always take in a citation in the text for each figure using Arabic numbers, e.g. Fig. 4. Artwork must be submitted online in electronic form by e-mailing them.

Preparation of Electronic Figures for Publication

Even though low quality images are sufficient for review purposes, print publication requires high quality images to prevent the final product being blurred or fuzzy. Submit (or e-mail) EPS (line art) or TIFF (halftone/photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Do not use pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings) in relation to the imitation size. Please give the data for figures in black and white or submit a Color Work Agreement Form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution (at final image size) ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs) : >350 dpi; figures containing both halftone and line images: >650 dpi.

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Upon approval of a paper for publication, the manuscript will be forwarded to the dean, who is responsible for the publication of the Global Journals Inc. (US).

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TECHNIQUES FOR WRITING A GOOD QUALITY RESEARCH PAPER:

1. Choosing the topic: In most cases, the topic is searched by the interest of author but it can be also suggested by the guides. You can have several topics and then you can judge that in which topic or subject you are finding yourself most comfortable. This can be done by asking several questions to yourself, like Will I be able to carry our search in this area? Will I find all necessary recourses to accomplish the search? Will I be able to find all information in this field area? If the answer of these types of questions will be "Yes" then you can choose that topic. In most of the cases, you may have to conduct the surveys and have to visit several places because this field is related to Computer Science and Information Technology. Also, you may have to do a lot of work to find all rise and falls regarding the various data of that subject. Sometimes, detailed information plays a vital role, instead of short information.

2. Evaluators are human: First thing to remember that evaluators are also human being. They are not only meant for rejecting a paper. They are here to evaluate your paper. So, present your Best.

3. Think Like Evaluators: If you are in a confusion or getting demotivated that your paper will be accepted by evaluators or not, then think and try to evaluate your paper like an Evaluator. Try to understand that what an evaluator wants in your research paper and automatically you will have your answer.

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7. Use right software: Always use good quality software packages. If you are not capable to judge good software then you can lose quality of your paper unknowingly. There are various software programs available to help you, which you can get through Internet.

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11. Revise what you wrote: When you write anything, always read it, summarize it and then finalize it.

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18. Pick a good study spot: To do your research studies always try to pick a spot, which is quiet. Every spot is not for studies. Spot that suits you choose it and proceed further.

19. Know what you know: Always try to know, what you know by making objectives. Else, you will be confused and cannot achieve your target.

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21. Arrangement of information: Each section of the main body should start with an opening sentence and there should be a changeover at the end of the section. Give only valid and powerful arguments to your topic. You may also maintain your arguments with records.

22. Never start in last minute: Always start at right time and give enough time to research work. Leaving everything to the last minute will degrade your paper and spoil your work.

23. Multitasking in research is not good: Doing several things at the same time proves bad habit in case of research activity. Research is an area, where everything has a particular time slot. Divide your research work in parts and do particular part in particular time slot.

24. Never copy others' work: Never copy others' work and give it your name because if evaluator has seen it anywhere you will be in trouble.

25. Take proper rest and food: No matter how many hours you spend for your research activity, if you are not taking care of your health then all your efforts will be in vain. For a quality research, study is must, and this can be done by taking proper rest and food.

26. Go for seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.

27. Refresh your mind after intervals: Try to give rest to your mind by listening to soft music or by sleeping in intervals. This will also improve your memory.

28. Make colleagues: Always try to make colleagues. No matter how sharper or intelligent you are, if you make colleagues you can have several ideas, which will be helpful for your research.

29. Think technically: Always think technically. If anything happens, then search its reasons, its benefits, and demerits.

30. Think and then print: When you will go to print your paper, notice that tables are not be split, headings are not detached from their descriptions, and page sequence is maintained.

31. Adding unnecessary information: Do not add unnecessary information, like, I have used MS Excel to draw graph. Do not add irrelevant and inappropriate material. These all will create superfluous. Foreign terminology and phrases are not apropos. One should NEVER take a broad view. Analogy in script is like feathers on a snake. Not at all use a large word when a very small one would be sufficient. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Amplification is a billion times of inferior quality than sarcasm.

