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Organizational Culture and Employees Performance in the National Agency for Food and Drugs Administration and Control (NAFDAC) Nigeria

By Mba Okechukwu Agwu
Niger Delta University, Nigeria

Abstract- The paper discussed organizational culture and employees' performance in the National Agency for Food and Drugs Administration and Control (NAFDAC), Nigeria. It views organizational culture as shared values, beliefs and norms that influence the way employees think, feel and behave in the workplace. It assumes that a positive organizational culture will enhance employees' performance. The research question addressed the extent of the relationship between organizational culture and increased employees commitment/productivity in NAFDAC. The place of study consists of the 6 zonal and 36 state offices of NAFDAC in Nigeria while the duration of study is between February 2013 and January 2014. A descriptive research design was used in executing the study using 420 (judgmentally determined) randomly selected NAFDAC employees from its zonal/state offices in Nigeria for questionnaire administration.

Keywords: *organizational culture, employees' commitment, employees' productivity, NAFDAC.*

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Organizational Culture and Employees Performance in the National Agency for Food and Drugs Administration and Control (NAFDAC) Nigeria

Mba Okechukwu Agwu

Abstract- The paper discussed organizational culture and employees' performance in the National Agency for Food and Drugs Administration and Control (NAFDAC), Nigeria. It views organizational culture as shared values, beliefs and norms that influence the way employees think, feel and behave in the workplace. It assumes that a positive organizational culture will enhance employees' performance. The research question addressed the extent of the relationship between organizational culture and increased employees commitment/productivity in NAFDAC. The place of study consists of the 6 zonal and 36 state offices of NAFDAC in Nigeria while the duration of study is between February 2013 and January 2014. A descriptive research design was used in executing the study using 420 (judgmentally determined) randomly selected NAFDAC employees from its zonal/state offices in Nigeria for questionnaire administration. Data collected were analyzed using descriptive and inferential statistics. Results from the data analysis indicated that significant relationship exists between organizational culture and increased employees commitment/productivity in NAFDAC and recommends among others: continuous staff training, increased government funding, continuous improvement of employees' condition of service, continuous improvement of employees' condition of service, sustenance of the prevailing organizational culture of decentralization and current team building efforts.

Keywords: *organizational culture, employees' commitment, employees' productivity, NAFDAC.*

1. INTRODUCTION

People are constantly surrounded by culture (often invisible) that forms the background of their work-lives in organizations. Organizational culture provides a powerful mechanism for controlling behavior by influencing how we view the world around us. Organizations do not exist in a vacuum but in a specific culture or socio-cultural environment that influence the way their employees think, feel and behave. Work place culture is a very powerful force that influences an employee's work life. It is the very thread that holds the organization together. Hence, managers and employees do not work in a value-free environment; they are

governed, directed and tempered by the organization's culture (Ritchie, 2000). Thus, organizational culture has a strong influence on employees' performance and work attitude. For employees, it is either the glue that bonds people to an organization or what drives them away. It involves standards and norms that prescribe employees behavior in a workplace (Martins & Martins, 2003). Hence, organizational culture is the underlying values, beliefs, principles and practices that constitute its management system (Denison, 1990).

The corporate culture of an organization depends on its environment, objectives, belief system and management style. Hence, the prevailing collaborative culture (decentralized work force with integrated units) in NAFDAC was informed by the nature and area of coverage of its activities (regulation and control of pharmaceuticals, foods, drugs, cosmetics, beverages and packaged water all over Nigeria). A strong corporate culture indicates that employees are like-minded and hold similar beliefs/ethical values while a weak corporate culture indicates that employees are unlike-minded and hold dissimilar beliefs/ethical values. Thus, organizations can only achieve their goals by aligning their corporate culture with their performance management system. In adopting a collaborative culture in the execution of its activities NAFDAC empowers its employees to exercise greater control/autonomy over their work thus influencing their job performance, commitment, self-confidence and self-esteem. It is against this background that it becomes pertinent to discuss organizational culture and employees' performance in NAFDAC, Nigeria.

a) *Statement of The Problem*

The excellent results achieved by NAFDAC in its fight against fake and counterfeit drugs, since its reorganization in April, 2001, as evidenced by the public destruction of about 2 billion Naira worth of fake drugs and the launching of the world's first anti-counterfeiting mobile authentication message using short message service (SMS) for end-patient regulated medication authentication. This technology has put the power of detecting counterfeit regulated products in the hands of more than 60 million Nigerian cell phone users, thus

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detecting counterfeit regulated products in the hands of more than 60 million Nigerian cell phone users, thus enlisting them in the battle against counterfeiting. In addition to the black eye technology deployed in screening many drug samples, the agency has also launched the radio frequency identification (RFID) system, used in the verification of regulated products and documents. The system has the potential to track and trace regulated products and prevent forgery of sensitive documents.

To strengthen the anti-fake drug war, the agency is currently seeking to undertake a review of its laws to impose life-term jail, confiscation of assets upon conviction and compensation for victims where the counterfeit product is found to be the proximate cause of death or severe bodily injury of the victims. The law also seeks to make this a non-bill able offence. There are also credible reports about improved international collaborations which have resulted to a number of remarkable achievements. Such collaborations have led to the Indian Parliament enacting, for the first time, a law making it a criminal offence punishable by life imprisonment the manufacture and distribution of fake pharmaceutical products. The aforementioned giant strides by NAFDAC in its fight against fake and counterfeit drugs would not have been possible without a strong organizational culture that encourages increased employees commitment and productivity.

b) *Research Objectives*

The objectives of the research are as follows:

- i. To determine the extent of the relationship between organizational culture and increased employees' commitment in NAFDAC.
- ii. To determine the extent of the relationship between organizational culture and increased employees' productivity in NAFDAC.

c) *Research Questions*

Many factors influence people in organizations, but not all are considered when trying to understand the behavior of people at work, the most frequently overlooked factor is the influence of organizational culture on employees' performance; hence the research is focused on the following research questions:

- i. Does any significant relationship exist between organizational culture and increased employees' commitment in NAFDAC?
- ii. Does any significant relationship exist between organizational culture and increased employees' productivity in NAFDAC?

d) *Research Hypotheses*

In view of the above research questions, the following null hypotheses were formulated:

1H0: There is no significant relationship between organizational culture and increased employees' commitment in NAFDAC.

2H0: There is no significant relationship between organizational culture and increased employees' productivity in NAFDAC.

e) *Literature Review*

Earlier studies indicated a relationship between organizational culture and employees' performance. Magee (2002) argued that organizational culture is inherently connected to organizational practices which in turn influence employees' performance. Hellriegel & Slocum (2009) contend that organizational culture can enhance employees' performance if what sustains it can be understood. Thus, the culture of an organization acquaints employees with the firm's history as well as current methods of operation that guide employees on expected and acceptable future organizational behaviors and norms. Some theoretical models assert that effective human resource system is based on supporting values, that create a positive impact on employees' attitudes and behaviors which in turn influence their performance (Ferris et al., 1998). From numerous "culture surveys" it has been claimed that employee performance can be improved by developing and creating certain kinds of organizational cultures (Sackman and Bertelsman, 2006 and Denison, 1990.). Martin and Siehl (1990) argued that organizational culture is theoretically related to performance and have positive influence on it. Bowen and Ostroff (1989) observed the role of culture in nurturing, sustaining and enhancing employees' performance in organizations. Kopelman et al. (1990) observed that organizational culture aids coordination of assignments and minimizes inefficiency in resource utilization. Employees need a supportive organizational culture to attain their individual objectives. According to Furnham and Gunter (1993), organizational culture functions as the internal integration and coordination between a firm's operations and its employees, where it fails to fulfill these functions to a satisfactory level, employees may be influenced negatively. A positive culture supports adaptation and enhances employees' performance by motivating, shaping and channeling their behaviors towards the attainment of corporate objectives (Daft, 2010). A firm's mission reflects its ultimate long term objective which is accomplished by conducting integrated operational and behavioral activities. A firm's performance improves if it has a clear sense of purpose and commitment towards its mission.

Academics and practitioners argue that the performance of an organization is dependent on the degree to which the values of its are widely shared (Kotter and Heskett, 1992). Similarly, it is widely argued that shared and strongly held values enable management to predict employees reactions to certain strategic options and by reducing these values, the consequences maybe undesirable (Ogbonna, 1993). Denison (1984) found, in his study of organizational

culture, that companies with a participative culture reaped a return on investment, which averaged nearly twice that of firms with less efficient cultures. His conclusion was that cultural and behavioral aspects of organizations were intimately linked to both short-term performance and long-term survival.

f) Conceptual Framework

Organizational culture is the set of shared values, beliefs, and norms that influence the way employees think, feel, and behave in the workplace (Schein, 2011). Morgan (1997) views organizational culture as the collection of traditions, values, beliefs, policies and attitudes that constitute a pervasive context for everything one does and thinks in an organization. Collins and Porras (2000) opined that organizational culture refers to a system of shared meaning held by members that distinguish one organization from other organizations. They believe that this shared meaning consists of seven key characteristics: innovation and risk-taking, attention to detail, outcome orientation, people orientation, team orientation, aggressiveness and stability. Organizational culture has the potential to enhance organizational performance, employee job satisfaction and a sense of certainty about problem solving (Kotter, 2012). If it becomes incongruent with the changing expectations of internal/external stakeholders, the organization's effectiveness can decline (Ernst, 2001).

For a business, organizational culture is either a force for change or a definite barrier to it; hence managers are increasingly challenged with changing an organization's culture to support new ways of accomplishing work. According to Nelson & Quick, (2011), organizational culture performs four functions: gives members a sense of identity, increases their commitment, reinforces organizational value and serves as a control mechanism for shaping behavior. It is important to note that leaders shape and reinforce culture by what they pay attention to, how they behave, how they allocate rewards and how they hire and fire individuals.

Organizational culture and employees' performance are clearly related though the exact nature of this relationship is mixed (Kopelman, Brief, & Guzzo, 1990). Studies have shown that the relationship between many cultural attributes and employees' performance has not been consistent over time (Denison, 1990; Sorenson, 2002). According to Bulach, Lunenburg, & Potter (2012), the effects of organizational culture on employee behavior and performance can be summarized thus: First, knowing the culture of an organization allows employees to understand both the organization's history and current methods of operation. Second, organizational culture can foster commitment to the organization's philosophy and values. Third, organizational culture, through its norms, serves as a

control mechanism to channel behaviors toward desired behaviors. Finally, certain types of organizational cultures may be related directly to greater effectiveness and productivity than others.

The effect of organizational culture on employees' performance partly depends on its strength (how widely and deeply employees hold corporate dominant values and assumptions). In a strong organizational culture, most employees across all subunits hold the dominant values. These values are also institutionalized through well-established artefacts, thereby making it difficult for those values to change. Furthermore, strong cultures tend to be long-lasting; some can be traced back to company founder's values and assumptions. In contrast, companies have weak culture when the dominant values are short-lived and held mainly by a few people at the top of the organization. Robbins (2001) observed that corporate culture does not pop out of thin air and once it is established, it does not fade away. He further emphasized that the founders of an organization have a major impact on its early culture because they have a vision of what the organization should be.

g) Theoretical Framework

This research is based on Thomas Peters and Robert Waterman (2006) theory of organizational excellence which states that organizational culture is closely tied to the success of best-run American companies which are characterized by these attributes: a bias toward action; close to the customer; autonomy and entrepreneurship; productivity through people; hands-on, value-driven effort; sticking to the knitting; simple form, lean staff and simultaneous loose-tight properties. The decentralized organizational culture of NAFDAC possess these identified attributes and are most probably responsible for the giant strides made by NAFDAC in its fight against fake and counterfeit drugs in Nigeria.

Organizational excellence in NAFDAC can be traced to its corporate culture attributes:

A Bias toward Action- NAFDAC is continuously experimenting and developing new techniques (anti-counterfeiting mobile authentication message, black eye technology etc.) for identification and elimination of fake and counterfeit drugs.

Close to the Customer- NAFDAC carries out pre-shipment and destination inspection of all Nigerian bound drugs in their countries of origin to eliminate importation of fake and counterfeit drugs in Nigeria.

Autonomy and Entrepreneurship- NAFDAC values autonomy and entrepreneurship as an attribute of its corporate culture by encouraging innovation and risk taking among its employees through the introduction of incentives for new techniques development.

Productivity through People - NAFDAC demonstrates a belief in their employees through shared decision making, absence of rigidity of command and encouragement for new ideas. Organizations like NAFDAC that manifest high levels of trust in subordinates, use participatory decision making, listen to and use employees' ideas/show concern for their welfare is practicing "productivity through people."

Hands-On, Value-Driven Effort- NAFDAC pays explicit attention to cultural values and devotes substantial effort to promoting and clarifying core values to its employees. Strong-culture organizations like NAFDAC that emphasize high achievement levels for company/employees are practicing "hands-on, value-driven effort."

Sticking to the Knitting- Organizations stay in businesses they know how best to run. NAFDAC only concentrates on identification and elimination of fake and counterfeit drugs in Nigeria.

Simple Form, Lean Staff- NAFDAC keeps small corporate staff and does not use complex matrix organizational structures by sharing decision making authority among its employees.

Simultaneous Loose - Tight Properties-NAFDAC exhibits both tight and loose couplings. It is tight about cultural values and loose or decentralized about autonomy, providing individuals throughout the organization room to perform.

h) *Legal Framework*

NAFDAC was formed to checkmate illicit and counterfeit products in Nigeria in 1993 under the country's health and safety law. Its formation was inspired by a 1988 World Health Assembly resolution requesting countries' help in combating the global health threat posed by counterfeit pharmaceuticals. In December 1992, NAFDAC's first governing council was formed. The council was chaired by Tanimu Saulawa. In January 1993, a supporting legislation was approved as legislative Decree No. 15 of 1993. On January 1, 1994 NAFDAC was officially established as a parastatal of the Federal Ministry of Health. It is headed by a chairman who presides over a governing council appointed by the president on the recommendation of the Minister of Health.

According to the requirements of its enabling decree, the Agency was authorized to.

- Regulate and control the importation, exportation, manufacture, advertisement, distribution, sale and use of drugs, cosmetics, medical devices, bottled water and chemicals.
- Conduct appropriate tests and ensure compliance with standard specifications designated and approved by the council for the effective control of quality of food, drugs, cosmetics, medical devices, bottled water and chemicals.

- Undertake appropriate investigation into the production premises and raw materials for food, drugs, cosmetics, medical devices, bottled water and chemicals and establish a relevant quality assurance system, including certification of the production sites of the regulated products.
- Undertake inspection of imported foods, drugs, cosmetics, medical devices, bottled water, and chemicals and establish a relevant quality assurance system, including certification of the production sites of the regulated products.
- Compile standard specifications, regulations, and guidelines for the production, importation, exportation, sale and distribution of food, drugs, cosmetics, medical devices, bottled water and chemicals.
- Undertake the registration of food, drugs, medical devices, bottled water and chemicals.
- Control the exportation and issue quality certification of food, drugs, medical devices, bottled water and chemicals intended for export.
- Establish and maintain relevant laboratories or other institutions in strategic areas of Nigeria as may be necessary for the performance of its functions.

NAFDAC envisions that by making these functions known, that its actions will be apparent in all sectors that deal with food, cosmetics, medical devices, bottled water and chemicals to the extent of instilling extra need for caution and compulsion to respect and obey existing regulations both for healthy living and knowledge of certain sanctions or default.

II. MATERIALS AND METHODS

The scope of this research is limited to the employees of NAFDAC in Nigeria. It is assumed that responses obtained from the sample respondents would be representative of the opinions of all NAFDAC employees on organizational culture and employees' performance in its 6 zonal and 36 state offices in Nigeria. The duration of study is between February 2013 and January 2014. The core aspect of the study is the use of cross sectional survey research design in generating the required primary data. A sample of 420 randomly selected respondents was used for question nairead ministration. The sample size of 420 was judgmentally determined by selecting ten respondents from each of the 6 zonal and 36 state offices of NAFDAC in Nigeria.

For the purposes of questionnaire administration, the sample respondents were selected from the 6 zonal and 36 state offices of NAFDAC by random shuffling of cards method, ten respondent seach from the 42(6+36)NAFDAC offices. Each employee's name was written on a small card and the name on the top most card was selected each time, the

cards were shuffled. This was done continuously until all the sample respondents were selected. To avoid one name being selected twice or more, the selection of the topmost card was done without replacement. Data collected we reanalyzed using descriptive and inferential statistics. The questionnaire was designed toobta in a fair representation of the opinions of the 420 sample respondents using a four-point Like rt type scale. The questionnaire responses of the sample respondents were presented using tables while formulated hypotheses were tested using analysis of variance (ANOVA).A total of 420 copies of the questionnaire were administered, collected and used for the analysis.

1, 2, 3, 4, and 5 with varying mean scores of 3.17, 3.02, 2.81, 2.88 and 2.79 were above the weighted average of 2.5. The table further revealed a grand mean score of 2.93 indicating a strong evidence of the existence of a significant relationship between organizational culture and increased employees' commitment in NAFDAC. This conclusion is buttressed by the observation of Bulach, Lunenburg, & Potter (2012) that organizational culture can foster commitment to the organization's philosophy and values.

III. RESULTS AND DISCUSSIONS

a) Distribution of Responses on Research Questions

Does any significant relationship exist between organizational culture and increased employees' commitment in NAFDAC? Table 1 shows that questions:

Table 1 : Mean responses on the relationship between organizational culture and increased employees' commitment in NAFDAC (n=420)

S/No.	Research Questions	SA(4)	A(3)	D(2)	SD(1)	Total Responses	Mean Score
1.	Does NAFDAC's organizational culture of decentralization increase employees' commitment to the agency?	200 800	120 360	70 140	30 30	1330	3.17
2.	Does NAFDAC's organizational culture of decentralization enhance employees' job satisfaction in the agency?	170 680	130 390	80 160	40 40	1270	3.02
3.	Does NAFDAC's organizational culture of decentralization create a positive employees' job attitude in the agency?	140 560	120 360	100 200	60 60	1180	2.81
4.	Does NAFDAC's organizational culture of decentralization provide employees' with greater intrinsic rewards than other traditional means of governance?	160 640	110 330	90 180	60 60	1210	2.88
5.	Does NAFDAC's organizational culture of decentralization create a sense of ownership in policy execution among employees' of the agency?	150 600	100 300	100 200	70 70	1170	2.79
Grand Mean							2.93

Source: Field Survey, 2014.

i. *Question number 2*

Does any significant relationship exist between organizational culture and increased employees' productivity in NAFDAC?

Table 2 shows that questions: 6, 7, 8, 9, and 10 with mean scores of 2.98, 2.74, 3.07, 2.86 and 2.99 were above the weighted average of 2.5. The grand mean of 2.93 shows that there is a strong evidence of a significant relationship between organizational culture

and increased employees' productivity in NAFDAC. This conclusion is buttressed by Ojo (2009) observation of a positive relationship between corporate culture and employee job performance in the Nigerian banking industry. Also, the conclusion is supported by Daft (2010) observation that a positive organizational culture enhances employees' performance by motivating, shaping and channeling their behaviors towards the attainment of corporate objectives.

Table 2: Mean responses on the relationship between organizational culture and increased employees' productivity in NAFDAC (n=420)

S/No.	Research Questions	SA(4)	A (3)	D(2)	SD(1)	Total Responses	Mean Score
6.	Does NAFDAC's organizational culture of decentralization increase employees' individual output in the agency?	180	100	90	50	1250	2.98
		720	300	180	50		
7.	Does NAFDAC's organizational culture of decentralization bring about improved organizational performance in the agency?	140	110	90	80	1150	2.74
		560	330	180	80		
8.	Does NAFDAC's organizational culture of decentralization bring about greater flexibility and increased workflow in the agency?	200	100	70	50	1290	3.07
		800	300	140	50		
9	Does NAFDAC's organizational culture of decentralization bring about production efficiency in the agency?	150	120	90	60	1200	2.86
		600	360	180	60		
10	Does NAFDAC's organizational culture of decentralization bring about cost effectiveness in the agency?	175	115	80	50	1255	2.99
		700	345	160	50		
Grand Mean							2.93

Source: Field Survey, 2014.

b) *Test of the First Hypothesis*

Ho: There is no significant relationship between organizational culture and increased employees' commitment in NAFDAC.

H1: There is a significant relationship between organizational culture and increased employees' commitment in NAFDAC.

Table 3: Computation of Statistical Variables on the First Hypothesis from table 1

S/No.	Strongly Agree		Agree		Disagree		Strongly Disagree	
	X	X ²	X	X ²	X	X ²	X	X ²
1	200	40000	120	14400	70	4900	30	900
2	170	28900	130	16900	80	6400	40	1600
3	140	19600	120	14400	100	10000	60	3600
4	160	25600	110	12100	90	8100	60	3600

5	150	22500	100	10000	100	10000	70	4900
Totals	820	136600	580	67800	440	39400	260	14600

Source: Survey Data, 2014

Calculation of total sum of squares (SS_T)

$$SS_T = \sum_{i=1}^c \sum_{j=1}^{n_i} (X_{ij} - \bar{X}_i)^2$$

$$\sum X^2 = 136600 + 67800 + 39400 + 14600 = 258400$$

$$\frac{\sum (X)^2}{N} = \frac{(820 + 580 + 440 + 260)^2}{20} = 220500$$

$$SS_T = 258400 - 220500 = 37900$$

$$SS_T = 37900$$

Calculation of between group sum of squares (SS_B)

$$SS_B = \sum_{i=1}^c n_i (\bar{X} - \bar{X})^2$$

$$\frac{\sum (X)^2}{n} = \frac{(820)^2}{5} + \frac{(580)^2}{5} + \frac{(440)^2}{5} + \frac{(260)^2}{5}$$

$$= 134480 + 67280 + 38720 + 13520 = 254000$$

$$\frac{\sum (X)^2}{N} = \frac{(820 + 580 + 440 + 260)^2}{20} = 220500$$

$$SS_B = 254000 - 220500 = 33500$$

$$SS_B = 33500$$

Calculation of within group sum of squares (SS_w)

$$SS_w = \sum_{i=1}^c \sum_{j=1}^{n_i} (X_{ij} - \bar{X})^2 \text{ or } SS_w = SS_T - SS_B$$

$$SS_T - SS_B = 37900 - 33500 = 4400$$

$$SS_w = 4400$$

Calculation degrees of freedom

$$SS_T \text{ df} = N - 1 = 20 - 1 = 19$$

$$SS_B \text{ df} = n - 1 = 4 - 1 = 3$$

$$SS_w \text{ df} = n - 1 + n - 1 + n - 1 + n - 1 = 4n - 4 = 4(5) - 4 = 20 - 4 = 16$$

Calculation of Variances

Between group variance (S_B²) = $\frac{\text{Between group sum of squares (SS}_B\text{)}}{\text{Between group degree of freedom}}$

$$S_B^2 = \frac{\sum_{i=1}^c n_i (\bar{X}_i - \bar{X})^2}{c - 1}$$

$$S_B^2 = \frac{33500}{3} = 11166.67$$

Within group variance (S_w²) = $\frac{\text{Within group sum of squares (SS}_w\text{)}}{\text{Within group degree of freedom}}$

$$S_w^2 = \frac{\sum_{i=1}^c \sum_{j=1}^{n_i} (X_{ij} - \bar{X}_i)^2}{n - c}$$

$$S_w^2 = \frac{4400}{16} = 275$$

$$F\text{-value} = F_{df_1, df_2} = \frac{S_B^2}{S_w^2} = \frac{\text{Between group variance}}{\text{Within group variance}} = \frac{11166.67}{275} = 40.61$$

Table 4 shows that calculated F-Value of 40.61 resulted from the relationship between organizational culture and increased employees' commitment in NAFDAC. This calculated F-Value is significant since it is greater than the critical F-Value of 5.29 given 3/16 degree of freedom at 0.01 level of significance. Hence, the null hypothesis is rejected while the alternative is

accepted. This shows that there is a significant relationship between organizational culture and increased employees' commitment in NAFDAC.

Table 4 : Computation of Analysis of Variance on the relationship between organizational culture and increased employees' commitment in NAFDAC

Source of variance	Sum of squares	Degree of freedom	Mean sum of squares	Calculated F-value	Table critical F-value	Decision
Between groups	33500	3	11166.67	40.61	5.29	H_0 : Rejected
Within group	4400	16	275			
Total	37900	19				

Source: Survey Data, 2014

c) Test of the Second Hypothesis

H_0 : There is no significant relationship between organizational culture and increased employees' productivity in NAFDAC.

H_1 : There is a significant relationship between organizational culture and increased employees' productivity in NAFDAC.

Table 5 : Computation of Statistical Variables on the second Hypothesis from table 2

S/No.	Strongly Agree		Agree		Disagree		Strongly Disagree	
	X	X ²	X	X ²	X	X ²	X	X ²
6	180	32400	100	10000	90	8100	50	2500
7	140	19600	110	12100	90	8100	80	6400
8	200	40000	100	10000	70	4900	50	2500
9	150	22500	120	14400	90	8100	60	3600
10	175	30625	115	13225	80	6400	50	2500
Totals	845	145125	545	59725	420	35600	290	17500

Source: Survey Data, 2014

Calculation of total sum of squares (SS_T)

$$SS_T = \sum_{i=1}^c \sum_{j=1}^{n_i} (X_{ij} - \bar{X}_i)^2$$

$$\sum X^2 = 145125 + 59725 + 35600 + 17500 = 257950$$

$$\sum \frac{(X)^2}{N} = \frac{(845 + 545 + 420 + 290)^2}{20} = 220500$$

$$SS_T = 257950 - 220500 = 37450$$

$$SS_T = 37450$$

Calculation of between group sum of squares (SS_B)

$$SS_B = \sum_{i=1}^c n_i (\bar{X} - \bar{X}_i)^2$$

$$\sum \frac{(X)^2}{n} = \frac{(845)^2}{5} + \frac{(545)^2}{5} + \frac{(420)^2}{5} + \frac{(290)^2}{5}$$

$$= 142805 + 59405 + 35280 + 16820 = 254310$$

$$\sum \frac{(X)^2}{N} = \frac{(845 + 545 + 420 + 290)^2}{20} = 220500$$

$$SS_B = 254310 - 220500 = 33810$$

$$SS_B = 33810$$

Calculation of within group sum of squares (SS_W)

$$SS_W = \sum_{i=1}^c \sum_{j=1}^{n_i} (X_{ij} - \bar{X})^2 \text{ or } SS_W = SS_T - SS_B$$

$$SS_W = SS_T - SS_B = 37450 - 33810 = 3640$$

$$SS_W = 3640$$

Calculation of Degrees of Freedom

$$SS_T \text{ df} = N - 1 = 20 - 1 = 19$$

$$SS_B \text{ df} = n - 1 = 4 - 1 = 3$$

$$SS_W \text{ df} = n - 1 + n - 1 + n - 1 + n - 1 = 4n - 4 = 4(5) - 4 = 20 - 4 = 16$$

Calculation of Variances

Between group variance (S_B^2) = $\frac{\text{Between group sum of squares (SS}_B\text{)}}{\text{Between group degree of freedom}}$

$$S_B^2 = \frac{\sum_{i=1}^c n_i (\bar{X}_i - \bar{X})^2}{c-1}$$

$$S_B^2 = \frac{33810}{3} = 11270$$

Within group variance (S_W^2) = $\frac{\text{Within group sum of squares (SS}_W\text{)}}{\text{Within group degree of freedom}}$

$$S_W^2 = \frac{\sum_{i=1}^c \sum_{j=1}^{n_i} (X_{ij} - \bar{X}_i)^2}{n-c}$$

$$S_W^2 = \frac{3640}{16} = 227.5$$

$$F\text{-value} = F_{df_1, df_2} = \frac{S_B^2}{S_W^2} = \frac{\text{Between group variance}}{\text{Within group variance}} = \frac{11270}{227.5} = 49.54$$

Table 6 shows that calculated F-Value of 49.54 resulted from the relationship between organizational culture and increased employees' productivity in NAFDAC. This calculated F-Value is significant since it is greater than the critical F-Value of 5.29 given 3/16

degree of freedom at 0.01 level of significance. Hence, the null hypothesis is rejected while the alternative is accepted. This shows that there is a significant relationship between organizational culture and increased employees' productivity in NAFDAC.

Table 6 : Computation of Analysis of Variance on the relationship between organizational culture and increased employees' productivity in NAFDAC

Source of variance	sum of square	Degree of freedom	Mean sum of square	Calculate F-value	Table critical F-value	Decision
Between group	33810	3	11270	49.54	5.29	H_0 : Rejected
Within group	3640	16	227.5			
Total	37450	19				

IV. CONCLUSION AND RECOMMENDATIONS

The paper discussed organizational culture and employees' performance in the National Agency for Food and Drugs Administration and Control (NAFDAC), Nigeria. It assumes that a positive organizational culture will enhance employees' performance. The three major findings of the research are as follows:

- NAFDAC's organizational culture of decentralization provides employees' with greater intrinsic rewards than other traditional means of governance.
- There is a significant relationship between organizational culture and increased employees' commitment in NAFDAC.
- There is a significant relationship between organizational culture and increased employees' productivity in NAFDAC.

Arising from the findings of this paper, it is suggested that federal government and NAFDAC management should take the following measures to sustain the current high standard of employees' performance in the agency:

a) *Continuous staff training*

NAFDAC management should ensure regular training/re-training of staff to ensure that they acquire the latest skills in executing their jobs.

b) *Increased government funding*

The federal governments should increase NAFDAC' sbudgetary allocation, so that more funds will be available for the acquisition of the latest technology on illicit drug detection and control.

c) *Continuous improvement of employees' condition of service*

The condition of service of NAFDAC's employees' should be reviewed on a regular basis to ensure high level of staff morale, autonomy in decision making and discipline in their fight against fake drugs.

d) *Sustenance of the prevailing organizational culture of decentralization*

NAFDAC management should sustain the current organizational culture of decentralization to sustain flexibility of operation and quick decision making.

e) *Sustenance of Current Team Building Efforts*

The current team building efforts in NAFDAC should be sustained/improved to promote the integrated strategy in combating fake and counterfeit products in Nigeria.

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V COMPETING INTERESTS

The author has declared that no competing interests exist.

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A Softwares Ability Link for Service-Oriented Architectures

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Abstract- Business intelligence is employed to explain applications and technologies that area unit wont to gather, offer access to and analyze knowledge and data regarding the organization, to assist Create higher business choices. A Business Intelligence Networks area unit 2 thing: first, Associate in Nursing rising conception for the agile composition of e-business worth chains, and second a brand new stream of analysis. whereas there a coherent vision of Business Intelligence Networks and therefore the associated practicality, there's meager understanding of why making and maintaining such infrastructure and networks is as tough as being knowledgeable about in real-world situations. during this work trace back the quality of partner choice, method composition, and execution watching to the shortage of linguistics within the description of system components in Intelligence Networks surroundings, and its propose a service-oriented design as a the foundational layer for future Business Networks, and show however our approach considerably reduces the quality of the core network management tasks by lifting them to the next level of abstraction.

Keywords: service-oriented architecture, business intelligence, semantic layered architecture.

GJMBA Classification: JEL Code: M10



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A Software's Ability Link for Service-Oriented Architectures

C. K. Gomathy ^α & Dr. S. Rajalakshmi ^σ

Abstract- Business intelligence is employed to explain applications and technologies that area unit wont to gather, offer access to and analyze knowledge and data regarding the organization, to assist Create higher business choices. A Business Intelligence Networks area unit 2 thing: first, Associate in Nursing rising conception for the agile composition of e-business worth chains, and second a brand new stream of analysis. whereas there a coherent vision of Business Intelligence Networks and therefore the associated practicality, there's meager understanding of why making and maintaining such infrastructure and networks is as tough as being knowledgeable about in real-world situations. during this work trace back the quality of partner choice, method composition, and execution watching to the shortage of linguistics within the description of system components in Intelligence Networks surroundings, and its propose a service-oriented design as a the foundational layer for future Business Networks, and show however our approach considerably reduces the quality of the core network management tasks by lifting them to the next level of abstraction.

Keywords: *service-oriented architecture, business intelligence, semantic layered architecture.*

I. INTRODUCTION

The trend in e-commerce and e-business is characterized by a fragmentation useful Chains and versatile outsourcing supported the ad-hoc integration of services, that together ends up in bleary boundaries of Associate in Nursing enterprise. These phenomena might eventually result in Business Intelligence Networks. during this context it's fascinating to notice the parallel emergence of 2 innovative however presently unconnected developments: 1st, Business Intelligence Networks analysis, having its roots in Management Science and data Systems, and second linguistics internet Services frameworks presently driven chiefly by analysis Communities in applied science. it's targeted and its target the primary one: what's the role and impact of recent technologies on the creation and operation useful chains and visiting the service attractions, that is one in all the liveliest domains in e-commerce, might function Associate in Nursing example of however Business Intelligence Networks are influenced by this new approach .Structurally, the availability and therefore the demand facet forms a Worldwide network, wherever each production and

distribution area unit supported cooperation. during this space, 2 things may be ascertained. Firstly, the very fact that wide diffusion of e-commerce crystal rectifier to Associate in Nursing "informatization" of the complete worth chain, within the sense that the flow of knowledge determined the worth chains, rather than additional stabile structure arrangements. Secondly, shopper behavior has modified concerning info desires, booking and travel a pattern, that together has hyperbolic the importance of method legerity for all market participants. As a consequence, one will observe the Internet-based integration of processes, with a spotlight rather on value-chain engineering than inter-enterprise method reengineering. Within the future, one will expect versatile network configurations (cooperation) and therefore the additional integration of shoppers into (internal) business processes. Processes transcend company borders Associate in Nursingd so result in distributed "b2b2c" applications which can need cooperation between enterprises at a new level of quality, specificity, and legerity, and conjointly the combination of interaction with the buyer supported mobile devices. this can be supported the idea that technology – supported a standard pervasive infrastructure – can become clear, invisible for the consumer; World Health Organization are having access to info whenever and where desired. this needs ascendible and versatile IT solutions, providing seamless integration and ability (between all stakeholders), and access to a overplus of heritage systems. It's projected to use the layering delineate by the linguistics internet services community beneath the term "SESA" (semantically-enabled service-oriented architectures) because the abstract foundation for a brand new generation of Business Intelligence Networks.

II. A LAYERED CONCEPTUAL MODEL FOR BUSINESS INTELLIGENCE NETWORKS

In the domain of internet services, there's currently growing accord on the very fact that Services orientated Architectures (SOA) haven't nevertheless delivered their promise of "on-the-fly "services discovery, substitution, and composition as a result of a linguistics level, i.e. one that formalizes the that means of services and their pre- and post-conditions likewise as nonfunctional properties, was missing. As a consequence, linguistics internet Services frameworks,

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particularly the online Service Modeling metaphysics (WSMO), OWL-S, and WSDL-S area unit gaining ground. It argues that the shortage of a linguistics layer could be a similar bottleneck on the road to Business Intelligence Networks. The vision implies the separation of business / method logics (expressed as a advancement or alternative kind of method description) from the online Services used (as well because the individual mappings), and wherever they created set of internet Services correspond to the enforced (business) resolution. One ought to note that this approach implies a metamorphosis of meanings, from services as they're understood in management science to internet services as outlined in applied science. In management science a service is outlined as a business economic activity, offered by one party to a different to attain a precise profit and "generated" by business processes. during a service could be an advanced (or simple) task dead (within) a company on behalf of a client.

III. THREE LAYERS OF SEMANTICALLY-ENABLED SERVICE-ORIENTED ARCHITECTURE (SESA).

A Service-Oriented design (SOA) is actually a set of services. These services communicate with one another. Such collections may be massive - a service-oriented world can doubtless have billions of services. Computation can involve services checking out services supported practical and non-functional needs and interoperating with those who they choose. However, services won't be ready to move mechanically and SOAs won't scale while not substance mechanization of service discovery, negotiation, adaptation, composition, invocation, and watching likewise as service interaction which can need additional knowledge, protocol, and method mediation. Hence, machine-process in a position linguistics area unitessential for future generation of computing.

The goal of Semantically Enabled Service-Oriented Architectures (SESA) is to put linguistics at the core of applied science. Within the following, describe the layers of such architectures as

- a) *Downside finding Layer*
- b) *the common service layer, and*
- c) *The resource layer and propose to use an identical layering for Business Intelligence Networks.*

Three Layers of Semantically-enabled Service-oriented Architecture (SESA).

- a) *Downside Finding Layer*

The objective of the problem-solving layer is to show a service-oriented design into a site specific problem-solving surroundings. Following the "layered" approach of our vision the matter finding layer represents the clear interface to the user(s), wherever we have a tendency to assume that every one computing resources area unit was or expressed as

services. so as to supply solutions for distinct business issues– from Associate in Nursinging info Systems purpose of read – the matter finding layer has got to support the complete e-commerce framework– information, negotiation and settlement phases. the target is economical Associate in Nursinging effective "resource allocation" for an enterprise or a group of cooperating enterprises. it's to support transactions, with completely different negotiation and catching prospects. during this sense it conjointly implements a site specific economic model, wherever services would be in the course of specific practical and non-functional "parameters".

The design ought to support the implementation and operation of supposed good business networks, on the extent of versatile e-business cooperation. The delineate flexibility (meeting the dynamic desires of a business/set of businesses) may be achieved by providing a transparent separation between the business/method logic and therefore the internet Services used. The approach ought to support the modeling and implementation of a (collaborative) business model. additionally, since no network of companies operates in Associate in Nursinging open surroundings, the vision has to change trust domains during which all services area unit outlined in terms of their trust levels and capabilities. This should be primarily based not solely on practical needs however conjointly on non-functional needs covering business and trust aspects (covering problems such a value of a service, performance, dependableness, authorization, and past history).

b) *Common Service Layer*

As applied science moves to future amount of abstraction, the observe of developing code applications evolves to the modeling of semantically annotated services which will be composed, i.e., will cooperate, to attain specific tasks. This ends up in a versatile, decoupled world of freelance services which will be dynamically discovered, combined, and invoked. The common services layer (CSL) provides Associate in Nursinging accommodative execution surroundings and supporting infrastructure that maps the matter descriptions generated at the matter finding Layer to the services which will solve the issues. The Execution surroundings at the center of the CSL needs parts to map downside descriptions at the problem-solving layer to on the market services at the CSL. Existing architectures (e.g. Open Grid Service design (OGSA) within the Grid area) already support such mappings for parts and prototypal interactions, but they operate over strictly syntactical descriptions, thence domain specific downside solutions should be coded manually. Besides providing the interpretation of linguistics description the CSL desires even be ready to execute descriptions and thus has to interoperate with standards outlined at this lower level. {the internet the online the net} Service

Description Language (WSDL) is employed to syntactically outline the interface of a part exploitation customary web technologies to outline suggests that to invoke operations however it doesn't outline notification mechanisms or a regular manner of interacting with stateful resources the online

Service Resource Framework (WSRF) could be a customary that extends WSDL during this direction. Initiatives that outline syntactical descriptions of resource area unit orthogonal to the semantically authorized common service layer. The CSL can create use of the previous to facilitate the execution of service requests. The core of our approach is that the linguistics enrichment of SOAs that implement the Common Service Layer capabilities. This enrichment helps to automatise service discovery, service adaptation, negotiation, service composition, service invocation, and repair monitoring; likewise as knowledge, protocol, and method mediation.

c) *Resource Layer*

Resources area unit wont to solve issues or additional conventionally to execute applications. The resource layers typewrite computing; linguistics internet Services supported persistent publication of knowledge. The resource layer conjointly covers the preparation and provisioning of physical and logical resources. Resources within the context of Associate in Nursing SOA may be divided into multiple categories covering, among others, each physical and logical resources. Physical resources (e.g. computers, knowledge servers, and networks), that area unit ordinarily connected to create a grid of computing and storage platforms; at this level automatic resource management are expedited from the attitude of each resource provisioning likewise as its lifecycle management. Logical resources, like application parts or common services, enabling additional advanced composition of applications. 2 of the foremost distinguished and wide mentioned area unit as that touch upon distributed resources within the context of Service-Oriented Computing are present Computing and Grid Computing. they will be seen as 2 endpoints during a time wherever their characteristics area unit somewhat complementary. Grids admit a comparatively sizable amount of hardware devices starting from little computers to terribly powerful devices interconnected with largely standard networks (Internet). present Computing environments, on the opposite hand, area unit stricken by weak and unreliable connections (due to partial autonomy) in terribly dynamic constellations of a high range of mobile devices with restricted memory and process power.

IV. PRELIMINARY ANALYSIS OF SESA-BASED SMART BUSINESS NETWORKS

In this section, explored shows the approach using all three layers could reduce the complexity of the

mentioned core network management tasks by lifting them to a higher level of abstraction.

a) *Partner Choice*

Partner choice, usually conjointly named as "Matchmaking" or "Discovery" with bleary borders between these terms, involves all task of finding, ranking, and choosing appropriate business partners for a given task. This method is very advanced in real-world business situations, for many reasons. Firstly, most on the market resources aren't delineate employing a common abstract framework, and specially not delineate employing a single metaphysics. This makes it onerous to not possible to incorporate all appropriate matches; in alternative words, preciseness and recall stay disappointing thanks to the shortcoming to incorporate implicit data regarding on the market resources. A typical example is that "This service provides knowledge mediation between X12 and proprietary formats" might mean a minimum of 2 completely different things: It will mean that the service will mediate between any X12 variant to any from a finite, accordant set of formats. it should conjointly mean that the service will solely mediate between a number of them. Also, resource description on such low levels of expressivity usually utterly ignores actual availability of resources. However, it's a triviality that e.g. the particular evaluation are considerably tormented by the number of accessible resources. Secondly, the utility (in the economical sense) of a resource is typically tormented by multiple characteristics of a service, and there's a multi-dimensional trade-off between numerous Properties. Thus, the strict separation of discovery into coarse search ("discovery") and negotiation is blemished in several sensible situations. the outline of resources at a linguistics level exploitation metaphysics languages permits the utilization of machine reasoning and therefore the use of implicit info within the method of partner choice. the outline of services on the Common Service Layer and therefore the downside finding Layer permits the apply of existing practicality within the method of partner choice and can so expand the search house.

b) *Contracting*

The actual catching a couple of service is presently subject to the previous institution of a Framework contract. E.g., a travel service supplier might enter into Associate in Nursing agreement with either a network of travel resource suppliers or individual suppliers, and should then trigger catching on Associate in Nursing instance basis mechanically. This works well as long because the quantity of transactions per framework contract is high. However, as before long because the range of potential partners will increase and therefore the range of transactions per every business partner decreases, the overhead caused by establishing framework contracts before catching individual business

transactions might become prohibitively high. The illustration of pre-conditions in SESA design business policies exploitation rule languages can allow creating the written agreement dimension accessible to machine reasoning. Not with standing framework contracts didn't become obsolete, their institution would consume less resources and cause less delay. during a SESA surroundings, legal ontologies might even be foreign that enable matching the bilateral agreements to the overall legal surroundings.

c) *Technical Integration*

The SESA plan includes, as a core style component, mediation. Mediation suggests that procedure practicality which will bridge heterogeneities between systems, e.g. knowledge illustration mismatches or method incompatibilities. The superimposed approach of SESA permits for establishing a library of mediation parts for numerous functions, so lowering the number of proprietary code engineering in systems integration. Since the capabilities of mediators during a SESA framework area unit once more delineate exploitation machine-processable linguistics, the invention of required mediation parts also can be supported by machine reasoning.

d) *Method Composition*

At a business level, method composition is usually concerning because the mere ordering of activities by causative or temporal dependencies. However, at the next level of abstraction, it becomes obvious that method compositions created this manner is also inconsistent, since they will violate constraints within the kind of pre- or post-conditions. The SESA approach includes communicative formalisms for cryptography the pre- and post-conditions of any service. this enables for corroboratory such advanced processes that were composed manually, and it'll conjointly support the event of tools for the semi-automatic composition of processes. Note that the SESA plan separates the illustration from the automation of a task within the lifecycle. Not with standing fully-automated method composition is computationally too costly, SESA still permits capturing all relevant aspects of the system. The SESA abstract model is radio-controlled by the thought of providing a comprehensive capture of all relevant aspects, not by the question whether or not the individual illustration may be employed in a completely automatic manner.

V. CONCLUSION

The projected SESA framework represents a vision in applied science, that itself is on the sting towards a vital new amount of abstraction. A generation a gone applied science learned to abstract from hardware and presently learns to abstract from code in terms of service-oriented architectures (SOA). SESA

brings currently machine process able linguistics to SOAs so as to leverage its full potential. Within the long run, the target is to supply a brand new software – supporting SBNs – that gives a sleek and clear integration of variant resources and services on a world wide scale. during this paper, argue that current Business Intelligence Networks falling short in terms of the legerity useful chain composition since they lack a comprehensive abstract framework – might get pleasure from such Associate in nursing approach. Its trace back the quality of partner choice, method composition, and execution watching to the shortage of linguistics within the description of system components in Business Intelligence Network environments. As a consequence, it proposes to adopt the superimposed abstract model of semantically-enabled service-oriented architectures (SESA) because the foundational layer for future Business Intelligence Networks. And its approach might scale back the quality of the said core network management tasks by lifting them to the next level of abstraction.

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Cash Management DSS based on System Dynamics for MFIS

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Abstract- All the institutions which share a commitment to serving clients with low-incomes that have been excluded from the formal banking sector are part of the microfinance industry. The Consultative Group to Assist the Poorest (the apex association of international donors who support microfinance) regards microfinance as “a powerful tool to fight poverty” that can help poor people to “raise income, build their assets, and cushion themselves against external shocks”. Microfinance institutions (MFIs) have reached well over 100 million clients and achieved impressive repayment rates on loans. Because of the increase in the scale of operations, the concept and practice of microfinance have changed dramatically over the last decade and the microfinance is increasingly adopting a financial systems approach, either by operating on commercial lines or by systematically reducing reliance on interest rate subsidies and/or aid agency financial support.

Keywords: microfinance, decision support system, system dynamics, cash management.

GJMBR-A Classification: JEL Code: G32



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Cash Management DSS based on System Dynamics for MFIS

Ritika Singh ^α & Chandan Bhar ^σ

Abstract- All the institutions which share a commitment to serving clients with low-incomes that have been excluded from the formal banking sector are part of the microfinance industry. The Consultative Group to Assist the Poorest (the apex association of international donors who support microfinance) regards microfinance as “a powerful tool to fight poverty” that can help poor people to “raise income, build their assets, and cushion themselves against external shocks”. Microfinance institutions (MFIs) have reached well over 100 million clients and achieved impressive repayment rates on loans. Because of the increase in the scale of operations, the concept and practice of microfinance have changed dramatically over the last decade and the microfinance is increasingly adopting a financial systems approach, either by operating on commercial lines or by systematically reducing reliance on interest rate subsidies and/or aid agency financial support.

The objective of this paper is to identify the need of a support system for MFIs, select a domain for developing one such system and suggest an approach to develop the system. The paper introduces the reader to three terms ‘Microfinance’, ‘Cash Management’ and ‘Decision Support System’. This introduction is necessary as Microfinance is the chosen sector where the need for such a system is identified. Cash management is the chosen domain for which this system will be used. Decision support system is a technology which is used in different industries to develop such a system. The paper further defines the methodology for developing such a system. This methodology describes the tools and techniques which will be used to achieve the goal.

Keywords: *microfinance, decision support system, system dynamics, cash management.*

I. INTRODUCTION

Microfinance industry has assumed great importance in the last decade. This is true not just for India but also globally. This is because microfinance tries to empower the poor through its innovative approaches. Poverty alleviation is the objective of all the underdeveloped nations. But the policies in place do not yield satisfactory result. Microfinance in Bangladesh has shown good performance and therefore it is being replicated all over the world. On the other hand technology is playing a vital role in giving livelihood access to the poor. Even UN has emphasized the role of both micro credit and technology. This paper highlights the use of technology

in microfinance to enhance its effectiveness. Decision support systems are often used by the organizations to enhance the performance of the processes involved.

This paper has targeted cash management process for improvement in Microfinance Institutions. As cash is the lifeblood of the business. The paper suggests an approach (System Dynamics) to build the Decision Support System for microfinance. It also helps the reader identify the tool to be used for this purpose. Finally the paper suggests a research methodology for building the system.

II. MICROFINANCE

United Nations Millennium Goals state that by 2015 the number of people living in extreme poverty should be half of what it was in 2000 (World Bank, 2000). The Consultative Group to Assist the Poorest (the apex association of international donors who support microfinance) regards microfinance as “a powerful tool to fight poverty” that can help poor people to “raise income, build their assets, and cushion themselves against external shocks” (CGAP, 2004a). Microfinance – financial services tailored to the poor (Despallier et al., 2011), spans a range of financial instruments including credit, savings, insurance, mortgages and retirement plans, all of which denominated in small amounts (Khavul). Historically, efforts to deliver formal credit and financial services to the rural poor in developing countries have failed. The recent proliferation of innovative microfinance programs has been inspired largely by the belief that such programs reach the poor and have a positive impact (Coleman, 2006 and Mallick, 2012). The United Nations proclaimed 2005 as the “Year of Microcredit” (Coleman, 2006).