32. Never oversimplify everything: To add material in your research paper, never go for oversimplification. This will definitely irritate the evaluator. Be more or less specific. Also too, by no means, ever use rhythmic redundancies. Contractions aren't essential and shouldn't be there used. Comparisons are as terrible as clichés. Give up ampersands and abbreviations, and so on. Remove commas, that are, not necessary. Parenthetical words however should be together with this in commas. Understatement is all the time the complete best way to put onward earth-shaking thoughts. Give a detailed literary review.

33. Report concluded results: Use concluded results. From raw data, filter the results and then conclude your studies based on measurements and observations taken. Significant figures and appropriate number of decimal places should be used. Parenthetical remarks are prohibitive. Proofread carefully at final stage. In the end give outline to your arguments. Spot out perspectives of further study of this subject. Justify your conclusion by at the bottom of them with sufficient justifications and examples.

34. After conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print to the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects in your research.

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Key points to remember:

- Submit all work in its final form.
- Write your paper in the form, which is presented in the guidelines using the template.
- Please note the criterion for grading the final paper by peer-reviewers.

Final Points:

A purpose of organizing a research paper is to let people to interpret your effort selectively. The journal requires the following sections, submitted in the order listed, each section to start on a new page.

The introduction will be compiled from reference matter and will reflect the design processes or outline of basis that direct you to make study. As you will carry out the process of study, the method and process section will be constructed as like that. The result segment will show related statistics in nearly sequential order and will direct the reviewers next to the similar intellectual paths throughout the data that you took to carry out your study. The discussion section will provide understanding of the data and projections as to the implication of the results. The use of good quality references all through the paper will give the effort trustworthiness by representing an alertness of prior workings.

Writing a research paper is not an easy job no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record keeping are the only means to make straightforward the progression.

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To make a paper clear

· Adhere to recommended page limits

Mistakes to evade

- Insertion a title at the foot of a page with the subsequent text on the next page
- Separating a table/chart or figure - impound each figure/table to a single page
- Submitting a manuscript with pages out of sequence

In every sections of your document

· Use standard writing style including articles ("a", "the," etc.)

· Keep on paying attention on the research topic of the paper

· Use paragraphs to split each significant point (excluding for the abstract)

· Align the primary line of each section

· Present your points in sound order

· Use present tense to report well accepted

· Use past tense to describe specific results

· Shun familiar wording, don't address the reviewer directly, and don't use slang, slang language, or superlatives

· Shun use of extra pictures - include only those figures essential to presenting results

Title Page:

Choose a revealing title. It should be short. It should not have non-standard acronyms or abbreviations. It should not exceed two printed lines. It should include the name(s) and address (es) of all authors.

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The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript--must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

An abstract is a brief distinct paragraph summary of finished work or work in development. In a minute or less a reviewer can be taught the foundation behind the study, common approach to the problem, relevant results, and significant conclusions or new questions.

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- Fundamental goal
- To the point depiction of the research
- Consequences, including <u>definite statistics</u> - if the consequences are quantitative in nature, account quantitative data; results of any numerical analysis should be reported
- Significant conclusions or questions that track from the research(es)

Approach:

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- As a outline of job done, it is always written in past tense
- A conceptual should situate on its own, and not submit to any other part of the paper such as a form or table
- Center on shortening results - bound background information to a verdict or two, if completely necessary
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- Shield the model - why did you employ this particular system or method? What is its compensation? You strength remark on its appropriateness from a abstract point of vision as well as point out sensible reasons for using it.
- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

Approach:

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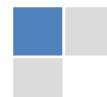
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- Shape the theory/purpose specifically - do not take a broad view.
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- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

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- Report the method (not particulars of each process that engaged the same methodology)
- Describe the method entirely
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- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
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Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently.You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.

Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
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- Present a background, such as by describing the question that was addressed by creation an exacting study.
- Explain results of control experiments and comprise remarks that are not accessible in a prescribed figure or table, if appropriate.
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- Do not discuss or infer your outcome, report surroundings information, or try to explain anything.
- Not at all, take in raw data or intermediate calculations in a research manuscript.
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Approach

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- Give details all of your remarks as much as possible, focus on mechanisms.
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Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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