Microfinance institutions (MFIs) have reached well over 100 million clients and achieved impressive repayment rates on loans (Cull et al., 2009). Because of the increase in the scale of operations, the concept and practice of microfinance have changed dramatically over the last decade and the microfinance is increasingly adopting a financial systems approach, either by operating on commercial lines or by systematically reducing reliance on interest rate subsidies and/or aid agency financial support (Hulme and Arun, 2009). A few MFIs have implemented best business practices and made transition to fully regulated financial institutions. Many more are in the process of undertaking this transformation or at least considering it

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(Tucker, 2001). Some advocates of innovation say transformation from non-profit to commercial enterprises is the only way to go. It is further believed that this commercialization approach will increase MFIs' operational efficiency, sustainability and the outreach, and decrease the dependency on the donor agencies (Hoque et al., 2011). But the commercialization of MFIs gives rise to the need for new and advanced support systems. (Karmakar, 2008) At present the MFI central system helps in generation of customized management information system (MIS) reports at any desired level of aggregation right down to the most granular level. It also facilitates tracking and monitoring of a customer across multiple relationships.

According to Ly and Mason (2012), now the microfinance promises to deliver poverty alleviation while allowing its providers to be financially sustainable. Also according to Charitonenko and deSilva (2002) at the micro level, MFI commercialization implies institutional progress along a continuum which involves at least progression towards Financial Self-Sufficiency (FSS). FSS is an increasing concern in microfinance and is now widely studied (Stephens, 2005; Hudon and Traca, 2006). Gibbons and Meehan (2000) suggest that FSS is necessary for a MFI in order to obtain the large amount of funds required to reach and benefit truly large numbers of the poor and poorest households.

FSS is defined as the ability of an MFI to cover all actual operating expenses, as well as adjustments for inflation and subsidies, with adjusted income generated through its financial services operations (Gibbons and Meehan, 2000). According to the United Nations Capital Development Fund, "covering financial costs is a necessary hurdle for access to capital markets." Capital availability is a fundamental constraint to the growth of an MFI. Having access to capital markets gives an MFI greater financial freedom and makes an MFI less reliant on donor capital (Brandt et al.). Unless at least 100% FSS is reached, the provision of financial services in the long term is undermined by the continued necessity to rely on donor funds (Ledgerwood, 1998; MicroBanking Bulletin, 2009). Globally, from 2003 to 2007 around 40% of the MFIs (entire sample of MicroBanking Bulletin) had FSS less than 100% (Gaul, 2009).

Indian banking industry has seen reform policies to boost self-sufficiency (Mohan). Such policies have not yet been framed for the Indian MFIs by the Government. Therefore it becomes imperative that the micro level policies at the institution level be framed such that FSS of the MFIs improve further and come at par with the banking sector.

It cannot be argued that delivering small loans to a poor and relatively hard-to-reach clientele (outreach) is inherently costly. However, to say that financial self-sufficiency and deep outreach can be complementary is not to say that achieving both is in any sense easy, a point demonstrated by the relatively

small number among thousands of MFIs that have achieved financial self-sufficiency. (Woller and Schreiner; Ylino, 2010)

According to Stephens (2004) 'Deep outreach' sustainable MFIs have very high level of profitability this is because of their funding structure. These MFIs have the lowest leverage and access the lowest levels of deposits of all institutions (segmented by target market). By funding themselves through equity, the growth strategy (or market reality of access to funds) of these institutions may well rely on re-capitalization through retained earnings. Improvement in FSS without affecting outreach can be achieved by better cash management. It is the task of cash manager to decide optimal financing method for implementation of projects and control cash collection and disbursement on a day-to-day basis (Thierauf, 1982).

Thus this includes answer to following questions:

1. How the funding should be decided?
2. How the revenue should be controlled?
3. How the expenses should be controlled?
4. How the above should be synchronized to achieve improvement in FSS?

Answer to the above questions will lead to establishing policies for the firm. Therefore the next section elaborates on cash management.

III. CASH MANAGEMENT

Cash consists of cheques, drafts, demand deposits and currency. (Chandra, 2008) A firm needs cash to fulfil following motives:

Transaction motive: Some cash balance is required as buffer for the transactions.

Precautionary motive: A firm requires some cash balance to protect itself against uncertainties.

Speculative motive: Firms like to tap profit making opportunities arising from fluctuations in commodity prices, security prices, interest rates and foreign exchange rates.

(Srivastava, 1996) The inherent problem with cash is that ample cash is helpful to meet unexpected adversities and useful to exploit favourable opportunities that may come along from time to time. Furthermore, credit standing of the firm with sufficient stock of cash is strengthened. A strong credit position helps the firm to secure from banks and other sources generous amount of loan on softer terms. However, keeping any excess stock of cash is largely a waste of resources because it is a non-earning asset and the same could be invested elsewhere to earn some income. Here the dilemma is between liquidity and profitability. This dilemma can be resolved by forecasting and regulating cash inflows and outflows. (Pandey, 2010) Cash management is concerned with the managing of:

1. Cash flows into and out of the firm
2. Cash flows within the firm

3. Cash balances held by the firm at a point of time by financing deficit and investing surplus cash
It can be represented by the cash management cycle (Figure 1).

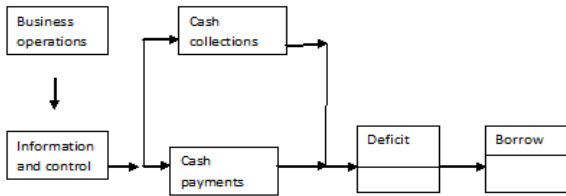


Figure 1 : Cash Management Cycle

The objective of any cash management program should be to increase revenue but at the same time it should help the firm become cash sufficient. This can be done through proper control of cash collections, cash disbursements and determination of minimum cash balance.

(Pandey, 2010) Two of the techniques of cash management are cash planning and cash budgeting. These techniques help to anticipate the future cash flows, need of the firm, reduce the possibility of idle cash balances and cash deficits. Planning consists of setting priorities, initiating program and establishing policies (Thierauf, 1982). Since the current study is about establishing policies therefore cash planning is that effective technique which will be used for building the present system.

Cash is that current asset which is essential for completion of operation in any organisation. It is also the stock which is traded in microfinance sector pointing out to a complex relationship between the fund needed to meet expenses and the fund disbursed by the MFIs. Therefore cash management assumes greater importance. It is imperative that MFIs manage their own cash, as an internal treasury management capacity is essential for institutional survival (Churchill and Coster, 2001).

At present MIS for MFI provides information for better handling of various issues related to cash management. Micrfin 4 is a MIS for MFIs, is a spreadsheet based tool which provides the information necessary for cash planning to the managers (Lunde et al., 2006). A financial self-sufficiency ratio can help the managers to decide when to employ different control mechanisms for regulating cash flows. But this tool fails to report the effect of any regulation on the subsequent cash flow thus making it difficult for the managers to put in place effective control mechanisms. DSS with its advanced techniques can help to resolve such issues. As suggested by (Published search) an effective cash

management program should have the ability to perform the following functions:

1. Understand the present cash flow, its nature, timing and source
2. Estimate the pattern of future cash flows

IV. SYSTEM DYNAMICS TO BUILD DSS

Sprague and Watson (1993) define DSS as: Computer-based systems that help decision makers confront ill-structured problems through direct interaction with data and analysis models. Present DSS for financial planning, Interactive Financial Planning System (IFPS), includes function that simulates the budget to compute NPV and IRR (Thierauf, 1982). Thus used for cash budgeting. There is no cash planning tool. System dynamics is suggested as an approach to build such a tool. The reasons for it are discussed below.

System dynamics modelling, developed by Professor Forrester of MIT, has proven to be useful tool in the study of the system behaviour. Its initial application was study of the behaviour of industrial systems, where the short-term dynamics of production rates and inventory levels were analyzed. More recently, however, it has been applied to the study of much larger and complex systems where long-term dynamics are important (Stover, 1975).

The system dynamics can be defined as a rigorous method for qualitative description, exploration and analysis of complex systems in terms of their processes, information, organizational boundaries and strategies, which facilitates quantitative simulation modelling and analysis for the design of system structure and control (Wolstenholme, 1990).

System dynamics paradigm is built upon a cross-fertilisation of three diversified disciplines – traditional management of social systems, feedback theory or cybernetics and computer simulation. System dynamics is thus a higher order syncretised construct with a strong interdisciplinary flavour.

It allows one to use a systems approach in visualizing and solving a problem holistically (Coyle, 1977).

Roberts et al (1983) have suggested that the feedback thinking is an important way of looking at and making decisions concerning social, economic, environmental, managerial and political problems. In essence, feedback thinking consists of three concept areas, each of which contributes to the system dynamics view of solving problems.

These are:

1. Thinking in terms of feedback loops - This draws attention to the fundamental causes of the problem under investigation.
2. Thinking over time - This concept implies that feedback system problems are problems that show varying pattern of behaviour over time.

- Exploring how system structure, especially feedback loops and time delays, cause change over time.

Merely thinking in feedback terms can reveal that certain systems will probably be stable or unstable. It is urged to explore, how the structure generates behaviour over time. This exploration can either be intuitive or aided by computer simulation.

With the system dynamics approach, a description of the system is developed, based on the modeler's perception and understanding of how the system actually works. The linkages among variables are described fully. The completeness of the description of the system makes it much more useful in understanding the behaviour of the system. When a model is used for policy analysis, it is changed in some way, to simulate the effect of the policy and then used to show the new behaviour of the system (Stover, 1975).

A "Management system" is simply a regularly interacting group of people, machines, etc., whose activities involve allocation and control of the resources of the organization. System dynamics simulation models can be constructed to study the information-feedback characteristics of "management systems" to show how organizational structure, response to information, and time delays to influence results (Veit, 1978).

The present accounting or financial model, whether optimizing or simulating, includes a surrogate for the environment in the form of a few exogenous variables, their behaviour and interrelationships is not understood. A closed loop simulation technique of system dynamics offers added advantages in modelling the environment as a closed system, the results of which can be used to study the open sub system within it. The system dynamics methodology provides insight into the working of the system, using computer simulation as a tool of analysis.

Coyle (1977) has stated that the system dynamics study is to find policies which will control the firm effectively in the face of shocks which will fall upon it from the outside world. The system dynamics study has two fold objectives. Such as,

- Explaining system behaviour in terms of its structure and policies.
- Suggesting changes to structure, policies, or both, this will lead to an improvement in behaviour.

Kumar and Vrat (1989) have suggested the following seven stages in approaching problem from a system dynamics point of view.

- Problem identification and definition.
- System conceptualization
- Model formulation
- Analysis of model behaviour
- Model evaluation
- Policy analysis
- Model use or implementation

The Figure 2 shows the research methodology adopted for the current study.

V. A SHORT NOTE ON THE TOOLS TO BE USED

The tools which have to be used in the process are I THINK and SPSS. I THINK can be used as it not only helps in drawing and simulating of the stock-flow diagram but also helps in creating the interface for business purpose. Two of the most popular system dynamics tools are I THINK and Stella but Stella is only for understanding the model it is not used for the business purpose. Since this work is about creating a DSS for the business managers therefore I THINK has been used. Secondly SPSS has been used for forecasting the future values of some of the variables based on the regression equation as this is difficult to achieve in I THINK as it only uses extrapolation for predicting future values.

According to Rizzoli and Young (1997) following are the modelling and simulation tools for DSS:

- Modelling languages (SIMULA)
- Tools for scientific calculus (MATLAB)
- Visual simulation environments, based either on systems theory or on the world dynamics or system dynamics approach to modelling (STELLA, iTHINK)

With the advent of graphical user interfaces for common operating systems, "visual programming" has become the norm. Data visualisation is provided, and models are designed "visually" by connecting blocks and aggregating them at different levels of resolution. STELLA and iTHINK are such softwares (Rizzoli and Young, 1997). Seeing the picture one can "get operational" about levers to pull such that the performance changes (Systems thinking and the iTHINK software). Users can drag model components (including state variables, rate variables, and connections) to build a SD model. These softwares not only display simulation results with graphics and tables but also with animation. Users can input model parameters with graphical controls, and simulation results are displayed by animations or controls. (Zhnag et al., 2011).

Zhnag et al. (2011) suggest that at present, the commonly used SD softwares are DYNAMO, STELLA, iTHINK, Powersim, and Vensim. Costanza and Voinov (2001) present a tabular comparison of these softwares. It suggests that the user-friendliness and learning curve are highest for I THINK/STELLA and Vensim. Notes on Vensim-Stella (Vensim-Stella) suggest that a typical group of science students might end up with 40% choosing Vensim and 60% choosing Stella. Dimauro et al. (2007) indicate that STELLA employs the object oriented technique using the notation of Forrester which was based on the DYNAMO simulation language.

According to Ouyang (2008) STELLA and I THINK are commercial software packages by I see systems. They use an iconographic interface to facilitate construction of models and then assigning the appropriate values, mathematical functions to the system. The key features consist of the following four tools:

1. Stocks, which are the state variables for accumulations. They collect whatever flows into and out of them.
2. Flows, which are the exchange variables and control the arrival or the exchanges of information between the state variables.
3. Converters, which are the auxiliary variables. These variables can be represented by constant values or by values depending on other variables, curves or functions of various categories.
4. Connectors, which are to connect among modelling features, variables, and elements.

STELLA is primarily used by educators; I see offers I THINK for business simulation. Thousands of individuals and organizations in over 80 countries use I see software to gain insight and shared understanding of environmental, financial, organizational, biological, chemical, mathematical, humanistic, and other systems (I see systems, 2012).

Schulstad (1997) describe the internal working of I THINK software. I THINK is based on a continuous simulation modelling strategy, described through differential equations calculating the time of regulation of control variables causing state variables to change. The time of regulations (Δt) in the simulation algorithm is used to approximate an idealized continuous curve, using the method of Eulers or Runge-Kutta. I THINK first calculates the initial state, including start-up data for state variables corresponding to a Stock in the system, along with constants including exogenous variables represented in I THINK's Converter symbol. From this information it computes all intermediate converter variables, which in turn determine the control variables, corresponding to the Flow regulator. The flow regulator multiplied by the time increment Δt increases or decreases the stock and determines new state values for the next point in time. This time step through the model simulates the causal linkage among all elements identified in the decision support model.

I THINK can be used for following functions:

1. Reduce the risk of policy or process change
2. Identify key leverage points for improving business performance
3. Build models that simulate your business
4. Create what-if scenarios for decision support
5. Develop shared understanding across functional teams (Isee systems, 2013)

(ATUL) From the simulation of iTHINK model, data are collected as if a real system were being

observed. This simulation-generated data is used to estimate the measures of performance of the system. New policies, operating procedures, decision rules, information flows, organizational procedures, and so on can be explored without disrupting ongoing operations of the real system.

It should be emphasized that it is impossible to describe the dynamics of socio-economic processes by a single empirical equation or classical formula in I THINK due to complexity of issues. With regard to this, a set of empirical equations were developed based on different combinations of input variables. Factors were processed to retrieve regression analyses using the SPSS statistical software (Feng et al., 2013).

Advances in system modelling software, such as STELLA/ I THINK provide a user friendly tool for constructing and simulating a corporate system (Hall, 1999). Therefore the DSS for cash management of Indian MFIs model will be built using the ITHINK simulation language. We follow in this path for two reasons. First, graphical models seem to us to be easier to understand initially. Second, I THINK makes it easy to create a simulation using a graphical model. The simulation then makes it possible to study the implications of the model under a variety of circumstances. The methodology further employs SPSS for future prediction of variables using regression equations.

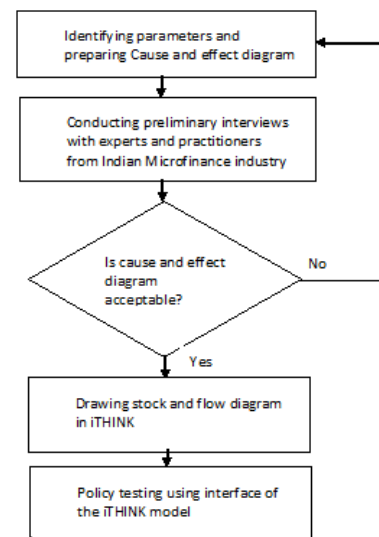


Figure 2 : Above is the proposed research methodology

VI. CONCLUSION

The paper establishes need of a DSS in Microfinance sector. This DSS is proposed for cash management in the MFIs. Further the paper elaborates on the cash management. Finally, the paper proposes System Dynamics to build DSS. It elaborates on the benefits of using this technique. The paper compares tools to build the system dynamics model and

recommends I THINK software for this. At the same time it proposes a research methodology to build the model.

The implications for future research are that the methodology can be used to build the model. This model would be used for policy testing. System dynamics based DSS can help in simulating the cash planning and thus help in visualizing the effect of changes in the policies which is not possible with any of the existing systems. Such a tool will help in avoiding the problems like AP crisis at the policy level. As the microfinance is a new field and HR is mostly recruited from the banking industry therefore their experiences are limited. This software will be a learning tool for them.

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Factors Influencing Supermarket Store Loyalty in Brazil and their Implications to Loyalty Programs

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This paper analyzes the relationship between a store loyalty program in the supermarket industry and the program's perceived value, program card loyalty and store perceived value.

As many companies have been spending a great deal of money to maintain their loyalty programs, it seems relevant to measure the effectiveness of this kind of program. A Linear Regression Analysis methodology with 200 randomly assigned qualified customers, may provide limited support for the theory.

Results may change if the sample size is increased, new locations are added to the study or if the effectiveness of loyalty programs is analyzed in a different context such as in the airlines industry. The findings enhance the understanding of the interrelationship among the constructs which are incorporated in the hypothetical model. The new findings in the current study are relevant to the advancement of loyalty theory in customer retention strategy.

GJMBR-A Classification: JEL Code: M39, J50



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Strictly as per the compliance and regulations of:



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Isabella Moreira Pereira De Vasconcellos^α & Delane Botelho^ο

Abstract- Store loyalty is subjective in nature, since it means an evaluative judgment. The literature highlights the existence of a relationship between perceived value and customer attitude, considering this variable as an important determinant of customer loyalty.

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I. INTRODUCTION

The private brand loyalty card nowadays is used as an important tool to make the link between firms and their customers. (Bouding, Staelin, Ehret, Johsaton, 2005). An effective loyalty program appeals to consumers and encourages them to buy more from the firm rather than its competitors. Many theories of Customer Relationship Management defend the idea that this marketing investment develops customer trust, commitment and gratitude and, in turn, leads to customer purchase intention, sales growth, and share of wallet (Palmatier, Jarvis, Bechhoff, Kardes, 2009). In fact, the perceptions of relative advantage are a crucial driver of program value. Customers have to invest a stream of efforts like time and money to earn future rewards. These efforts are typically extended over time while rewards are earned after a certain amount of effort has been expended or a particular requirement level met.

Liu & Yang (2009) say in their study that a "loyalty program has a positive impact only when the offering firm's market share is relatively high, consistent

with our notion that firms need complementary resources to derive competitive advantage from their loyalty programs." That may be due to the fact that small market share means a smaller assortment in a supermarket, fewer locations available or routes offered by airlines. In those cases, customers would have fewer chances to buy and consequently, be less loyal to the firm. On the other hand, they concluded from the study that market saturation does not significantly reduce the effectiveness of loyalty programs.

Klaus Peine (2007) studied the influence of media on consumer decision-making. He concluded that media influence consumer judgment of loyalty program fairness and may affect the decision to join a program, remain loyal to it and be willing to spread positive word-of-mouth. That fact has important implications for the design of real world loyalty programs. Although media may alter a consumer's preferences, the number of loyalty program points awarded per purchase gives him (or her) a measure of program attractiveness.

Shi and Soman (2006) argue that consumers decide to participate in loyalty programs as a goal-directed activity. Consumers recognize their participation as a chance to obtain a desired outcome. There are other remaining components of a loyalty program which are also capable of giving rise to perceptions of advantage relative to consumers. Klaus Peine (2007) lists four factors that influence loyalty program evaluation.

- Brand attitude can drive consumer behavior (Keller 1993). Consumers develop in their minds brand beliefs and judgments regarding those beliefs leading to a favorable or unfavorable attitude toward a specific brand.
- Satisfaction, which is the discrepancy between expectations and perceived rewards of loyalty program. (fulfillment of needs and desires) (Tse and Wilton 1988).
- Loyalty intentions which is a precursor to a customer's commitment to re-purchase in a site, despite marketing efforts (Oliver 1999). Of course this behavior can be a consequence of a customer's perceived value of the program.

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- Positive word-of-mouth is one of the consequences of a company's efforts to develop good relations with consumers. It represents customer satisfaction with program and marketing offerings (Brown et al. 2005).

A relationship program enhances value to customers by making them loyal to the store/brand, purchase more and speak well about the firm to others. Hierarchical loyalty programs award elevate customer status (e.g., "elite membership") to consumers who meet a predefined spending level. At the same time, the expected sequential effect of CRM (Minami and Dawson, 2008) is to bring financial benefits to the firm, by increasing marketing productivity.

This research estimates the effect of the following variables: Program Perceived Value, Program Card Loyalty and Store Perceived Value on Store Loyalty. Studies show that many firms have won the loyalty of their customers without a loyalty program. That was due to the quality of service of their employees in the stores, ambience, assortment and other things that can be of high value to consumers. That leads to a strong relationship between Store Perceived Value and Store Loyalty.

On the other hand, Program Perceived Value does not ensure Program Card Loyalty. Demographic characteristics such as age, marital status, gender and income level may affect the consumer decision process. Firms have made a large investment on loyalty programs and store appearance.

So, how important are these three variables to store loyalty?

II. RESEARCH PROBLEM

As the number of loyalty programs and private label cards tends to increase in the Brazilian market, the purpose of this study is to identify the variables and to what extent they influence store loyalty. The objective is to confirm the links between Program Perceived Value, Program Loyalty, Store Perceived Value and the dependent variable Store Loyalty.

III. RELEVANCE

From 2000 to 2006, total loyalty program enrollment in the United States increased 35.5% to 1.5 billion (Ferguson and Hlavinka 2007). The study also reveals that the average US household belongs to 12 loyalty programs (Ferguson and Hlavinka, 2007).

In Brazil, according to ABECS (*Associação Brasileira de Empresas de Cartão de Crédito e Serviços*), in the last five years, as part of Loyalty Programs, a large number of private brand cards have been issued in the Brazilian retail industry. A total of 466 million plastic cards circulated in the Brazilian market in 2008, and of this total, 156 million are private label cards issued by fashion boutiques, drugstores, supermarket

and bookstore chains (Figueiras, 2008). The forecast for 2010 is a total of 628 million cards. Of this total, 225 thousands will be store private brand cards. The study says that 70% of the large retail companies already have their own private label card. In the middle size segment, this percentage is 30%.

Customer profitability must be considered by assessing customer lifetime value, or the time they remain as customers generating revenue and profit to firms. All the CRM programs of those companies represent a cost line on their financial statement and the purpose of that cost is to shift the marketing paradigm from transactional marketing to relationship-oriented marketing. Perhaps the emotional dimension of the consumer should be considered in the relationship building, especially in the analysis of Store Perceived Value and Program Perceived Value. A positive attitude does not guarantee consequent purchasing behavior and frequency of purchase does not build relationship. Considering that the switching cost for the customer may be low, it is important to consider that affectionate feelings may generate favorable attitudes and lead to commercial behavioral consequences in the long run.

IV. LITERATURE REVIEW

a) Introduction

CRM has been defined in a number of ways, but its main definition is clearly twofold:

- a collection and analysis of customer data for internal use, and
- a builder of relationships with customers, for external role.

Examining the impact of CRM strategy usage, it can have alternative roles:

- For innovative companies CRM could be used to build strong differentiating customer relationships, communicating continuously with customers on an individual basis.
- Cost leaders, with a lesser focus on innovation, might use it as part of a more defensive customer retention strategy (Valos and Bednall, 2007).

Ruiz- Molina and Gil-Saura (2008) state that loyal customers increase the volume of company sales based on cross-selling. Investment in communication is reduced by word-of-mouth advertising. Customer loyalty also increases price inelasticity and competitor advertising becomes less effective.

Reichheld (1996) says that the cost of retaining an existing customer is lower than the cost of acquiring a new one. Some of these programs offer specific services, rebates or rewards to loyal customers like monetary or non-monetary incentives such as rebates, bonuses or services. They want to stimulate repurchase and cross-buying behavior.

To set up and maintain these programs, a considerable amount of money is necessary. The question is: Is it worth it?

If the customer does not receive the promised reward or if the indicated benefit proves of no value to him, customer frustration may arise and that may not lead to customer loyalty and consequently consumption. (Stauss, Schmidt, Schdeler, 2005).

Anderson (1998) says that the market can offer a "naked" solution relating it to the basic product that can be sold by the lowest price. The market can also "package" this basic product, adding value to it, creating differentiation and winning new customers.

The inter-individual heterogeneity (Meyer-Waarden, 2008) with respect to loyalty card possession causes disparities in individual purchase behavior. Development of an effective relationship with customers may be necessary to identify and manage various customer clusters at different relationship stages.

The objective of supermarkets is to promote customer satisfaction, in order to generate future profit potential (Hauser, 1994), since satisfied customers will buy more, do so more often, and communicate their satisfaction to other potential customers.

As perceived value can vary over time, it is relevant to consider Mazursky and Geva's (1989) findings that satisfaction and buying intention are highly correlated when measured in the same survey at a given time. A gap in time can also disrupt the correlation between intention and behavior. In this case the usual behavior of buying in a certain supermarket can be changed due to a temporary promotion announced by a competitor. In fact, customer satisfaction can be considered a multi-period issue (Hauser, 1994) because a firm's effort to promote customer satisfaction today can affect purchasing behavior in the future.

b) *Program Perceived Value*

According to Omar, Musa, Nazri (2007),

"Perceived value is a trade-off between the benefits customers receive in relation to total cost which include the price paid plus other costs associated with the purchase". The other costs associated refer to the effort to purchase considering time spent, distance to get to the supermarket, convenience, security and other factors.

Perceived service quality is defined as a customer's assessment of the overall excellence or superiority of the service (Zeithaml 1988). Bolton and Drew (1991) say that customers' assessments of service value are positively related to their evaluations of service quality. Perceptions of performance exert a direct influence on customer satisfaction and customers' expectation will depend on their tastes, characteristics, personal needs and word-of-mouth past experiences. The gap between expectations and perceptions leads to satisfaction or dissatisfaction. The higher the level of

satisfaction, the higher is the chance of generating purchase intentions and behavior.

The objective of a relationship program is to influence customers' attitude, increasing their perception of value. The higher the level of program perceived value, the higher the level of store loyalty. In the study realized by Omar, Musa, Nazri (2007) the linkage between program perceived value and store loyalty (H1) was found to be insignificant and not supported. The study was conducted from an economic and rational viewpoint, not considering multidimensional elements.

As perception of value may change because of a longer-term experience with the brand or store, economic value may not always be an important element for cardholders. They may evaluate value from the point of view of quality of service or store convenience, for example. On the other hand, Lin and Wang (2006) and Harris and Goode (2004), found a positive relationship between the variables.

Considering services, rebates or some other kind of incentives to customers as a reward for their loyalty, the model is designed to measure the relationship between the program perceived value by the customers and their store loyalty. This perceived cost-benefit relationship of the program becomes an important variable to Store Loyalty.

H1: The program perceived value affects positively the Store Loyalty

Apparently, the research results indicate that program perceived value (H1) and program card loyalty are not significantly related to store loyalty. It found out that program loyalty is valuable in producing positive outcomes to cardholders such as satisfaction with regard to the program which is indirectly linked to store loyalty.

There is not a direct relationship between these two variables and store loyalty.

The relationship between Program Perceived Value and Program Card Loyalty was tested and found to be strong by Omar, Musa, Nazri (2007).

That relationship was found to be strong in Yi and Jeon's (2003) study. This research suggests that loyalty marketing is a better fit for high-involvement products. If brand managers of these categories want to build brand loyalty, a loyalty program related to the value proposition of products in question may be the best candidate for brand managers. For low-involvement products, however, careful use of the loyalty program is recommended because there is no direct relationship between value perception and brand loyalty and immediate rewards can be easily duplicated by competitors.

The results indicate that customer involvement may change the effects of the loyalty program on customer loyalty. This means that delayed rewards such

as a mileage program can be justified in the high-involvement condition as long as they are linked with value-enhancing rewards. In the low-involvement condition, customers are looking for immediate rewards because that may be their incentive to patronage a certain store.

The relationship between program value perception and program loyalty is statistically significant for low-involvement as well as high-involvement conditions.

In research developed by Huddleston, Whipple and VanAukenl (2004) one of the characteristics indicated by shoppers in defining the Perceived Value of their favorite stores is the existence of loyalty cards as a saving tool. Customers may develop both emotional and rational bonds with a brand store and therefore their outlet choice is based on feelings of confidence, integrity and pride in a brand (Bowden, 2009).

Based on loyalty program data, it is possible to identify higher value customers at the front end of the sales process (Baird, 2008), in order to give them a special and differentiated service to keep them loyal to the store. An effective loyalty program has to be structured in order to motivate customers to view purchases as a sequence of related decisions rather than as independent transactions (Omar, Musa, Nazri (2007).

c) Program Loyalty

Liu and Yang (2009) define loyalty programs

"As long-term-oriented programs that allow consumers to accumulate some form of program currency, which can be redeemed later for free rewards. The long-term are not promotional programs that offer only one-shot, immediate benefits, such as instant-win scratch cards and grocery stores' discount card programs that create sudden changes in sales without producing sustained customer loyalty or revenue potential for a firm. . The loyalty programs are designed to create a future orientation and increase switching costs over the long run."

In the study realized by Omar, Musa, Nazri (2007) the link between Program Loyalty and Store Loyalty is not supported.

In times of heavy competition, a loyalty program is usually introduced to build customer loyalty through a planned reward scheme based on profitable customers' purchase history. It is seen as a way of product differentiation.

A loyalty program is for many companies a key marketing activity and an important component of a firm's relationship management strategy (Meyer-Waarden, 2008). Many firms implement loyalty programs as a core component to their marketing strategy.

H2: Program Loyalty positively affects Store Loyalty

The research conducted by Meyer-Waarden in 2006, confirmed the influence of loyalty program membership on customer purchase behavior. It concluded that loyalty programs affect purchase behavior for both market leaders and smaller retailers and that loyalty program members and non-members demonstrate significantly different purchase behaviors. Cardholders have significantly higher purchase intensities in terms of total and average purchase quantities, share of category purchases, purchase frequencies and inter-purchase times than do non-members. A loyalty program also enables a firm to differentiate it from competitors and deliver superior value to its customers. Yi and Jeon (2003) investigated how reward schemes of a loyalty program influence perceived value of the program and how value perception of the loyalty program affects customer loyalty. They observed that involvement moderates the effects of loyalty programs on customer loyalty. In high-involvement situations, direct rewards are preferable to indirect rewards. In low-involvement situations, immediate rewards are more effective in building a program's value than delayed rewards. In any of those cases, a loyalty program should not be treated like a price promotion, but rather a long-term perspective in shaping customer behavior.

They found out that the path from Program Loyalty to Brand (Store) Loyalty (H2) is statistically significant both for high-involvement and low-involvement.

It has been found that the perception of program value by loyal customers takes into account the processes used in administering reward programs because they value interactions such as contact with customer service centers more than the rewards themselves.

Besides encouraging cross and/or up-selling possibilities, loyalty programs also tend to develop psychological, sociological and relational drivers on customers' attitude, enhancing customer trust, emotional commitment and attachment to the organization. They tend to identify themselves more strongly with companies. Loyalty programs can induce feelings of group fit as preferred or special customers and pride for paying less as a result of membership.

Kivetz and Simonson (2003) said

"that consumers often evaluate Loyalty Programs on the basis of their individual effort to obtain the reward relative to the relevant reference effort ... When consumers believe they have an effort advantage over typical others ... higher program requirements magnify this perception of advantage and can therefore increase the overall perceived value of the program."

d) *Store Perceived Value*

Perceived value is defined as the result of the comparison between perceived benefits and sacrifices by the customer (Ruiz-Molina and Gil-Saura, 2008). That perception can change according to the type of product and characteristics of the purchase process. Different consumer behavior patterns can be expected. Some are more price-sensitive; others are more attracted by quality or convenience. In fact, store perceived value is multidimensional and many factors can measure and explain it.

Customer perceived value has a subjective nature with a number of components that contribute to an evaluative judgment. There is a relationship between store perceived value and customer attitude, which is an important determinant of customer loyalty (H3). A study by Ruiz-Molina and Gil-Saura (2008) concluded that store perceived value has a strong influence on both customer attitude and consequently store loyalty. The study considered four value components: quality, emotional, price and social in grocery stores. The quality and emotional components were the most relevant components for customer analysis of Store Perceived Value. The price and social components showed a lower correlation with customer attitude and store loyalty in the grocery store industry. It is possible to infer the importance to retailers in emphasizing physical and human resources to create a pleasant store atmosphere where customers feel good and enjoy shopping in the establishment in question, thus contributing to repeat their patronage.

Differentiation in private label is the main issue to conquer store loyalty (Ailawadi, Pauwels, Steenkamp, 2008).

Customers' perception of value is directly affected by the services provided by retail stores and execution of these service processes by their employees. Services provided by employees arguably play an important role in consumers' evaluations of service performance. The relationships between store service and perceived value are stronger for the highly congruent self-store image customers. The compatibility between the store's image (evidenced by the store's service) and the consumer's image has, in itself, been instrumental in providing perceived value (O'Cass and Debra, 2008).

An important point to be considered is that some characteristics may have a negative impact on buying behavior if they do not exist (like cleanliness) because they are considered by consumers as basic conditions to buy in a certain supermarket. But the value-added characteristics are the ones that push customers to the store. Those are the ones that differentiate one store from another. In Huddleston, Whipple and VanAuken's research, price was not found to be relevant to store perceived value.

Zentes and Morschett (2007) state that retail store brands can be considered to be their 'products'. This identifies a retailer's goods and services and differentiates them from those of competitors. A brand has its own characteristics or traits and they can be translated into a personality like a human personality.

There is a potential influence of brand personality on store loyalty (Zentes and Morschett, 2007) because brands can convey symbolic associations. According to Philip Kotler (2005), each brand has a position in the shopper's mind and that can derive partly from its functional qualities and partly from its psychological attributes like in luxury items.

Brakus, Schmitt, and Zarantonello (2009) relate brand experience to store loyalty. The shopping and service experience includes not only utilitarian attributes but also hedonic dimensions, such as feelings and pleasure and can be affected by marketing communication. Brand connection can lead to involvement related to values, interests and needs. Their research describes the descriptions of sensations by consumers in stores like Wal-Mart, Home Depot and Starbucks. In those cases, consumers related Store Perceived Value to the brand experience (sensory, emotional, intellectual and behavioral) that has a behavioral impact and affects consumer satisfaction and loyalty directly and indirectly through brand personality (durability, sophistication, competence, excitement and sincerity). Brakus, Schmitt and Zarantonello (2009) conclude that brand experience appears to be a strong predictor for buying behavior and store loyalty.

There are other channels being used by companies to interact with their customers in multiple ways and they are certainly sources of interface and evaluation of store perceived value (Payne and Frow, 2004),

This study tests the relation between Store Perceived Value which can be defined as a customer's pleasure in shopping at a particular store, and development of Store Loyalty. This hypothesis presumes that Store Perceived Value has a strong influence on both customer attitude and consequently store loyalty. It means that customers perceive value as the result of the comparison between benefits and cost of shopping and this superior value leads to repeat patronage.

H3: Store Perceived Value positively affects Store Loyalty.

e) *Store Loyalty*

Store Loyalty is usually measured by sales at the firm level, which, for many retailers, is the key driver in the establishment of loyalty programs (Baird 2007). But there is another group of retailers who believe that return visits and consequently purchase frequency are top-line elements of customer loyalty. Researchers

define Loyalty as repeated purchases of particular products or services over a certain period of time.

There is a set of variables used in the market to measure Store Loyalty success: Higher customer purchase frequency, customer profitability, lower inter-purchase times, higher average transaction / basket size as a result of cross-selling (Meyer-Waarden, 2006). Loyalty programs impact profit margin since the reward goal induces purchase acceleration.

Quality store brands can increase store perceived value and consequently increases store loyalty (Corstjens, 2000), because, once customers are used to those private brands it makes it more costly for them to switch stores.

Loyalty can be described as a behavior of repeating purchases. In the supermarket industry, where the portfolio merchandising is basically the same among competitors, the service offered can be determinant. It may be more difficult to measure as it is intangible, has no standardization and depends heavily on the people involved (Ruiz-Molina and Gil-Saura, 2008). There is an emotional component to loyalty because it generates pleasurable feelings in shopping attitude.

Customers often base their impressions of the firm largely on the service received from employees in contact with customers. Employees at the frontline are the key tool to guarantee the customer a high quality store perceived value. Of course there are other facts which contribute to customer's perception such as the firm's structures and processes. All of them have to be well integrated in a customer-oriented firm (Hartline, 2000).

Huddleston, Whipple and VanAuken's (2004) research lists some of the definitions of store loyalty given by many participants:

1. 'Consistently going to the same store even if the price is lower somewhere else'
2. 'Shopping at particular stores on a regular basis' or
3. Associated dollars spent or frequency of visits to a store.

Early work on brand loyalty (Jacoby, 1973) observed that loyalty and repeat purchase behavior are not synonymous and loyalty has both behavioral and psychological (decision making, evaluative) dimensions. These studies indicate that, unlike loyal purchase behavior, repeat purchase behavior is not intentional, nor does it necessarily reflect commitment or constitute loyalty (Jarvis, 1977). This key finding is noteworthy because it indicates that simple repeat purchase behavior is not stable over the long term and may be influenced by a variety of factors such as proximity to store and promotions.

These four variables described above (Program Perceived Value, Program Loyalty, Store Perceived Value and Store Loyalty) are considered in the model framework.

Figure 1 shows the research framework among the constructs in a path diagram format.

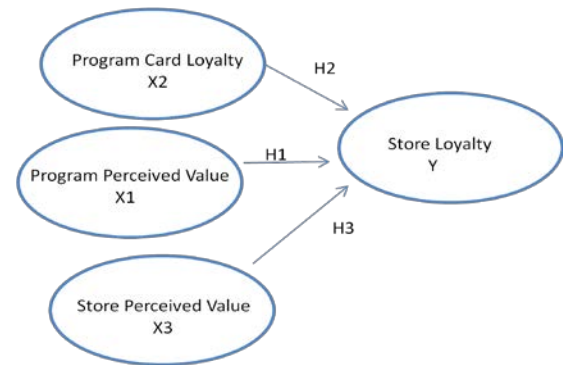


Figure 1

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

V. RESEARCH DESIGN AND METHODOLOGY

The primary interest in this research is to estimate the reciprocal and potentially linear relationship between Program Perceived Value (X1), Program Loyalty (X2) and Store Perceived Value (X3) on Store Loyalty (Y).

Factor analysis among the questions of each dependent variable was performed in order to verify if they are reliable to represent the variable. The analysis tested the hypothesis that those three independent variables (X1, X2, and X3) are related to the independent variable which is the Store Loyalty (Y) as demonstrated in figure 1.

Linear regression was used to test if the variables are correlated and how strong is this correlation. The mathematic equation described the estimated relationship among the variables.

The survey was performed out mainly in very large capital cities where there are a great number of different supermarket stores. Most of the questionnaires (92%) were answered by residents in Rio de Janeiro.

The majority of the questionnaires were answered on the Survey Gizmo site and some of them were sent by e-mail. All of them were self-administered.

More than two hundred people were requested to answer the questionnaire in order to gather 110 hundred members of supermarket loyalty program with private label cards. The reason to concentrate the analysis on the supermarket retail category was to make it easier to measure store loyalty, since the act of going to supermarkets is more frequent over a one-year period than going to other retail stores. In fact, 73% of the people in the sample go to the supermarket at least three times a month and almost 80% of them became members of supermarket loyalty programs more than two years ago.

The population used in this study was defined as consumers (age 18 and over), who are members of at least one supermarket retail store loyalty program.

The survey used a set of 24 questions but 14 were directly tied to the four constructs of study. The interval scale was anchored using a Likert Scale based on five response categories with the following end points: (1) meaning "strongly disagree" and (5) "strongly agree". Before conducting the study, the author pre-tested the survey instrument twice by administering it to 5 people each time to verify the suitability of the terminology used as well as the clarity of the instructions and scales.

In order to test each hypothesis, a linear regression model was used. The construct validity was tested. In factor analysis a high correlation was found among the questions representing variable X1 (Program Perceived Value) and independent variable Y (Store Loyalty). This high correlation was not found among the questions representing variables X2 (Program Card Loyalty) and X3 (Store Perceived Value). To test the theoretical assertion that those three variables positively affect Store Loyalty, a regression modeling method based on 110 collected questionnaires was used. The reason is that sequential effects of constructs (path) had to be tested.

The level of significance considered in the model was 5%. All variables in this study were measured by multi item scales, and implemented based on previous research, such as:

The questions included in the questionnaire regarding Program Perceived Value (X1) were extracted and adapted from the scale proposed by Yi and Jeon (2003). Three questions were used from their

questionnaires. Program Card Loyalty (X2) was measured using Yi and Jeon (2003) and Zeitham and Berry's (1996) scales and three questions were applied.

Concerning Store Perceived Value (X3), the PERVAL scale adopted by Maria Eugenia Ruiz-Molina and Gil Saura (2008) and also questions proposed by Yi and Jeon (2003) were utilized. In all, five questions were applied. In the scope of retailing, Sweeney and Soutar (2001) developed a scale to measure perceived value that the authors called PERVAL. This scale is one of the rare attempts to offer an operating proposal to measure perceived value at the point of sale. It identifies three basic dimensions of value: emotional value (affective feelings generated by a product), social value (utility derived from the product's ability to enhance the consumer's social self-concept) and functional value, composed of the sub-dimensions of price (utility derived from the product due to reduction of its perceived short-term and longer-term costs) and quality (referred to as product performance).

Store Loyalty (Y) was based on Yi and Jeon's (2003) and Maria Eugenia Ruiz-Molina and Gil Saura's (2008) scales.

VI. RESEARCH FINDINGS AND DISCUSSIONS

The level of significance considered in the model was 5%. At this level of significance X2 (Program Card Loyalty) was considered not significant to explain the independent variable Y (Store Loyalty) because it presented a p-value of 0,760. So, a new regression was made with variables Program Perceived Value (X1) and Store Perceived Value (X3), both considered significant for the model.

Table 1 : Coefficients

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
Model		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-1,765	,429		-4,118	,000		
	X1	,185	,133	,152	1,393	,167	,339	2,953
	X2	,042	,137	,036	,307	,760	,285	3,512
	X3	1,078	,147	,830	7,354	,000	,547	1,827

a. Dependent Variable: Y

Source: SPSS

Multi collinearity among the variables was tested and not found (VIF < 5).

The absence of a relationship between X2 (Program Card Loyalty) and Y (Store Loyalty) seems reasonable if the features of the Loyalty Program offered by the supermarket are not attractive to the customer. In this case, other variables may be influencing store loyalty.

The new p-values for the coefficients of X1 and X3 were respectively 0,027 and 0,000. Both lower than 5%. So, variables Program Perceived Value (X1) and Store Perceived Value (X3) were maintained in the model.

The model was found to be $Y = -1,801 + 0,213 X1 + 1,097 X3$.

The impact of Store Perceived Value (X3) on Store Loyalty is higher than the Program Perceived Value (X1). The model suggests that for each point

increase on Store Perceived Value will lead to an increase of 1,097 points in Store Loyalty (Y).

Table 2 : Coefficients

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-1,765	,429		-4,118	,000		
	X1	,185	,133	,152	1,393	,167	,339	2,953
	X2	,042	,137	,036	,307	,760	,285	3,512
	X3	1,078	,147	,630	7,354	,000	,547	1,827

a. Dependent Variable: Y

Source: SPSS

Collinearity between the variables was not found (VIF ≤ 5).

An ANOVA Test was performed and it proved to have a linear relationship between, at least one, of the two remaining variables together and Y (Store Loyalty) (p-value < 1%).

The adjusted coefficient of determination was found to be 0.565, showing not such a strong

relationship between Program Perceived Value (X1) and Store Perceived Value (X3) to Store Loyalty. What the model shows is that, only 56,5% of Y (Store Loyalty) can be explained by X1 (Program Perceived Value) and X3 (Store Perceived Value).

Influent Values (Cook's Distance) or any outliers (Standard Residual) were not found:

Table 4 : Residual Statistics

Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Residual	-2,23083	2,04203	,00000	,87673	110
Std. Residual	-2,521	2,308	,000	,991	110
Stud. Residual	-2,572	2,340	,002	1,005	110
Cook's Distance	,000	,162	,010	,020	110

a. Dependent Variable: Y

Source: SPSS

Hypothesis H2 (that Program Loyalty is not related at all to Store Loyalty) was not confirmed. H3 (Store Perceived Value effect on Store Loyalty) was more strongly related to Store Loyalty. H2 (Program Perceived Value effect on Store Loyalty) showed a weak relationship.

This kind of finding can lead to speculation that customers do not perceive value in the Loyalty

Programs currently offered by supermarkets. That would mean that in the cost-benefit analyses, customers do not think it worthwhile to patronage a certain supermarket because of its loyalty program. In fact, the research suggests that the store perceived value is related to other characteristics, not the loyalty program, in their buying decision making process.

Chart 3 – Hypothesis

H1	Program Perceived Value is positively related to Store Loyalty	Accepted - low relationship
H2	Program Card Loyalty is positively related to Store Loyalty	Not accepted
H3	Store Perceived Value is positively related to Store Loyalty	Accepted

Source: Thesis author

VII. CONCLUSIONS

The research showed that loyalty programs in supermarkets are not working as an effective loyalty tool. Perception of store value may be more related to ambience, product assortment or even the quality of service offered inside the store or on any of the contact points with the customer (web, telephone, chats). Program Card Loyalty proved to have no correlation with Store Perceived Value, which makes sense in the real world. Many stores do not have a program card and are able to develop customer loyalty. Loyal customers do not patronage the supermarket stores because of their loyalty programs. Store perceived value is derived from other sources.

VIII. RECOMMENDATIONS FOR FURTHER RESEARCH

The study is limited by its focus on a single industry setting (i.e., supermarkets). It might present different results if performed in other industries such as airlines, credit cards or drug store chains for example. The size of the sample could also be considered a limitation.

It would be also useful to apply a structural equation analysis to measure the possible relationships between program perceived value and the loyalty to it, the program perceived value and the store perceived value and program card loyalty to store perceived value. Those relationships may exist in two directions.

Results may be strictly related to the quality of loyalty programs offered today in the supermarket industry, which means that, although customers may think that loyalty programs have a key role in their patronage of a store, those existing nowadays are not good enough.

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Ubuntu and Client Service Charter Nexus

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Abstract- Purpose- The purpose of this paper is to examine reclaiming ubuntu philosophy as a kernel of Chinhoyi University of Technology's (CUT) service delivery. We argue that embedding ubuntu philosophy into core values, leads to better institutional vision, mission and strategies. The study explores how values of ubuntu are linked to service excellence at CUT. We argue that reclaiming and praxis of ubuntu philosophy bridges service delivery performance gap.

Design/methodology/approach- Simple random sampling method focusing on ubuntu and client service charter framework (CSCF) is used. Having reviewed relevant literature, the study employs self-completing questionnaires and interviews. A qualitative methodology was used. Data was analysed using SPSS and content analysis.

Findings- Basing on key variables embodied in ubuntu philosophy, the study shows that a CSCF for CUT was non-existent, thereby creating service performance delivery gap. Research limitations – This study is exploratory, however, the findings could be generalised within African context as ubuntu is an African ethic.

Keywords: *ubuntu, philosophy, vision, mission, strategy, service-charter.*

GJMBR-A Classification: *JEL Code: M19*



UBUNTU AND CLIENT SERVICE CHARTER NEXUS

Strictly as per the compliance and regulations of:



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Ubuntu and Client Service Charter Nexus

Gladys Ruvimbo Ndoda ^α & Mike Nyamazana Sikwila ^σ

Abstract- Purpose- The purpose of this paper is to examine reclaiming ubuntu philosophy as a kernel of Chinhoyi University of Technology's (CUT) service delivery. We argue that embedding ubuntu philosophy into core values, leads to better institutional vision, mission and strategies. The study explores how values of ubuntu are linked to service excellence at CUT. We argue that reclaiming and praxis of ubuntu philosophy bridges service delivery performance gap.

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Findings- Basing on key variables embodied in ubuntu philosophy, the study shows that a CSCF for CUT was non-existent, thereby creating service performance delivery gap.

Research limitations – This study is exploratory, however, the findings could be generalised within African context as ubuntu is an African ethic.

Practical implications- This study is significant to institutions and stakeholders involved in quality service delivery.

Social implications- This exploratory paper indicates constraints involved in the institutional management and socio-cultural characteristics as ubuntu is enshrined in African people and therefore strategies linking ubuntu and performance are of higher significance in the work-place.

Originality/value- This paper explores the distinctiveness of ubuntu and institutional performances, service delivery and management. Very scant research has been undertaken in this area of Afrocentric service delivery and management.

Keywords: *ubuntu, philosophy, vision, mission, strategy, service-charter.*

1. INTRODUCTION

This article pursues the strategic imperative of reclaiming ubuntu philosophy as the kernel of CUT service delivery. The enduring legacy of slavery, colonialism (Letseka, 2011), Western education and missionary Christianity all but destroyed this cultural worldview - But conscious African men and women are finding a way to renegotiate their spiritual and African identity with ubuntu in mind (Ngunjiri, 2010). As Morrow (2007: 7) points out, colonialism “was a form of the politics of difference, in that, it deliberately prevented the development of social cohesion and hindered the

development of a shared moral discourse.” Ubuntu has always resided within the Africans through tacit community memory which needs to be invoked and operationalized. The term Africa is used in its geographical sense to mark Africa as different from other continents, thus adjective African has geographical, cultural and political slants without presuming any heterogeneity about Africa (Letseka, 2011).

The problem the article seeks to address is the erosion of community values. The study intends to explore the question: How can we retrieve the communal cultural values of ubuntu/unhu that can be linked to service excellence, enabling the devising of a Client Service Charter Framework? We draw from the argument advanced by Bhengu (2013), that the horizon of the present and the future cannot be formed without the past. While modernity and colonization have eroded African culture, much still remains intact, particularly the concept of ubuntu inherent in Africans which we seek to invoke and operationalize. The purpose of this paper is to explore how values of ubuntu maybe linked to service excellence at CUT. The results indicates coincidence between some of the values implicit in ubuntu and some of the values that are enshrined in the CUT Strategic Plan 2011 -2015 and on that basis, we argue that ubuntu has the potential to serve as a moral theory and public policy (Letseka, 2011; Tshoose 2009; Bekker 2006; Mokgoro 1998). This paper, thus aimed at examining the following objectives:

- To explore the embedded conceptual features of ubuntu/unhu.
- To highlight the Zimbabwean perspective of ubuntu/unhu and its relevance to CUT community.
- To investigate the practice of the African philosophy of ubuntu/unhu at CUT.
- To unravel problems that hamper the implementation of ubuntu/unhu at CUT.
- To advance an ubuntu/unhu-oriented client service charter for CUT.

Basing on key virtues as embodied in ubuntu philosophy and that ubuntu implies an interactive ethic in which humanity is shaped by interaction with others as co-dependent beings (McCluskey and Lephalala 2010; Cornell and van Marle 2005), the study therefore, advanced a Client Service Charter Framework for CUT. The absence of a service charter creates a service delivery performance gap, since there are no visible

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checks and balances. In tandem, we operationalize the value of 'culture of CUT, as a drive to ensure that the diversity of Zimbabwe's indigenous values and cultural heritage forms a significant component of professional and social life at the University' (CUT Strategic Plan, 2011 – 2015: 4). The 'lost' ubuntu philosophy, lack of client service charter and service delivery gap creates problems with internal and external clients as ubuntu is an element of culture. Organisation culture distinguishes CUT from other educational institutions and if the cited key elements are missing or not addressed, unfavourable organisational image could be created and communicating with stakeholders would be difficult and a possible dysfunctional CUT community could ensue.

The paper is divided into five sections: section One is the introduction, section Two gives the literature review, section Three gives the methodology, section Four is the findings and discussion and section Five gives the conclusion.

II. LITERATURE REVIEW

CUT community: Mabovula (2011) maintains that the term community refers to any philosophical standpoint that defines a person in the context of social bonds and cultural traditions rather than through individual traits (Daly 1994). Ramose (2002) aver that an African community is an on-going dynamic association of men and women, who have a special commitment to one another and have developed a distinct sense of their common life. The common life, in this sense, is perceived as any public discursive space which members construct through action – in concert. In this context, the history of a person's life is the story of his or her transactions with the community's material and moral worlds, which, in effect, is the story of his or her relations with particular sets of social goods. This is called a social contract in which an individual's choice of way of life is a choice constrained by the community's pursuit of shared ends. Chimuka (2001) articulates that Africans' life was lived in the community and ultimately, the individual's conduct was sanctioned by the same society. The individual's conduct was considered to be good if it satisfied the requirements of ubuntu/unhu and was condemned if it did not. However, as Samkange (1980: 38) rightly observed, the conception of hunhu was bound to vary "to the extent that individual groups have undergone changes not experienced by others" as maybe informed through a CUT Service Charter Framework where members are socialized in ubuntu, especially the students so that the values would be carried forward. In general, however, conduct had to be in line with the community's conception of hunhu hwemunhu (the moral character befitting a cultured human being).

We view the notion of community to serve as a means to sustain social, political, technological and

economic transactions by CUT. The communitarian view of relationships, being values enshrined in ubuntu inclusive of cooperation, mutual respect and understanding (Meiring, 2007; Chimuka, 2001), would inform these imperative conditions. Aspiration to gain competitive advantage becomes the driving force to this solidarity. The Africans were quite aware that people had to work hard in order to improve themselves by transforming their environment through engaging themselves in the productive process (Meiring, 2007), much like CUT would be enabled through a Client Service Charter necessitating the group approach to the challenges of life, commercial awareness, competitive and business intelligence through service excellence delivery. We contend that the spirit of ubuntu, part of a deep cultural heritage of the majority of the population at CUT, would suffuse and be foundational in developing a world class centre of excellence for technological innovation and entrepreneurship. The CUT Annual Report (2012: 52) fomented that "only one thing has to change..., that is, where we focus our attention as the battle of life is a battle of focus" which we contend, can be attained through reclaiming and praxis of ubuntu for service excellence attainment.

Another essence of African cultural existentialism, the study unravels, is African communalism. Khoza (2005: 266) describes communalism as "a concept that views humanity in terms of collective existence and inter-subjectivity, serving as the basis for supportiveness, cooperation, collaboration and solidarity". In similar conceptual context, Gyekye (1987) connotes African communalism as a kinship-oriented social order, which is informed by an ethic of reciprocity. In a communal social order, one is brought up with a sense of solidarity with large groups of people. During the course of this "cohabitation," one comes to see one's interests as being bound up with the interests of the group over a great number of issues of life and well-being (Khoza, 2005; Mbiti, 2005; & Gyekye, 1987). This sense of community, according to Gyekye, was a characteristic of African life and indeed, to many Africans, this communal efficacy defines being an African. In the context of Gyekye's definition, this form of communalism signifies the human person as an inherently communal being embedded in a context of social relationships and interdependence, and never as an isolated, atomistic individual. In African community, people view themselves and what they do as equally good to others as to themselves.

A study by Barber (1998) asserts that people envisage civil society as complex social relations that tie people together. The initial social stratum is constructed first of all, into families and kinship, associations like clans, and then into clubs, neighbourhoods, communities, congregations, and more extended social hierarchies. This is the central notion of a community where people work together to create peace and love to

an extent that Mararike (1999) argues that employees occupy geometric and anthropic space guided by ubuntu/unhu (Ndoda, 2013; 2012). As such, the CUT community denotes CUT's structures and their symbiotic functions.

The Philosophy of Ubuntu: Bhengu (2013) posits that the debate of Pan-African integration and unity can only be achieved through internalization and fusion of ubuntu in all macro- and micro- Pan-African processes. On the contrary, Gade (2011) contends that ubuntu chronicles that have developed, are narratives of return in the context of social transformations where African postcolonial narratives contained the idea that in order to create a good future, society needs to return to something African rooted in pre-colonial times. We, however, argue that a return to the 'golden' age' is a denial of the dynamism of culture and that Africans do not romanticize ubuntu but rather, are reclaiming ubuntu inherent in Africans, as the crux of their existence, contending that some of the earlier writings on African culture and ubuntu were done in bad faith. If there can be no reversion to the pre-colonial starting point, how then do we fill that cultural gap, which

inhibit the service delivery challenges that face CUT? We attempt to answer this critical question. Studies on indigenous cultures in Zimbabwe, which were carried out by ethnographers before Zimbabwe's independence, were driven by Euro-centrism (Chimuka, 2001; Tsenay, 1997). The problem is not that the scholars were European, rather, the problem lies in the fact that they subscribe to Eurocentric conception of history that made them biased against Africans and their institutions. Tsenay (1997) defines Euro-centrism as a pervasive bias located in modernity's self-consciousness of itself which is grounded at its core in the metaphysical belief or idea that European existence is qualitatively superior to other forms of human life. Chimuka (2001) motivates that modernity has been construed as the globalisation of Europe which manifested itself in imperialism and colonisation projecting European existence as true human existence as explicitly expressed in the writings of Hume (1711-1776), Kant (1724 - 1804), Hegel cited in Trejo (1993), and Marx (1843- 1844), justifying empire building as a way of exporting European civilisation. This school of thought, it is argued had no respect for Africans (Bhengu, 2013).

We further motivate that ubuntu is an enduring philosophy as supported by Gade (2011) who posits that the term ubuntu has frequently appeared in writings, at least since 1846. African social institutions were based on Ubuntuism/Hunhuism philosophy forming an ethic for Africans not akin to those found in Europe (Bhengu, 2013; Khomba, Vermaak & Gouws, 2011; Eze, 2006; Ramose, 1999; Battle, 1997, Samkange & Samkange, 1980). Ubuntu is defined as the essence of being fully human, that is, African humanism, a

philosophy, an ethic and as a worldview (Gade, 2011; Ngunjiri, 2010). According to Battle (1996), the concept ubuntu originates from the Xhosa expression, 'Umuntu ngumuntu ngabanye abantu' which means that each individual's humanity is ideally expressed in relationship with others (Khomba, Vermaak and Gouws, 2011; Gade, 2011; Mabovula, 2011), a thesis that this paper rallies on. Ubuntu consists of the prefix ubu- and the stemntu- evoking the idea of being in general, thus ubu-ntu is the fundamental ontological and epistemological category in the African thought of Bantu-speaking people (Ramose, 1999; Mabovula, 2011). The existential condition, namely being, is one and is pivoted on ubuntu/hunhu (Ramose, 1999). Hunhu is the ontological, epistemological and moral fountain of African philosophy hence he says:

The African tree of knowledge stems from ubuntu with which it is connected indivisibly. Ubuntu then is the wellspring flowing with African ontology and epistemology.

Since ubuntu/hunhu is the fountain of African thought, it may therefore, be invoked to explain language and conduct (Chimuka, 2001). 'Munhu', as part of hunhu (being) is a metaphysical entity, namely, the individual human being. However, since life is a shared enterprise, munhu vunhu, namely, one's humanity is affirmed as one affirms the humanity of others and vice versa. According to Mbigi (2000:7) quoting Tutu, therefore, says:

Africans have a thing called ubuntu; it is about the essence of being human, it is part of the gift Africa is going to give to the world. It embraces hospitality, caring about others, being willing to go that extra mile, one for another. We believe that a person is a person through other persons; that my humanity is caught up, bound up inextricably in yours. When I dehumanize you, I dehumanize myself. The solitary human being is a contradiction in terms, and therefore you seek work for the common good because your humanity comes into its own, in community, in belonging.

III. METHODOLOGY

The primary data was obtained from CUT. The University community was taken as the population. A sample of 190 participants was picked using a simple random probability sampling method. A structured questionnaire was then used to collect data. CUT community was selected due to a number of reasons inclusive of proximity to the researchers, and that the institution does not have a client service charter and that primary data was collected using the qualitative research. The data was analysed using SPSS and content analysis. Data reliability and validity: Data reliability as a measure of internal consistency of the data constructs, was determined by means of the Cronbach's alpha (α) – an α coefficient above 0.7 is

considered reliable (Khomba, Vermaak & Gouws, 2011; Field, 2009; Costello & Osborne, 2005). In this study, the overall α coefficient was 0.776, which suggests that internal consistency of the data was good. In terms of data validity, the questionnaire targeted a tertiary

institution where the level of conceptualization of variables by mature respondents was deemed to be very high with 58% being degree holders and 26% holding diplomas and in the process of upgrading to degrees.

IV. FINDINGS AND DISCUSSION

Table 1.1 : Demographic Distribution of Surveyed Respondents (N = 157)

Attribute	Frequency	Proportion of Respondents (%)
Age		
16 – 20	1	0.6
21 – 29	36	22.9
30 – 39	68	43.3
40 – 49	35	22.3
50 and above	17	10.8
Total	157	100.00
Gender		
Male	97	61.8
Female	60	38.2
Total	157	100.00
Academic Qualifications		
O' Level	19	12.0
A' Level	5	3.0
Diploma	40	26
Degree	91	58
Total	157	100.00

Source: Survey Data, 2013.

As reviewed in Table 1.1 above, most of the surveyed respondents (43.3%) belong to the age group 30 – 39 years, whilst the least number (0.6%) is aged between 16 and 20 years. Out of a total of 157 respondents, 22.9 percent were aged between 21 and 29 years; 22.3 percent fall under 40 and 49 years and 10.8 percent of the total respondents were above 50 years old. The data obtained from the study showed a gender imbalance where a greater proportion (61.8%) were male and 38.2 percent being female. The level of education of most of the sampled respondents was high as 58 percent were degree holders and 26 percent of them have diplomas, whereas the least number (3%) had A' Level with 12 percent having O' Level certificates.

Case summaries: Basing on the case summary for understanding ubuntu, the results indicated that, out of

157 respondents, a high response rate of 75% illustrated a good understanding, 19% showed a fair understanding with 6% exhibiting no understanding. An assessment of practice of ubuntu in the CUT community displayed a 61% of the respondents indicating ubuntu was inefficiently practiced, with 39% advocating that it was efficiently practiced. 76% of the CUT community is willing to embrace values of ubuntu, 14% tend to disfavour, and with 7% unsure and 3% were missing variables. A myriad of reasons were cited by respondents, as inhibiting the practice of ubuntu and these are illustrated in Table 1.2 below:

Table 1.2: Challenges inhibiting practice of *ubuntu* at CUT

Item	
1	No adequate social platforms to iron out problems.
2	No common theme to harness different cultures.
3	Class system tending to dominate practices.
4	Belittling each other, with selfish tendencies taking root.
5	People are failing to appreciate being African.
6	Lack of business practices to support and guide permeation of <i>ubuntu</i> in the community.
7	Discrimination by qualification.
8	Lack of shared values.
9	Inconsistent application of policies, & failure to understand ordinance.
10	Political tendencies dominating, instead of professionalism.
11	Shortcomings from upbringing, decadent behaviour and poor dress code especially by females.
12	Technology and modernity (societalization) have eroded <i>ubuntu</i> .
13	Community not united.
14	Colonial education instilled a foreign culture at the expense of <i>ubuntu</i> .
15	Loss of community memory.

Source: Survey data, 2013.

Out of 157 total surveyed participants, respondents indicated that community gatherings related to ubuntu played a leading role in building the CUT community together. In support of the activities that bind the CUT community together, 50 respondents

pointed out cultural activities, 52 out of 157 opted for religion, whereas 83 supported business practices, 50 noted family practices and the least (25 out of 157) noted youth activities.

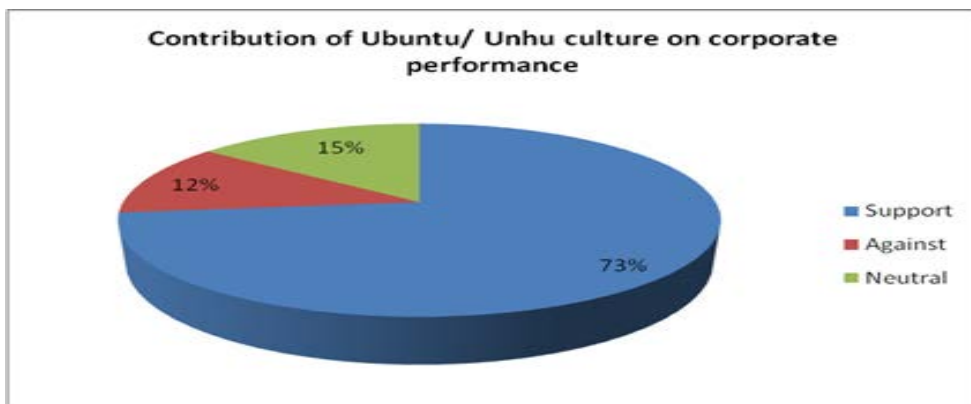


Figure 1.1 : Africanisation Values

Source: Survey data 2013.

Based on the research findings as illustrated in Figure 1.2 illustrated on the previous page, majority (73%) of the sampled respondents indicated that ubuntu/unhu culture greatly contribute to corporate performance as employees tend to have high morale

and productivity levels. Such positive trends towards corporate performance has also fostered change and growth in organisations that values ubuntu/unhu for corporate value creation to the outside world. Furthermore the study found out that a relatively few

number (12%) of total respondents were not convinced about the contribution of ubuntu/unhu culture on

corporate performance and 15 percent (that is, 23 out of 157) remained neutral on the question understudy.

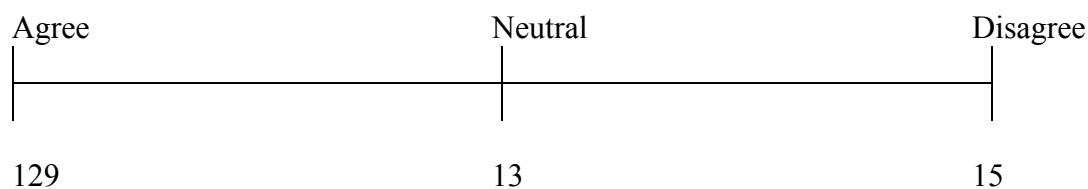


Figure 1.2: Impact of Ubuntu/Unhu culture in fostering service standards

Source: Survey data, 2013

The study reviewed that, out of 157 total sampled respondents, 129 pointed out that ubuntu/unhu fosters service quality, as shown in Figure 1.2 above, hence the need to be incorporated into organizational set-ups. Such a development would result in promoting customer orientation, however, a few respondents (15

out of 157) dismissed the arguments that ubuntu/unhu fosters service quality due to changes in the effects of globalization. However, the least number (13) of the surveyed respondents either agree or disagree to some extent on the impact of ubuntu/unhu culture in fostering service standards in organizations.

Table 1.3: Incorporating African Culture in Organizational Set – Ups (N = 157)

Response	Frequency	Percentage of respondents
Agree	111	70.70
Neutral	26	16.57
Disagree	20	12.73
Total	157	100.00

Source : survey data

The findings from the Table 1.3 above, indicated that majority (70.7%) of the respondents greatly value the incorporation of African culture into organizational set-ups for corporate sustainability. This can be done through providing a mechanism that supports indigenous knowledge systems (IKS) and processes in organisations and communities at large. A relatively lower proportion (16.57%) of the surveyed respondents remained neutral on whether African culture should be/or not be incorporated in organizational set-ups and the least (12.73%) of the total respondents did not realise the benefits of incorporating African culture in organizational set-ups due to lack of training in organisational processes and systems as these tend to be influenced by socio-cultural factors for wealth creation, innovation and technology (WIT).

Values of Ubuntu: Cultural Policy of Zimbabwe (2007) advances a strong argument, in that, with everyone in the world having opened up to the global village and with all foreign culture forces knocking at our doorsteps, Zimbabweans need to rekindle customs, values and those of our norms that are capable of laying a solid foundation for the resuscitation of the spirit of respect, integrity, tolerance, compassion, ubuntu/unhu

and at the same time fostering natural pride. The authors argue that, it is crucial that these virtues form the linchpin of our existence and are transmitted in all our postures so as to promote national identity which will enable the nation to adopt those global values that they would have assessed to have meaning in their Zimbabwean lives. The authors argue that social cohesion is elemental and the fulcrum, are a peoples system of values. Basing on this viewpoint and other advancements, we present the notion that adoption and integration of ubuntu philosophical framework for operations enhance the alignment of each individual staff and board member to the vision, mission and strategy (Ndoda, 2013). Furthermore, the authors argue that, The CUT Strategic Plan (2011 - 2015) is silent on the element of customer/communities perspective as an element of strategy and service delivery, thereby creating a service performance gap within the system. The system could be based on ubuntu values which encapsulate the need for sustainable existence akin to the survival of CUT as a corporate organization striving to be 'the CUT above the rest' in the incessant world of competition. Gelfand (1973) and Chimuka (2001) stated that:

When we speak of the teleology of the lymphatic system, of a human body, we are speaking about an end; the defence of a human system against bacterial invasion and the observable fact that the lymphatic system of the human body is a means towards an end. The reaction to an attack on the human system, when an epidermis is broken, is not conscious, but it does take place. In much the same way, the teleology of African (CUT) culture is not something of which the individual is conscious; it is rather something of which the observer of African (CUT) culture becomes aware the more he observes the people. The end of African (CUT) culture is survival. The means towards the end hinge on the complexes of beliefs, practices, taboos, social conventions and so on, that have, in fact, succeeded in assisting the people to survive as a people for a longer period of time.

Virtues considered fundamental for community life can be put into numerous "broad categories: 'kunuzwana' (mutual understanding), 'kugarisana' (peaceful coexistence), 'kuwadzana' (fellowship), 'hushamwari' (friendship), 'kudyidzana' (this word captures the idea of mutual hospitality but is not reducible to it), and 'mushandirapamwe' or 'shosholozana' (co-operation) (CUT Survey data, 2013; Nyaumwe & Mkabela, 2007; Chimuka, 2001: 32). These concepts express major ubuntu values, which could be broken down into minor values; the function of which was to facilitate conduct and survival in the community.

The authors' findings indicate that some of the values embodied in ubuntu are:

- Group solidarity, compassion, respect, human dignity, conformity to basic norms, collective unity, humanity, morality and mutuality (CUT Survey data, 2013; Bennett, 2011; Letseka, 2011).
- Solidarity, mutuality, generosity, and a commitment to the community wellbeing (CUT Survey data, 2013; Ngunjiri, 2010; Nafukho, 2006; Tutu, 1999; Battle, 1997; Mbigi, 1996).
- Truthfulness, humility, humanity, love, self-control, forgiveness, mercifulness, sufficiency, trustworthiness, strength, courage and industriousness (CUT Survey data, 2013; Gelfand, 1973).
- Tolerance, humanity, respect, caring, humble, thoughtful, considerate, understanding, wise, generous, hospitable, socially mature, socially sensitive, virtuous, and blessed: character attributes that veer away from confrontation towards conciliation (CUT Survey data, 2013; Mabovula, 2011).
- Politeness, kindness, humaneness, generous, humanity, greatness of soul (Gade, 2011).
- Self-identity, self-respect, self-control, self-discipline, human dignity, unity and achievement (Museka, Phiri, Kaguda, & Manyarara, 2013; CUT

- Survey data, 2013; Letseka, 2011; Bhengu, 1999, Nziramasanga Commission, 1999).
- Hospitality, friendliness, community, family-hood, loyalty, communalism, cooperation, care (Nyaumwe & Mkabela, 2007; Karsten & Illa, 2005; Nziramasanga Commission, 1999).
- Teamwork implying synergies, group solidarity, trust, interdependence and spiritualism (CUT Survey data, 2013; Khomba, Vermaak & Gouws, 2011; Broodryk 2007; Muuka & Mwenda 2004; Mangaliso 2001; Mbigi & Maree 1995).
- Altruism, kindness, generosity, compassion, benevolence, courtesy, integrity, honesty, tolerance, diligence, responsibility, altruism, justice, respect, social cohesion, and concern for others (CUT Survey data, 2013; Letseka, 2011; Murithi, 2009; Bessler, 2008; Mokgoro, 2007; Tutu, 1999; Broodryk, 2002; Letseka, 2000)

Whilst values were identified, some vices such as detraction, lying, pride, covetousness, revenge, personal aggrandizement, xenophobia, hatred, ingratitude, negligence, tribalism, aggressiveness and selfishness were noted (CUT Survey data, 2013; Gade, 2011). Ubuntu adds to our understanding of leadership praxis contributing to the leaders' ability to build and sustain community (Bennett, 2011). Ubuntu becomes a common denominator for Africans, much like Confucianism is for the Japanese and the Chinese. Bennett (2011) adds that as a metanorm, ubuntu is necessarily generalised and has a much broader scope, suggesting that it is a representation of the right way of living akin to the notion of dharma.

Social harmony is at the heart of ubuntu, promoting cohesion (CUT Survey data, 2013; Bennett, 2011). Unionism at best, is enshrined in tolerance (CUT Survey data, 2013). Furthermore, Mabovula (2011) notes that tolerance is a value to be achieved by deepening people's understanding of the origins, evolution and achievements of humanity on the one hand and through the exploration of that which is common and diverse in cultural heritage on the other. Disagreements need not cause harm if there is tolerance and mutual respect for each other and people's viewpoint in the community structure, much like in structures of CUT (CUT Survey data, 2013). Further, Mabovula (2011) argues that highlighting the importance of tolerance does not suggest that it is the only value that community members should live by, or even that it is the most important. However, when CUT communities make evaluations, it is important that these evaluations evolve from a continuous discussion and debate between various role-players in the community bound by mutual respect. Bennett (2011) held that fairness and civility were inseparable from ubuntu presupposing tolerance for those with whom one disagrees and respect for the dignity of those with whom one is in dispute elevating civility as a precondition for good functioning of contemporary democratic societies.

Gade (2011) claims that the term ‘quality’ appears in descriptions of ubuntu, and in many texts ubuntu is evidently considered to be a very positive quality which has potential benefits if manifested in service excellence at CUT. The CUT community may possess qualities of ubuntu in different extents and complexities, and thereby needing checks and balances in accordance with the principle of moderation regulating conduct and central to understanding and bridging service delivery performance gap (CUT Survey data, 2013). To this end, Gade (2011) informs that the concept of ubuntu/unhu also constitute the kernel of African jurisprudence as well as leadership and governance tending to support remedies and punishments that bring people together through a

demonstration of ‘ubuntu/unhu’. Ubuntu as a broad value expresses a unique quality about a person, which elevates him/her to a plane of godliness, virtues pivotal in the portfolio of service, standards and excellence. Ubuntu therefore, places service excellence in the hands of the community through values embodied in ubuntu, It is the thesis of this article, therefore, that Zimbabwe at large, has an indigenous philosophy, which could best guide and inspire thinking that once reclaimed and put into praxis, has the potential to bridge service delivery performance gap, gaining resonance with policies formulated and implemented in order to be consistent with Ubuntuism that ultimately would need to inform other models of development.

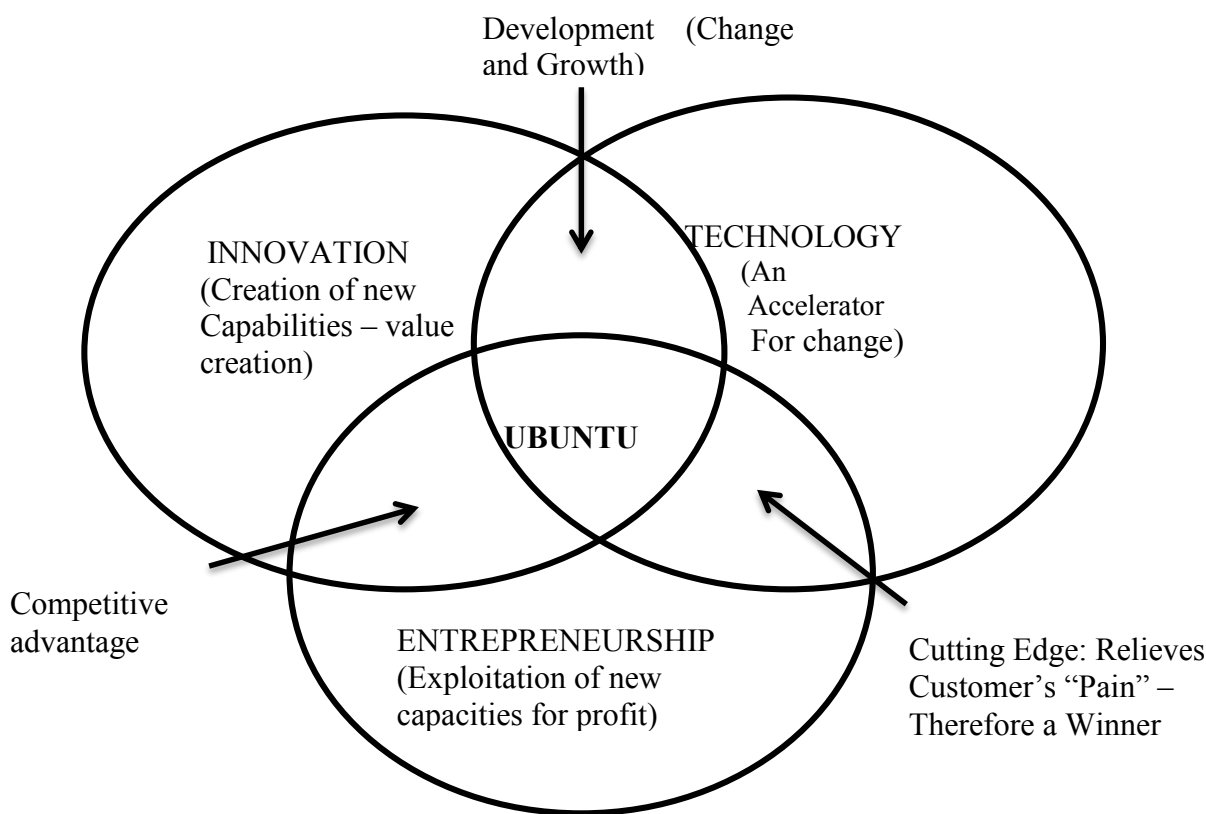


Figure 1.3: Re-alignment of CUT's Vision Model

Source: Adapted from CUT Strategic Plan (2011 – 2015)

We set forth that affirming the values of ubuntu philosophy and aligning them to the vision of CUT could give character, expand and entrench principles of restorative claiming of ubuntu and give unparalleled collateral to the institution. Centralising ubuntu, in essence, as shown in Figure 1.3 above, captures the philosophy, showing its permeation in the vision, locking it in so that it is not lost. Against this backdrop, we present that there is need for a comprehensive promotion of ubuntu through education given that the country is only just emerging from economic, political

and social instability era that was marked by tribal, racial segregation and discrimination, subordination and domination, and exclusion. Education thus needs to articulate a methodology for developing ubuntu social disposition (Museka, Phiri, Kaguda, & Manyarara, 2013; Khuzwayo, 2006).

a) *Ubuntu-Oriented CUT Client Service Charter (CCSC) Framework*

Ubuntu has the potential to serve as public policy. Persons living in communities that embrace ubuntu, would be marked by a commitment to treating

internal and external clients, stakeholders and shareholders with a sense of ubuntu, which entails treating them with justice and fairness (Letseka, 2011; Nkondo, 2007, Letseka, 2000). Ubuntu would articulate CUT community's inter-connectedness, common humanity, and the responsibility to stakeholders and shareholders that flows from connection. Ubuntu is a worldview that emphasises the commonality and interdependence of the members of the community. Umuntu ngumuntu ngabantu or "a human being is a human being because of other human beings" (CUT is a 'being' ngabantu) resonates with Mbiti's (1971) maxim I am, because we are; and since we are, therefore I am, which articulates social interdependence or a deep rootedness in community (Letseka, 2011; Chachine 2008; Adonis 2008). For Sindane (1994: 8-9), "ubuntu inspires us to expose ourselves to others, to encounter the difference of their humanness so as to enrich our own" through service delivery. Ubuntu is a theory of right action in value creation (INNOVATION) to gain competitive advantage through the exploitation of new capabilities (ENTREPRENEURSHIP) thereby gaining a cutting edge for positive change (TECHNOLOGY) resulting in development (Figure 1.3 on the previous page). From the above argument, Ubuntu-oriented Service Charter Framework is therefore the engine and elixir for service delivery transformation for CUT and could be a means to engage internal clients in addressing challenges identified.

Ubuntu-oriented CCSC, as illustrated in Figure 1.4 on page 21, would equip CUT community with the tools to resolve the many problems that come with being human and running a corporate organization with one of these tools being the attitude to treat problems as challenges that need to be resolved through knowledge and understanding (Letseka, 2011; DoE, 2000) rather than to be regarded as unbearable burdens that are to be endured without solution. Ubuntu-oriented CCSC does not only enhance communication between management and employees, but provides a voice too (Karsten & Illa, 2005), that is, participatory interaction with stakeholders producing voice and inventive ways (Deetz, 2003) of transacting. The introduction of the ubuntu-oriented CCSC Framework would not replace the transfer of knowledge, like management concepts from the other worlds, but have instead, the foreign approaches supporting Afrocentric approaches as deemed necessary. Ubuntu then becomes the brand and label that covers the way CUT community engage in service delivery. In that sense, ubuntu fit the socialization process as described by Nonaka and Tekeuchi (1995) during which tacit knowledge becomes shared and concretised. Ubuntu therefore, strives to reach beyond a purely managerial approach and strengthens an attitude of open conversation including voices of all participants

in the organization and building consensus through the 'wisdom circles'.

"Ubuntu embraces a set of social behaviours like sharing, seeking consensus and interdependent helpfulness which, if recognised, valued and willingly incorporated in the culture of organizations, could exert considerable positive outcomes on business results" (Karsten and Illa, 2005: 614). Ubuntu-oriented CCSC can be used to dismantle the past organizational culture, promote the development of a new more inclusive culture and create a set of leadership skills and competencies that enable these processes. Ubuntu values become the roots out of which, a collective personhood and collective morality can flow (Colff, 2003).

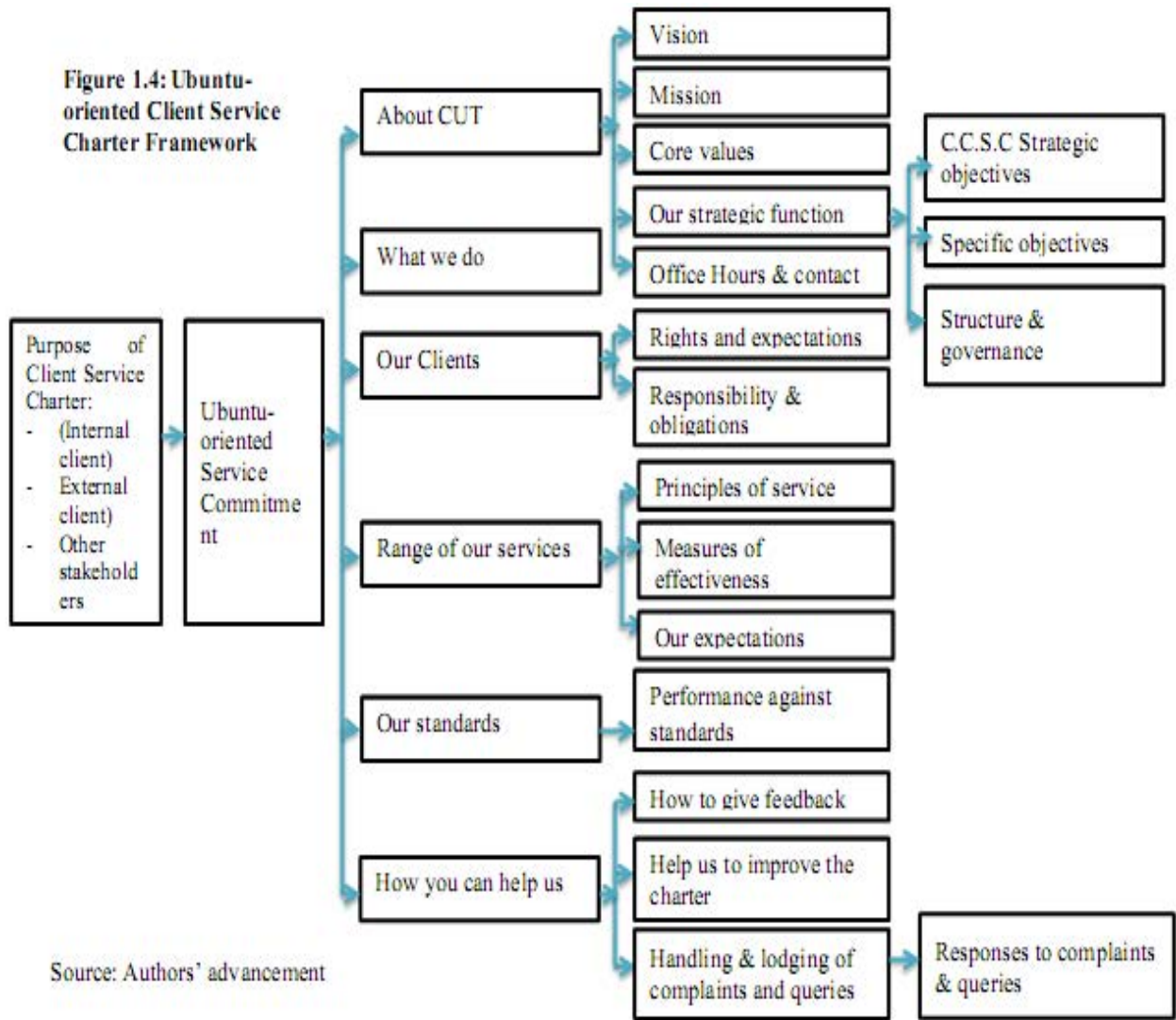


Figure 1.4: Ubuntu-oriented Client Service Charter Framework

V. CONCLUSION

The study has revealed general issues regarding the African philosophy of ubuntu and service excellence delivery. The major theme governing the use of the Client Service Charter is “Umuntu ngumuntu ngabantu”. The factor Africanisation values addresses general issues related to the Africa socio-cultural environment anchored by ubuntu philosophy, while the factor learning values recognizes that when employees are trained and gain indigenous knowledge, their productivity and service performance delivery improve. The factor customer values focuses on Africanising customer care and satisfaction, an attribute Zimbabweans are well known for (Ndoda, 2013). Finally, the factor wealth creation, innovation and technology values, clarifies the unparalleled collateral in change and growth that are realized from skilled and motivated

employees. All values are positively correlated with one another and could add value to CUT corporate performance. The most important finding of this study is the significant contribution that indigenous knowledge and what an ubuntu philosophy could make to CUT corporate performance. The empirical evidence in this study suggests that the new Re-alignment of CUT’s Vision Model (Figure 1.3) and Client Service Charter Framework (Figure 1.4) of ubuntu-oriented perspective would be ideal tools to ensure better CUT corporate performance. The results suggest that an African philosophy of ubuntu-oriented client service charter addresses the socio-cultural frameworks of the continent and hence could be adopted by any organization based in Africa. The new ubuntu-oriented client service charter framework would represent African ideologies and socio-cultural contexts.

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A Review of U.S. IFRS Conversion Leading to Organizational Change Readiness Mishaps

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Abstract- The purpose of the article is to review the International Financial Reporting Standards (IFRS) convergence and its effect toward organizational change initiatives. It is expected that IFRS will replace U.S. GAAP in the near future. Most importantly, in 2010, the Securities and Exchange endorsed the convergence of IFRS and also urged firms to switch from the existing U.S. GAAP guidelines to the IFRS. Additionally, the Big 4 CPA firms have also endorsed the implementation of IFRS. Most interesting, the American Institute of Certified Public Accountants (AICPA) has suggested that IFRS would be included in all Certified Public Accounting (CPA) exams starting in January 2011. From an educational perspective, this article will review U.S. universities/colleges accounting curriculums for student academic preparedness. At the end, recommendations will be offered to streamline IFRS throughout organizational and educational spectrums.

Keywords: *leadership organizational development, learning organizations, organizational learning, organizational development interventions, organizational change, SEC, FASB, IASB IFRS, ASAF, and business schools.*

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I. INTRODUCTION

In an effort to stay abreast of global organizational change initiatives as they relate to accounting principles and practices, the Securities and Exchange Commission (SEC) made it mandatory for publicly traded firms to follow the International Financial Report Standards (IFRS) when reporting quarterly financial in the upcoming future (Zeff&Pacter, 2008). As a result, this article will analyze current global financial trends and recommendations that will be afforded for organizational change and financial restructure initiatives. Also, a review will be conducted about how U.S. business school universities/colleges have adjusted their accounting curriculums for the upcoming financial reporting requirements so that undergraduate/graduate students are better prepared for the upcoming new wave of financial reporting requirements.

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II. ROADMAP FOR POTENTIAL USE OF FINANCIAL STATEMENTS CAUSES AND EFFECTS

A "Roadmap for the Potential Use of Financial Statements" has been established by the SEC. Additionally, Big 4 CPA firms have embraced the IFRS concept as the sole financial principles and practices used for financial reporting (U.S. Securities and Exchange Commission, 2010). According to Thomas, "the effort to join the international financial community in a single set of standards has been in motion for 40 years" (2008,p.369). This means that organizational change must take place from a financial perspective. According to Rivero, "organizational change continues to be arguably the solution to remain competitive for most United States mid/large organizations. For several years, studies have suggested that swift organizational change initiatives are needed to stay ahead of organizational competitors" (2013b, p.169).

With changes to U.S. accounting practices and principles, there will be anticipated additional costs for organizations to incur. A study suggested that there will be significant infrastructure cost changes that will include, but will not be limited to, training and development and the implementation of new software (Thomas, 2009).

Additionally, in 2005 IFRS was implemented in Australia and it was required of all organizations (private and public) to follow IFRS accounting guidelines. Pilcher & Dean (2009) further state that although IFRS is recognized as the sole accounting principles and practices embraced by all organizations in Australia (regardless of the sector, private or public), not all sectors were able to transcend seamlessly. Additionally, "... financial reporting requirements are time consuming and extremely costly and, in small councils where resources and staff are scare ... resources allocation is especially significant with respect to infrastructure repair and replacement" (Pilcher& Dean, 2009, p. 182).

a) Human Capital Readiness

U.S. firms are pushed to improve work productivity to remain competitive in the global market. According to Rivero, "organizations are challenged daily and are regularly improving their services in an effort

stay ahead of their competitors (2013b, p.169). As is, studies have suggested that organizational change has a 70% failure rate (Kotter, 2010). This being said, the added financial restructure will create turmoil in the workplace among employees. The need to establish organizational interventions is imperative in order to streamline the convergence from the U.S. GAAP to IFRS. According to Rivero, “organizational development interventions are needed in order to make adjustments to the overall Strategic plan to streamline organizational change initiatives (2013a, p.105).

b) U.S. Curriculum – Convergence to IFRS

According to the United States Department of Labor, the Accounting profession continues to be in high demand and it is expected to grow by 41% nationally and is currently ranked second as one the

fastest growing occupations in the nation. According to Bates, Waldrup & Shea (2011), “ in 2010, the American Institute of Certified Public Accountants (AICPA) announced that IFRS would be included on the Certified Public Accounting (CPA) exam beginning in January 2011” (p. 39).

c) U.S. Universities/Colleges

The top U.S. undergraduate/graduate business schools offering accounting degree programs are depicted in Table 1. According to Bates, Waldrup & Shea (2011), “none of the top 20 undergraduate programs required an international accounting course and just seven offered an elective course”(p. 41). These same authors also stated that, “at the Masters level, two programs had required courses, Michigan State University and Taxes A & M University” (p. 41).

<i>Table 1:</i> International Accounting Course Offerings At Top Accounting Programs Undergraduate Programs	
Undergraduate Programs	
Required Courses:	
University of Georgia	Accounting Information in a Multinational Setting (3 credit hours)
University of Illinois	Introduction to Internal Accounting (3 credit hours)
Miami University (Ohio)	Survey of International Accounting and Reporting (1 credit hour)
Notre Dame University	International Accounting (3 credit hours)
Texas A & M University	International Accounting (3 credit hours)
University of Virginia	International Finance and Accounting (3 credit hours)
Wake Forest University	International Accounting (3 credit hours)
Master's Programs	
Required Courses	
Michigan State University	Management Accounting in Global Enterprises (3 credit hours)
Texas A & M University	International Accounting (3 credit hours)
Elective Courses	
Brigham Young University	International Accounting and Multinational Enterprises (3 credit hours)
University of Florida	International Accounting Issues (2 credit hours)
University of Georgia	International Accounting (1.5 hours)
University of Illinois	Multinational Enterprise Accounting (4 credit hours)
Michigan State University	Management Accounting in Global Enterprises (3 credit hours)
University of Mississippi	International Accounting (3 credit hours)
University of North Carolina at Chapel Hill	Global Immersion (3 credit hours)
Notre Dame University	International Financial Reporting Standards (2 credit hours)
University of Southern California	Accounting for the Global Business Environment (3 credit hours)
University of Texas – Austin	International Accounting Policies and Procedures (Variable credit hours)

(Bates, Waldrup & Shea, 2011, p.41)

It is vital that changes to the curricula be made immediately in order to prepare U.S. university/college students for the adoption of the IFRS conversion. Moreover, Bates, Waldrup & Shea (2011), further state that “accounting students must begin graduating with substantial international accounting knowledge” (p. 40). By not doing so, students will not be prepared for U.S. IFRS conversion.

III. RECOMMENDATIONS

The authors of this article propose the following recommendations for implementation of the U.S. IFRS processes.

1. Universities/colleges need to update curriculum in order to stay abreast of the newly created U.S. IFRS standards. This requires the involvement of university leaders to take the helm to lead the movement of change.
2. Federally funded workshops should be considered to retrain seasoned accounting professionals.
3. The Federal Government needs to consider having an open forum with business leaders to discuss U.S. IFRS and its convergence timetable schedule.
4. Accounting and business professionals need to be informed of new U.S. IFRS standards that will be in effect and the steps needed to stay abreast of new educational initiatives.
5. Establish a partnership among U.S. colleges and universities in order to form mentorship/workshop programs for business owners and managers to have a better understanding of current financial trends.

IV. CONCLUSION

U.S. IFRS is inevitable and the U.S. government needs to create a sense of urgency to prepare U.S. business leaders. Also, educational administrators/presidents need to lead the momentum in an effort to update accounting curriculums throughout U.S. universities / colleges, so that students are better prepared for new financial reporting challenges.

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International Management Strategy: An Empirical Study

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Abstract- In multinational firms, strategies are initiated at the corporate/headquarter level and the subsidiary level. Each of the two levels of strategy has an important and distinct role to play in achieving and sustaining competitive advantage, although key elements of the multinational firm strategy are formulated at the corporate level, strategies dealing with the implementation of the strategy are typically done at the subsidiary level. The multinational firm has to strike a balance between having a single global strategy, such as a single website for the whole company, or have mini-replicas around the world, each developing its subsidiary strategy. After reading this paper you should be able to identify and describe levels of global strategy; identify and describe subsidiaries strategic roles; discuss the advantages and disadvantages of the different subsidiary roles; identify and discuss the generic strategies.

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International Management Strategy: An Empirical Study

Sardar Swaran Singh

Abstract- In multinational firms, strategies are initiated at the corporate/headquarter level and the subsidiary level. Each of the two levels of strategy has an important and distinct role to play in achieving and sustaining competitive advantage, although key elements of the multinational firm strategy are formulated at the corporate level, strategies dealing with the implementation of the strategy are typically done at the subsidiary level. The multinational firm has to strike a balance between having a single global strategy, such as a single website for the whole company, or have mini-replicas around the world, each developing its subsidiary strategy. After reading this paper you should be able to identify and describe levels of global strategy; identify and describe subsidiaries strategic roles; discuss the advantages and disadvantages of the different subsidiary roles; identify and discuss the generic strategies.

I. INTRODUCTION

The internet is a powerful medium for reaching and servicing customers around the world. Cross-national differences in infrastructure, national regulation, local consumer preferences and habits, payment methods, currencies, languages, and attitudes towards pricing and quality all militate against global internet strategies that approach all national markets as if they were the same. For instance, payment methods through the internet vary widely across countries. Further, while English may have become the global language, and around 80% of websites in the world are in English, only around 50% of internet users have English as their first language, and the number is decreasing as the internet spreads to more developing countries where English is not the language of business or communication. Goods and services sold over the internet also differ systematically in the extent they may force the firm to be locally responsive or globally integrated. For example, products such as CDs and DVDs are sold around the world without significant adaptation to local markets. In contrast, products such as clothes and accessories require major adaptation to local peculiarities. For these reasons, several companies like Yahoo! and eBay have adapted their websites to specific markets. In early 2000s Yahoo!, for instance, operated twenty country-specific portals in thirteen different languages. However, allowing each subsidiary to develop its own website creates serious challenges as well. The multinational firm has to strike a

balance between having a single global strategy, such as a single website for the whole company, or have mini-replicas around the world, each developing its subsidiary strategy.

II. GLOBAL STRATEGY LEVELS

In multinational firms, strategies are initiated at two distinct levels. There is a strategy for the multinational firm and all its subsidiaries which is called headquarter or corporate strategy. And there is a strategy for each subsidiary which we refer to as subsidiary level strategy. We will use the terms 'headquarter' and 'corporate-level strategy' interchangeably. At both corporate level and subsidiary level there are several sub-strategies dealing with specific management functions such as finance, human resources, marketing and operations. This paper focuses on the subsidiary-level strategy. The corporate level strategy revolves around the definition of businesses, in which the multinational firm wishes to compete, and the acquisition and allocation of resources to its different subsidiaries. In contrast, subsidiary-level strategy refers to the game plan of each subsidiary. It is concerned with the question of how a subsidiary positions itself among local and international rivals to achieve its strategic goals. It also deals with the integration of subsidiary-level strategy with the corporate-level strategy. Toward this end, the subsidiary level strategy is concerned principally with crafting a strategy that is congruent with the overall corporate-level strategy, and at the same time addressing specific strategic issues facing the subsidiary in its particular industry and or geographical location. We broadly define the strategic role of subsidiaries as the significance of the subsidiaries' contribution to the overall global success of the multinational firm. The strategic role of subsidiaries in multinational firms varies from simply meeting the challenges of implementing the global headquarter-level strategy to taking the lead in developing a specific strategy for the subsidiary. Some subsidiaries may be given the authority to make strategic and operating decisions autonomously, whereas others may be passively implemented of headquarters-developed strategy. The degree to which subsidiaries are actively involved in the formulation and implementation of corporate strategy, and the degree to which they are creators or passive users of knowledge within the multinational firms, varies from one multinational firm to

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another, and sometimes from one subsidiary to another within the same multinational firm.

Three key factors determine the level of a subsidiary's strategic role. First, corporate-level managers should give the authority to subsidiaries to make strategic decisions when the subsidiary faces conditions of high environmental uncertainty. Second, corporate-level managers should give authority to subsidiaries when the subsidiary production technologies are non-routine and require complex and specific knowledge located at the subsidiary level. Corporate-level managers should keep interference in the strategy of the subsidiary to the minimum because they are not well equipped to respond adequately to local exigencies facing these subsidiaries. A third major factor determining the degree to which subsidiaries set their own strategy is how much the multinational firm needs to adapt its overall strategy to local conditions. At one extreme are multinational firms which use a standardized strategy worldwide with little or no modification. At the other extreme are multinational firms that give absolute power to subsidiaries to tailor their strategy to their local business environment. However, in practice it is not a case of all or nothing, but a matter of degree.

III. SUBSIDIARY STRATEGY

Multinational firms have a dominant corporate-level strategy, and the job of the subsidiary is to implement the corporate-level strategy. The centre in this case controls most of the multinational firm's activities and makes most strategic decisions. In brief, a dominant corporate-level strategy occurs when a subsidiary produces a component or a product under assignment from the parent for the multinational firm as a whole. Since the subsidiary is simply making an 'assigned' product, very little strategizing is required at the subsidiary level. This is an appropriate strategy in industries where consumers worldwide have roughly the same preference. In these industries, firms should avoid the pressure and temptation to produce completely different products for different geographical markets. Extreme customization is a very expensive strategy, and often the returns do not justify the high cost. Instead, firms are advised to produce variations on the basic products. This will obviously increase design, production, and marketing cost, but will have the advantage of greater acceptability by customers in different geographical locations and therefore higher returns. The support and implementation role is also appropriate when little strategizing is needed at the subsidiary level in cases where, for example, subsidiaries in different countries face similar competitive environments and use standard processes. The role of subsidiary managers in this case is devoted primarily to improving the efficiency of their existing operations. The success of the subsidiary, therefore,

requires an internal focus, specifically on achieving operating efficiencies. Another minor but critical role of subsidiaries is localization of products. Note that under the support and implementation role, the subsidiary is involved more in localization than in adaptation. 'Localization' refers to 'the changes required for a product or service to function in a new country'. Adaptation, however, refers to changes that 'are made to customer tastes or preferences'. A subsidiary localizes its products by, for example, making adjustments to its electrical equipment to make it compatible with local technical requirements such as electrical voltage. It adapts its products to local preferences when, for example, it produces shapes and colors that are popular in that country. Subsidiaries pursuing a support and implementation role are involved more in localization than in adaptation.

One must point out that a support and implementation role should not be taken to mean total centralized authority at the parent or corporate level, where the parent acts as the sole command and control. Some strategic elements of global corporate strategy are and, according to many, should be dispersed across multiple subsidiaries. Multinational firms adjust the level of delegation to the subsidiary level by weighing the trade-off between the virtues and the vices of decentralization. A support and implementation strategy, like most strategic business alternatives, involves trade-offs. The benefits of pursuing a support and implementation strategy must be weighed against possible drawbacks. Most multinational firms would prefer to have a single standard corporate strategy if their products and services are accepted around the world. Subsidiary managers in this case would not need to redesign their products to suit different customer needs and expectations, or develop a new strategy to compete in their local markets. Further, from the corporate-level perspective, a sense of unity among its subsidiaries, a willingness to act as part of a single global strategy, is a strategic resource of enormous value, often more valuable than giving subsidiaries the flexibility to design their own strategy with little reference to the global corporate strategy. Having a global corporate strategy means that strategic disagreements and rivalries between subsidiaries are resolved within the context of the global strategy, and once a decision on the direction of a firm has been reached, it will be honored by all subsidiaries.

A support and implementation strategy has many advantages. Key advantages are that multinational firms perform better when subsidiary strategies are integrated with corporate-level strategy; A standard global design strategy with a common standard design for the entire market eliminates the sources of additional costs through economies of scale; A standard global design strategy with a common standard design for the entire market creates a cost

advantage through faster organizational learning; A standard global design strategy can enhance efficiency for the multinational firm by producing fewer product varieties in longer production runs in different national plants; When subsidiaries focus on implementing and supporting the corporate-level strategy they are likely to gain strengths in pursuing operational efficiencies. The support and implementation strategy has several disadvantages. The strategy is not suitable in industries or regions where customers are increasingly more demanding and less willing to accept standard global products and compromise their specific needs and wants, Also, the strategy is not adequate when subsidiaries face conditions of high environmental uncertainty, or when they use non-routine production technologies that require complex and specific knowledge located at the subsidiary. In a truly mini-replica role, the subsidiaries are able not only to select their own strategies in the matters allocated to them but to define their own goals with little interference from the corporate headquarters. In this approach, while subsidiaries have the authority to design their own subsidiary-level strategy unconstrained by corporate dictates, they must do so within recognized boundaries set by the corporate parent. The key challenge here is how to decentralize the strategy making process to the subsidiary level without breaking the umbilical cord between the corporate parent and the subsidiaries.

Generally, the mini-replica role is appropriate when subsidiaries operate in highly uncertain business environments, use non-routine processes, and/or require complex and specific knowledge located at the subsidiary. The mini-replica strategy is sometimes also motivated by a basic lack of corporate unity, primarily in a highly diversified company, and by the unwillingness of some subsidiary managers to submit to centralized corporate parent control. This happens when subsidiary managers feel that they will be discriminated against in the larger unit; that resources within the geographical region or particular industry they inhabit will not be used for the benefit of their subsidiary; that policies will be imposed on them that they find intolerable or damaging; or simply that they want to retain their own identity. When implemented properly, the mini-replica strategy has several important advantages. The first and most obvious advantage is that the more power subsidiaries have, the more opportunity they have to develop a strategy that fits their unique business environment. Another advantage of the mini-replica approach is that it frequently leads to better decisions at the subsidiary level, since managers at subsidiary levels are likely to have a clearer view of the business environment in which they operate. In a highly dynamic business environment, when the strategy has to be constantly reviewed, the mini-replica approach speeds up decision-making. Often valuable time is lost when subsidiary managers must wait for decisions to arrive from the

centre. The mini-replica approach also causes subsidiaries to accept responsibility and be accountable for their strategy and action. This may help subordinate managers take initiatives to capitalize on local opportunities that otherwise would be lost.

There are costs associated with moving key activities away from the corporate centre. Multinationals following a mini-replica strategy may produce too many product varieties in sub-optimally small production runs. The mini-replica strategy raises the cost of operations because it is more expensive to hold an inventory of multiple items with each item requiring a minimum level of safety stock. The mini-replica strategy involves promoting multiple products for different segments of the market. In several industries, continued global convergence of customer preferences means that "multinational firms can no longer maintain their high cost mini-replica structure. Global or world product mandates are defined as the full development, production, and marketing of a product line in a subsidiary of a multinational firm. A global or world product mandate gives the subsidiary global responsibility for a single product line, including development, manufacturing, marketing, and exporting. The global product mandate grants subsidiaries the power and authority to undertake high value-added activities in the subsidiary, as well as providing subsidiary management 'with the opportunity to develop and grow the mandate over time. In other words, under the global product mandate, the subsidiary acts more like an equal partner of the corporate parent than a subordinate entity. It can also expect a much higher level of operational autonomy under the world mandate arrangement than under dominant corporate-level strategy.

Multinational firms grant subsidiaries a global product mandate when tariffs to operate in certain countries are prohibitively high, or when firms wanting to sell products in particular markets have to make them locally. Because the global product mandate gives the subsidiary the power and responsibility to act beyond its market, the subsidiary has to have an externally oriented strategy in that it must continually search for untapped or emerging market opportunities for its product. The subsidiary should have relatively great freedom to enter and leave markets in a timely fashion. The global product mandate has several implications for the multinational firm. First, under the global product mandate functions such as R&D, production, marketing, and strategic management will be located at subsidiary level. Second, because subsidiaries with a global product mandate may have unique control within the multinational corporation (MNC) of certain products, they are both integrated within the MNC, because they export finished goods to other MNC subsidiaries, and autonomous, because they have a high degree of independence over strategic product-related decisions.

The global product mandate is similar to the mini-replica strategy. In fact it is a mini-replica strategy but with a mandate to develop, produce, and market a specific product or family of products. The mini-replica strategy, however, grants subsidiaries a broader mandate, which may include different products and/or different markets. Given the similarities between the mini-replica strategy and the global product mandate strategy, the advantages and disadvantages of the global product mandate are the same as those of the mini-replica strategy.

IV. GLOBAL GENERIC STRATEGIES

No matter which type of subsidiary-level strategy is used, the key question for the headquarters is how a subsidiary creates value for the organization as a whole. Understanding how value is created can help executives in developing a strategy for achieving competitive advantage. The two basic types of competitive strategy are known as 'generic strategies, because they can be employed in any type of business in any industry. They can be employed either at corporate level or subsidiary level, or at both in a coordinated fashion. In a multinational firm which has many subsidiaries with diverse strategies, they are the greatest importance at the subsidiary level. The subsidiary of the multinational firm, or the corporate level when the multinational has a single standardized strategy, first has to decide what it wants to accomplish with the particular product it offers. The multinational firm and its subsidiaries must decide whether to offer their product to a broad segment of the market or to target a niche market. Ford, for example, produces cars that appeal to, and can be afforded by, a large segment of the population. In contrast, Ferrari produces cars with unique features for mainly young customers with high disposable income. The competitive scope of Ford's products is much larger than the competitive scope of Ferrari's products. Therefore, a firm's relative position within an industry is given by its choice of competitive advantage, i.e. cost leadership or differentiation, and its choice of competitive scope, i.e. broad target or narrow target. Based on these two distinctions, Michael Porter has distinguished four generic strategies that firms can pursue cost leadership, differentiation, focused low cost, and focused differentiation.

Both internal and external factors determine the choice of competitive strategies at the subsidiary level. Externally, the choice of the competitive strategy is determined by conditions in the subsidiary's competitive market, such as rivalry intensity, and by host country resources and infrastructure. Internally, the choice of the subsidiary's competitive strategy is shaped by the role of the subsidiary as set at the corporate level, and by the distinctive resources and capabilities of the subsidiaries that can be deployed overseas. Subsidiaries pursuing a cost leadership strategy appeal to price-sensitive

customers. The strategy involves setting out to become the lowest-cost producer relative to local or other foreign rivals in the same market. The subsidiary's goal in pursuing a cost leadership strategy is to outperform competitors in its market by producing goods and services at a lower cost. As a result, when all competitors in the market charge the same price for their products, the cost leader makes higher profits because its costs are lower. Furthermore, if price were to develop and competition increases, then it is most likely that high-cost companies will be driven out of the industry before the cost leader. This strategy requires the subsidiary to be fully and continually devoted to cutting costs throughout the value chain. Thus, the subsidiary must vigorously pursue cost minimization activities by tightly controlling overhead costs, and by minimizing costs in activities such as R&D, marketing and advertising, and process innovation. The cost leadership strategy also requires achieving cost advantages in ways that are hard for competitors to copy or match.

Multinational firms and subsidiaries must be careful when pursuing a cost leadership strategy. The subsidiary must reduce cost without compromising product features and services that buyers consider essential. Compromising essential product features in the quest to minimize cost may lead to poor-quality products rather than value-for-money products. Skoda is a case in point here. Cost leadership is appropriate when the industry's product is perceived by buyers to be much the same from one producer to another; when the marketplace is dominated by cut-throat price competition, with highly price-sensitive buyers; when there are few ways to achieve product differentiation that have much value to buyers; and when switching costs for buyers are low. Subsidiaries pursuing a cost leadership strategy produce a large volume of fairly standardized products that appeal to large price-sensitive segments of the market. They are often internally focused, and their main concern is cost reduction. The parent and other subsidiaries assist the subsidiary to achieve its cost leadership strategy by supporting activities that lead to cost reduction, such as scale economy in sourcing and cost-effective management skills. For example, by sourcing globally the parent is able to obtain scale economy in purchasing. The high volume of raw materials or parts purchased by the parent allows the subsidiary to take advantage of volume discounts. Further, the parent is better positioned to scan the international market for the least expensive raw materials or parts. The parent can also shift labor-intensive operations from subsidiaries in countries where labor cost is high to countries where it is low. The subsidiary can also benefit from sharing knowledge and value chain functions with other subsidiaries. For example, a subsidiary located in a country where certain skills for carrying out a specific

process are abundant and inexpensive, performs the process for all subsidiaries, further, when a single global brand name is used worldwide, the subsidiary makes savings in advertising costs and sales efforts. This support enables the subsidiary to produce and market its product at a lower cost, and thereby gain a competitive advantage.

A subsidiary employing a differentiation strategy seeks to be unique in its industry along some dimensions that are perceived widely as unique and valued by customers. While differentiation typically involves higher costs, the uniqueness associated with its products allows the subsidiary to compensate by appealing to a broad cross-section of the market willing to pay premium prices. While a subsidiary pursuing a low-cost strategy such as Volkswagen's Skoda may produce a car that is safe, reliable, and durable, Volkswagen's Audi subsidiary follows a differentiation strategy and produces cars with extra-quality features such as expensive leather seats, expensive wood in the dashboard, and so on. In contrast to the cost leadership strategy, subsidiaries pursuing a differentiation strategy must focus on continuously investing in and developing features that differentiate their products in ways that customers perceive as unique and valuable. When a subsidiary pursues differentiation, it seeks to distinguish itself along as many dimensions as possible. These dimensions can include brand image, innovation, physical characteristics of the product such as quality or reliability, customer service, or distribution network. For example, in addition to providing high quality and reliability in its production Rolex, the Swiss-based watch manufacturer, has created a global network of specialist who alone are qualified to guarantee to Rolex owners the authenticity of their watch and the dependability of the features that ensure its longevity in order to safeguard its reputation. Uniqueness may also relate to the psychological need of customers, such as status of prestige.

Subsidiaries pursuing a differentiation strategy require strong support from the parent and other subsidiaries in terms of sharing technology, process innovation, and product development and marketing. The quality of the product produced by the subsidiary is likely to be thoroughly tested by the parent. Because differentiation requires constant innovation in order to produce unique products suited to local customers' demand preferences, subsidiaries must share knowledge, processes, and technologies with one another. That is, subsidiaries following a differentiation strategy are likely to depend more on support from the parent and continued resources sharing within the corporate group than subsidiaries following a cost leadership strategy. Note that while in both cost leadership and differentiation strategies the subsidiary requires the support of the parent and other

subsidiaries, the type of support the subsidiary need is different. Subsidiaries following a cost leadership strategy require support that helps them lower cost. In contrast, subsidiaries pursuing a differentiation strategy need support that helps them acquire capabilities necessary for producing differentiated products.

A subsidiary following a focus strategy puts emphasis on a niche market segmented by geographical region, income level, and/or product specialization. Focused low-cost strategy is a market niche strategy, concentrating on a narrow, specific, and recognizable customer segment and competing with lowest prices, a strategy which requires the subsidiary to the cost leader in its niche. This strategy works well when the firm is able significantly lower cost to a well-defined customer segment. Because subsidiaries following a focused low-cost strategy concentrate on a small segment of the market and offer specific products, using well-defined technology and processes, they need only a small degree of support from the corporate parent. Further, the link with other subsidiaries may also be weak because subsidiaries following a focused low-cost strategy tend to focus on their local market, which may be served differently from one country to another. A second market niche strategy is focused differentiation strategy. The subsidiary here concentrates on a narrow customer segment and competes through differentiating features. To be successful, the subsidiary must be able to offer its target market something they value highly and which is better suited than other firms' products to their specific and unique requirements. Further, the strategy must have a strong brand and the subsidiary must have a thorough understanding of its targeted market's unique tastes and preferences, and the ability to offer products with world-class attributes.

In contrast to focused low-cost strategy, subsidiaries following a focused differentiation strategy need strong support from the parent and peer subsidiaries. Producing products with world-class features requires specific resources and competencies that develop from cooperating and sharing information with the parent and other subsidiaries. Also, it is imperative that the parent assist subsidiaries to acquire the necessary resources and competencies in order for them to produce and/or offer products that consistently conform to the highest standards. Although the costs associated with the extensive sharing of information and coordination between the parent and subsidiaries and within subsidiaries are quite high, customers are willing to pay a high premium for the product. Multinational firms sometimes adopt a hybrid strategy also known as integrated strategy balancing the emphasis on cost reduction against an emphasis on differentiation. The hybrid or integration strategy seeks to provide customers with the best cost/value combination. This strategy has a dual strategic emphasis, appealing to value-conscious customers who are sensitive to both

price and value. While accepting that each generic strategy has pitfalls and that there are different risks inherent in each strategy, argue that a hybrid strategy leads to mediocrity. The two basic generic strategies cost leadership and differentiation are incompatible and fundamentally contradictory, requiring different sets of resources and competencies and appealing to different customers; that any firm attempting to combine them would eventually end up 'stuck in the middle'; and that, as a result, such a firm will be outperformed by competitors who choose to excel in one of the basic strategies.

One of the key reasons for adopting an integrated strategy is the turbulent global business environment, which requires multinational firms to adopt flexible combinations of strategies. To multinational firms such as Volkswagen, a hybrid strategy combining elements of cost leadership and differentiation is not only possible but is the most successful strategy for them to pursue. The hybrid strategy deals with the many inherent disadvantages of cost leadership and differentiation strategies. When properly employed in the right target market, it is likely to have higher performance than a pure cost leadership or differentiation strategy. Nonetheless, Porter's generic strategies make a valuable contribution by emphasizing that firms need to make strategic choices between pursuing a certain type of strategy. For instance, when Volkswagen decided to increasingly differentiate its products in China, its costs invariably increased due to extra features offered in its cars. Therefore, firms need to weigh up the benefits of spending more money on more differentiated products as opposed to cutting costs in order to offer customers a low-cost product.

V. SUMMARY

In multinational firms, strategies are initiated at two distinct levels. Strategies for the whole multinational firm are formulated at the headquarters level and called 'headquarter-level' or 'corporate-level' strategies. Strategies for each subsidiary are formulated at the subsidiary level, and are termed 'subsidiary-level strategies'. Corporate-level strategy deals with the question of what business or businesses to compete in, and the overall game plan of the multinational firm. Subsidiary-level strategy is concerned with the question of how a subsidiary positions itself among local and international rivals to achieve its strategic goals, and deals with the integration of subsidiary-level strategy with the corporate-level strategy. As far as the relationship between headquarters and subsidiaries is concerned, we identified three types of subsidiary-level strategy: support and implementation, mini-replica, and global product mandate. Each strategy has advantages and pitfalls. The role of managers is to weigh the advantages against the disadvantages of each strategy before selecting the most appropriate strategy for their

organization. Multinationals cannot, and should not, target all customers in a particular market or country. They need to target a specific segment, large or small, using three specific strategies called generic strategies cost leadership, differentiation, and focus. The subsidiary can also combine, or integrate, cost leadership strategy and differentiation generic strategies. The integrated strategy is a challenging strategy and has several risks. However, if implemented properly and successful, such integrated strategy enables the subsidiary to enjoy superior performance and enhance its competitive position.

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Lean Process Mapping Techniques: Improving the Care Process for Patients with Oesophageal Cancer

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Abstract- Objective: This paper tests the hypothesis that the value-stream mapping (VSM) method, based on Lean thinking, could help streamline the care process for patients with oesophageal cancer.
Design. Case study.

Setting and participants: One of the largest tertiary referral centres for oesophageal cancer in The Netherlands.

Interventions: We applied and evaluated the principles and tools of Lean thinking, especially VSM processes, to improve the process of delivering care to patients referred for oesophageal cancer.

Results: Evaluation at the start of the project revealed that the care pathway was unsystematic and might introduce medical errors. Application of VSM principles in the Lean context improved the process by cutting the number of individual steps needed to begin treatment from 128 to 103 and minimized variability by applying standardization. The implementation of Lean techniques improved the delivery of clinical care to our patients with oesophageal cancer by reducing the time it took to start treatment by 3.5 weeks.

Keywords: *Lean, oesophageal cancer, value-stream mapping, process improvement.*

GJMBR-A Classification: *JEL Code: M00*



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Conclusions. Our results suggest that the VSM method, based on Lean thinking, can help to better arrange the care processes for these patients. We believe that these principles can be applied to much of the care administered in this setting and to other areas of health-care delivery.

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1. INTRODUCTION

Although the Netherlands has an excellent health-care system, Dutch hospitals still struggle to provide fully optimal patient care.^{1,2} This may be due to a combination of factors, such as increasing care intensity, difficulties with filling medical vacancies and the resulting heavy workloads for medical staff.³ As these factors may underlie suboptimal delivery of patient care, hospitals face the challenge of improving these processes at an organizational level.

Studies have shown that processes and quality in health-care can be improved by applying Lean methods.^{4,5,6,7,8} Lean is a quality-improvement philosophy that aims to create more value with fewer resources. It seeks to identify and eliminate waste by using tools such as the value-stream map (VSM).⁹ Creating a VSM can support in discovering and eliminating wastes, inefficiencies and errors that otherwise prevent the smooth flow of products or information through a system (the value stream). Practically this involves charting stakeholders, resources, activities and processes to allow the systematic identification, and elimination, of steps in a process that don't add value (non-value-adding activities, NVAs). In due course, the value stream consists of a refined series of value-adding steps that, depending on the context, delivers a valuable product or service to the customer,¹⁰ or, in the case of health care, the patient. The Japanese Toyota Motor Corporation was the first organization to use VSM techniques and to implement Lean concepts and tools.¹¹ Since then, Lean methods such as VSM have spread from the manufacturing industry to service industries such as banking, insurance and hotel management, and they are increasingly being applied in health-care settings.^{12,13,14,15}

This increasing use of Lean tools in medical settings implies that Lean now forms an integral part of the quality management system in many Dutch hospitals. However, the Lean concept and its application in medicine are still poorly understood and literature on the subject is scarce.¹⁶ Moreover, some researchers argue that there are significant gaps in the literature on health-care quality improvement with Lean, and that there is only scant evidence to show that Lean tools actually and validly improve health-care quality.^{17,18}

To further investigate the benefits of Lean the Oncology Surgery Department at VU University Medical Center Amsterdam (VUmc) decided to introduce the process-improvement ideas of Lean thinking in an effort to improve the care process for oesophageal cancer patients. It is well known that the majority of patients with oesophageal cancer are not diagnosed until a relatively advanced stage,¹⁹ and an internal audit showed that our department was no exception. There is ample evidence

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that delays between diagnosis and surgery in oesophageal cancer result in higher overall rates of morbidity and mortality²⁰ so it is important, wherever possible, to direct efforts to reduce delays between the first outpatient visit, diagnosis and surgical treatment.^{21,22} Because Lean approaches have had successful outcomes in earlier studies at VUmc,²³ and in other hospital settings,^{12,13,14,15} the department chose to use a Lean approach to reduce the delay between point of diagnosis and treatment for patients with oesophageal cancer.

The aim of this study was to investigate whether the use of Lean techniques, in particular VSM, can improve the care process for oesophageal cancer patients by shortening the time between diagnosis and start of treatment.

II. METHODS

a) Setting

VUmc Amsterdam, the Netherlands, is a tertiary referral centre for patients with oesophageal cancer. After the diagnosis of oesophageal cancer in a referring hospital, almost 95% of patients (approximately 120 patients per year) in The Netherlands are referred to the VUmc outpatient clinic for surgical assessment and surgery. VUmc has two departments with 30 beds each for oncology and gastroenteral surgery patients and, due to cuts in government spending, VUmc is expected to need to double the number of treatments for oesophageal cancer in the future.

VUmc introduced a Lean management quality-improvement project in February 2012, one component of which was to specifically use VSM to improve the efficiency of the oesophageal cancer care pathway. As already discussed, VSM has proven worthwhile in other hospital processes by creating capacities that can be used to optimize patient monitoring and improve patient safety and quality. By helping to redefine processes and eliminating NVA activities, our target was to reduce throughput time, which was also expected to increase levels of patient satisfaction.

b) Team formation

Out of the participating departments involved in care for patients with oesophageal cancer – surgery, oncology, radiology, thoracic surgery, anaesthesiology, operating room (OR), intensive care, gastroenterology polyclinic and OR scheduling – a VSM review team was constructed, based on specialization and department, that consisted of 12 members. The team was headed by an executive member of the hospital leadership board, two value-stream experts (for training and coaching) and a care professional with the authority and responsibility to allocate the organization's resources (who could make decisions, arbitrate solutions, plan the project and select the processes that would be mapped; this person had a firm grasp of what achievement was being

targeted). The team also was complemented by two professionals from the oncology surgery and radiology departments, two facilitators and one coordinator. Finally, there were also representatives from the workforce 'on the floor' (medical staff, nurses, secretaries and radiotherapists).

c) Rationale for choosing the oesophageal care pathway

The VSM system was applied to the care program for patients with oesophageal cancer based on the following anticipated advantages: the treatment planning and delivery procedures have a standard that is well accepted by the department faculty and staff; the input information necessary to initiate therapy is not always available; and departmental leadership made the choice for this patient group. The treatment of patients with oesophageal cancer is highly demanding for both patients and hospital staff and therefore any unnecessary burden needs to be eliminated. The treatment planning and delivery procedures are complex and involve many care professionals from different disciplines. Furthermore, cancelling surgical procedures has consequences for organization and OR capacity.

d) The present state

Once the team was formed, the team had to "go and see" (genchi genbutsu in Japanese): they went to the gemba, the place where work is actually done, to see what really happens. It took the team in total 100 h to capture enough reliable data to fully understand the process. As part of the process map they integrated findings from a time-motion assessment. Stopwatches were used to calculate the total time taken for one patient to go through the entire process, based on components including patient waiting time, processing time and walking time to and from all the relevant locations (e.g. car park, hospital entrance, front desk, polyclinic) that the typical patient would travel, and interviews were used to identify any efficiency problems. The VSM team additionally mapped the current process by hand. The team followed the value stream of oesophageal cancer treatment; that is, from when the patient enters the hospital to when the patient is discharged. At each stage the team captured the following data: 1] the lead time, 2] materials or inventory, 3] resources (e.g. staff), 4] current problems, 5] current key performance measures, 6] information stream and 7] possible waste. After the VSM was created (a paper wall chart with coloured post-it notes that showed the current value stream) the team critically reviewed it by reflecting upon and highlighting the observations and conclusions from their "gemba" (experience), sorted by observations in the clinic and the polyclinic. The team then addressed hazards and the risks in both the process design and the redesign in order to achieve acceptable risk levels. For each

process step in the value stream, the team identified non value adding steps (NVA) and/or barriers to improving the efficiency or safety of the surgical process. They then designed interventions that addressed the barriers to efficiency or safety. Figure 1 shows the VSM and Table 1 the various process steps.

e) *Mapping the future state*

The team designed a future-state VSM, which is an often radically different series of process steps that allows the delivery of value to the patient faster, with fewer defects, using fewer resources. A future-state value stream was constructed by determining whether any of the steps in the process could be executed with less waste or whether they could be eliminated altogether. After designing the future state, the team created a detailed work plan for implementing the process improvements to make that proposed process a reality. Members of the team were assigned to specific tasks with timelines to drive the implementation of the process with optimal efficiency. Evaluation of the success of VSM has been carried out by measuring the reduction of NVA steps. Subsequently, improvements were made by elimination of identified waste and errors from the care pathway.

III. RESULTS

The VSM visualization tool assisted the practitioners in better understanding and identifying what work was carried out in the care process for patients with oesophageal cancer and how that work was performed. This, in turn, enabled them to review that care process critically and improve it.

Evaluation of the existing process by the team revealed that the care pathway of patients with oesophageal cancer was a rather disordered process. An assessment of the present-state VSM demonstrated that only 17 out of 128 (13.3%) processes in the care pathway for patients with oesophageal cancer genuinely added value. Out of the remaining 128 processes, seven were identified as unnecessary and 104 as being necessary but NVA activities. Based on a clear future-state analysis, the team was able to identify considerable improvements to the preoperative process. The process improvements after observation of the present state were: to define process step milestones based on historical preoperative process times, administrative functions and administrative preoperative tasks to occur before the day of surgery, redesign of admission processes to ensure appropriate prioritization, and consolidated and streamlined OR nursing assessment documentation. Regarding documentation, our VSM evaluation highlighted that significant delays for patients were caused by the waiting time for the collection and inspection of paperwork and medical records. Consequently, transition to the next step in the care process could not occur until the medical records were ready. Table 2

provides examples of barriers that were identified and the solutions implemented.

Subsequently, the process improvements were implemented. By making the processing of paperwork/medical records more efficient the door-to-theatre-time could be reduced from 13.5 to 10 weeks and value-adding activities increased by about 24%. As a result, the total duration of the care process was reduced considerably. Overall, the team's future-state map revealed that the number of steps needed to initiate operating procedures could be reduced to 103; the number of value-added steps could be increased from 17 to 21 while the 104 NVA steps could be cut by over 23% to 80 steps. The identified potential safety risk was reduced by 71% and the information errors were reduced by almost 92%. A summary of the results is shown in Table 3.

Overall, during the process improvements, active participation of team members was unfortunately not 100%; in particular, one department did not participate completely, and team members who missed introductory training/briefing sessions later reported that this caused them to lack some knowledge on how to apply and confidence in the VSM method. There were also reports of some local barriers. For example on allowing employees time away from their usual work to participate in the VSM process, and concerning suggestions regarding changing existing practices. The team reported that management should have been more assertive and supportive in bestowing employees with the authority and responsibility to attend the project meetings – especially because employees familiar with the everyday work processes are those closest to the problem—and allowing them make the necessary changes in a timely manner. Despite this, one key observation of our evaluation was that the VSM approach generally did result in consensus between the participating team members and it is likely that this buy-in from a range of stakeholders enabled subsequent change to be implemented without too much resistance.

IV. DISCUSSION

The purpose of this case study was to monitor and evaluate an example of Lean as a quality-improvement tool in practice. Our study at VUmc shows how Lean can be used to improve suboptimal care processes for patients with oesophageal cancer. The application of Lean methods in the manufacturing sector has been highly successful; our results indicate that VSM is a valuable tool in the health care setting too, and can be applied to a care process for patients with oesophageal cancer, leading to significant improvements in hospital practice. The findings suggest that VSM can help practitioners in learning to identify waste and visually see the process from beginning to end, with the use of a dedicated team, by following the steps of the process.

In general, this study adds further evidence to the literature on quality improvement in health-care, by showing that VSM can actually and validly foster health-care quality.^{12, 14, 15} We found VSM to be a focused and structured improvement tool that can lead to genuine and concrete care-process improvements in the delivery of patient care. Previous studies of the application of VSM have also shown that making a process visible by mapping, triggers critical thoughts that helps improving the process.^{24,25} Both Emiliani (2003)²⁶ and Swank (2003)²⁷ argue that focusing employees' efforts on the value-creating activities desired by customers result in shorter lead times and fewer defects and errors. The introduction of the careful observational techniques of VSM may result in long-term, durable improvements and new knowledge about the care process. This knowledge may empower staff at every level to create solutions to improve the quality of patient experiences. This observation is supported by previous research into mapping processes; for example, Martin (2002)²⁸ found that during the mapping process insights develop, and, according to Teichgräber and de Bucourt (2011),¹² these insights are the most significant benefits of using process mapping techniques such as VSM. According to Teichgräber and de Bucourt (2011), "mapping does not only lead to better processes, but it also leads to a consensus that enables and enhances implementation".¹² Our study also showed that consensus was built, which contributed to the implementation of process improvements.

Although our results indicate that VSM enhances the care process of patients with oesophageal cancer, some challenges still remain. As with any new initiative there are a number of challenges and barriers that need to be addressed. Despite the goal of creating optimal collaboration between team members in the oncology surgery setting, and the finding that this was generally the case, one department was unable to/did not participate fully and actively. Furthermore, we identified that the management could have been more active in empowering and authorizing employees to make necessary changes. It has been argued that team members in a VSM should have a working knowledge of the VSM method.¹⁵ In our case not every member was able to participate in the introductory training; the consequential lack of knowledge and confidence was reported by some group members to be a barrier to the success of the initiative. VSM – like any other Lean tool – is human-centred.¹⁴ It therefore requires active participation of all parties involved. Constructive feedback and a non-judgemental attitude towards incremental process improvements can help teams to identify and eliminate waste. Practitioners of VSM should therefore jointly and iteratively pursue sources of waste in an attempt to reduce it, and team members should communicate their

achievements to other colleagues as a means of providing encouragement. There have been similar findings in other studies.²⁹

This study has a number of limitations. It describes the application of a process mapping technique in one setting, which might not be necessarily comparable with other settings. While it supports the premise that VSM based on Lean thinking can help streamline the care process, it does not provide effects of the process mapping on patient care itself. To study effects on patient care, we suggest that future work should focus on outcome measures such as mortality, and length of hospital stay as a result of VSM techniques.

In conclusion, evaluation at the start of the project showed that the oesophageal cancer care process was highly fragmented, and involved variation entailing risks of medical errors. Application of VSM principles in the Lean context improved the process by cutting the number of individual steps needed to start treatment from 128 to 103 and minimizing the variability by applying standardization. VSM proved to be a valuable tool for improving the process of delivery of care to patients with oesophageal cancer. We expect these principles can be applied to other forms of care and other areas of health-care delivery.

V. ACKNOWLEDGMENTS

The authors acknowledge all the staff of the Department of Anesthesiology and Operative Care, VU Medical Centre, Amsterdam, who helped with this project allowing us to shadow their daily work and sharing insight and thoughts for improving the care process for oesophageal cancer patients. We also acknowledge Marlou van Beneden and Marjolein Jungman for their assistance in mapping the processes. We also would like to thank Steven Bradshaw of Emedits Global Ltd for professional medical writing services. KA is the principal researcher and was responsible for the design of the study, conducted the data collection and was responsible for the data analysis. MV and GW supervised the study. All authors contributed to the writing of this paper and approved the final manuscript.

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TABLES

Table 1 : Procedural steps of the current-state VSM

<p>Identify key process steps for delivering product/service to patient</p> <ul style="list-style-type: none"> Utilize information from “go and see” (<i>genchi genbutsu</i>) Include key metrics with each step Include lead time and cycle time data Identify undesirable parts of the process Determine data gaps that need to be collected
<p>Identify flow of information from end user to beginning of process</p> <ul style="list-style-type: none"> Include systems that provide information Record the frequency and type of information If information is your “product”, can you identify the origin of information?
<p>Determine whether the value-stream steps add value or do not add value</p>
<p>Analyse waste and determine improvements</p>
<p>Develop an action plan to make improvements</p>

Table 2 : Objectives of work streams, findings and process improvements

Work stream	Objectives	Process improvements
Streamlining the preoperative process	To design scheduling processes that support improved OR use	<ul style="list-style-type: none"> Creating defined process-step milestones based on historical preoperative process times Finishing isolated administrative functions and designed administrative preoperative tasks before the day of surgery Redesigning admission processes to ensure appropriate prioritization Consolidating and streamlining OR nursing assessment documentation
Reducing collection of redundant information	To reduce redundancy in the capture, entry and reporting of patient information	<ul style="list-style-type: none"> Analysis of every data element captured or viewed across the entire perioperative process
Employee engagement	To improve employee engagement and satisfaction across all surgical service departments	<ul style="list-style-type: none"> Preprocedure checklist implemented OR briefings implemented
Reducing non operative time	To improve the efficiency of the non-operative processes and patient flow	<ul style="list-style-type: none"> Mapping of existing processes to identify redundancies and waste Standardizing preoperative nursing activities Redefining roles and responsibilities to facilitate patient flow

Table 3 : A comparison between the results of the measures: pre-Lean and post-Lean application

Measures	Pre-Lean	Post-Lean
Door-to-theatre time (weeks)	13.5	10
Care process steps:	128	103
• Value-added steps	17	21
• NVA steps	104	80
• Unnecessary steps	7	2
Identified potential patient safety risks	17	5
Identified information errors	12	1
Transfers	15	8
Lack of standardized protocol	9	3

FIGURES

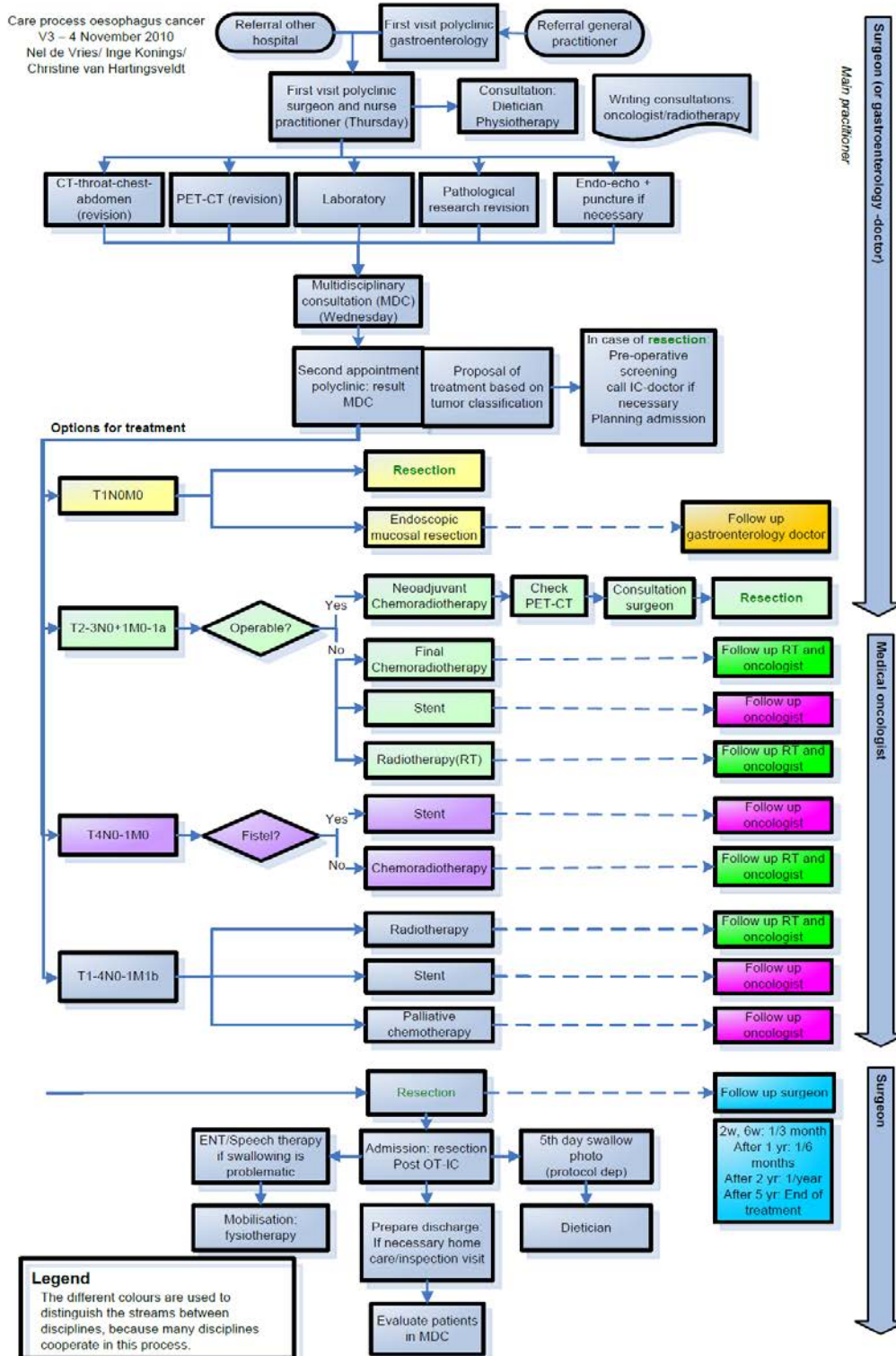


Figure 1 : The oesophageal cancer care pathway

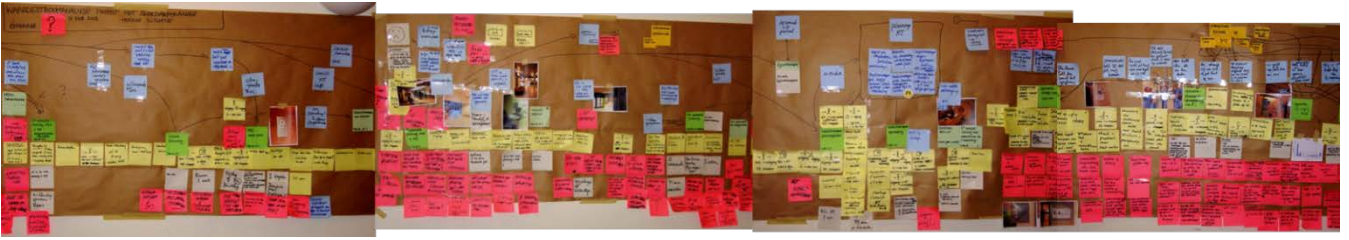


Figure 2 : The VSM chart



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School Teachers' Perception Towards Pay Satisfaction and Personal Characteristics: A Study of Northern Province, Sri Lanka

By Achchuthan, S, Jasingha, D & Umanakenan, R

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Abstract- The primary aim of the study is to find out the significant mean difference in pay satisfaction among personal characteristics of the school teachers as gender, age, family size, subjects for teaching, educational qualification, work place and work experience. Further, secondary objective is to suggest the government authoritative bodies to enhance pay satisfaction, which will give the long term value to the Northern Province, Sri Lanka in terms of social, economical and political development. The study employs independent samples t- test and one-way ANOVA (f-test) to test the operational hypotheses. The survey method used in this study is a questionnaire and a total of 360 usable responses were obtained using simple random sampling technique. Findings revealed that, there is a significant mean difference in pay satisfaction among family size, subjects for teaching, educational qualification and working experience.

Keywords: *pay satisfaction, personal characteristics, northern province, sri lanka and school teachers.*

GJMBR-A Classification: *JEL Code: I29*



Strictly as per the compliance and regulations of:



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School Teachers' Perception Towards Pay Satisfaction and Personal Characteristics: A Study of Northern Province, Sri Lanka

Achchuthan, S^α, Jasingha, D^σ & Umanakenan, R^ρ

Abstract- The primary aim of the study is to find out the significant mean difference in pay satisfaction among personal characteristics of the school teachers as gender, age, family size, subjects for teaching, educational qualification, work place and work experience. Further, secondary objective is to suggest the government authoritative bodies to enhance pay satisfaction, which will give the long term value to the Northern Province, Sri Lanka in terms of social, economical and political development. The study employs independent samples t- test and one-way ANOVA (f-test) to test the operational hypotheses. The survey method used in this study is a questionnaire and a total of 360 usable responses were obtained using simple random sampling technique. Findings revealed that, there is a significant mean difference in pay satisfaction among family size, subjects for teaching, educational qualification and working experience. In contrast, researchers found that, there is no significant mean difference in pay satisfaction among gender, age level and work place. Further, researchers suggested that, When the drafts on policies in terms of the pay structure and administration of the school teachers especially in the northern part of the Sri Lanka are initiated or designed, governmental bodies like ministry of education should consider the differences in the level of pay satisfaction among personal characteristics. This study would hopefully benefit to the academicians, researchers, policy makers, and practitioners of Sri Lanka as well as other countries.

Keywords: *pay satisfaction, personal characteristics, northern province, sri lanka and school teachers .*

I. BACKGROUND OF THE STUDY

The study on employee's satisfaction with compensation has been initiated and exhibited in the early 1960s, two index measurements as Job Descriptive Index (JDI) and the Minnesota Satisfaction Questionnaire (MSQ) have been utilized in the pay or compensation satisfaction dimension in the literature of the pay satisfaction (Smith, Kendall, & Hulin, 1969; Williams, McDaniel & Ford, 2007; Velnampy, 2008). Heneman and Schwab (1985) examined the compensation satisfaction with the help of the four dimensions as satisfaction with pay level, pay raises, benefit level, and pay structure and administration.

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Further, the perception towards pay satisfaction among employees may differ from person to person. Every person perceives the world differently based on their attitudes and behaviors (Aloysius, 2011). In this context, we have to empirically analyze the facts that, whether personal demographic factors have the influence on the pay satisfaction or not. Due to that, we have selected the school teachers in Northern Province, Sri Lanka.

Northern Province is considered as the emerging province among other provinces in Sri Lanka. Especially in the post war context, the Northern Province has been already focused by the government for the renovation and development perspective. In this context, education should be viewed as the fundamental need of the community, which will give the value in the long run to get the better society in terms of well organized culture, social status, better income level & standard of living etc. In the world of education, Teaching is a profession that lies at the heart of both the learning of children and young people and their social, cultural and economic development. It is crucial to transmitting and implanting social values, such as democracy equality, tolerance cultural understanding, and respect for each person's fundamental freedoms (MacBeath, 2012). In this context, Schools today are better places for children with special needs and learning difficulties in countries where teachers have access to research and enjoy opportunities to take part in continuing professional development (MacBeath, 2012). Further, Teachers come into the profession for differing reasons in different country contexts, in differing economic circumstances and with varying expectations of the rewards and challenges of the role. The main objective of the study is to find out the significant mean difference in pay satisfaction among personal demographic variables of the school teachers as gender, age, family size, subjects for teaching, educational qualification, work place and work experience. Further, secondary objective is to suggest the government authoritative bodies to enhance pay satisfaction, which will give the long term value to the Northern Province, Sri Lanka in terms of social, economical and political development.

a) Research Question

To what extent Personal characteristics influence the pay satisfaction among School teachers of the Northern Province, Sri Lanka?

i. *Review of Literature and Development of Conceptual Framework*

Reinforcement theory and expectancy theory have been viewed as the earliest theories to give insights on how pay influences employee behavior. Reinforcement theory (Skinner, 1953) suggested that, pay acts as a general reinforce. People learn from life experiences that a primary need, such as food or shelter, can be satisfied if money is obtained. Vroom's (1964) expectancy theory stated that how pay influences future behavior. According to expectancy theory, three components determine motivation: judgment regarding to the likelihood that an effort leads to a certain level of performance (expectancy); Judgment regarding to the likelihood that this level of performance leads to a certain outcome (Instrumentality); the importance of the outcome to the individual (valence) (Faulk, 2002). Further, Important link between pay and pay satisfaction has been originated by Herzberg's (1968) two-factor motivational model, which suggested that, it is the individual's affective reaction to pay, pay satisfaction, which impacts motivation. Further, it suggested that, the pay is a hygiene, or contextual factor, that prevents an employee from being motivated by such things as the work itself.

The effect of self-esteem and pay satisfaction on adjustment and outcome variables among teachers has been carried by Richardson, Kirchenheim and Richardson, 2006. The results revealed that, there is evidence of a relationship between pay satisfaction and other job-related factors, namely job satisfaction and turnover intention. All of the outcome factors correlate positively with adjustment. It should be noted that the pay satisfaction measure used is multi-dimensional. Clearly, then, there is a relationship between perceptions of pay and benefits, overall adjustment, and other work related factors. Findings suggested that, from an organizational perspective, the accurate measurement of some of these identified intrinsic and extrinsic factors may provide valuable information to the employer regarding those applicants that have the greatest probability of adjustment.

The study on salary differential and managerial job satisfaction in Nigeria has been conducted by Okpara, 2004. In which gender gap is utilized. Further, In Nigeria, number of women who have entered the banking profession in recent years has been increasing. The population for this study comprised bank managers who were members of the Chartered Institute of Bankers of Nigeria (CIBN). The aim of the mentioned study is to investigate whether there is a male / female salary differential for bank managers. Results indicated that, salary differential does exist between male and female bank managers. Findings are consistent with other empirical works in the west and other industrial nations (Nakata & Takehiro, 2002). Gender inequality may also be attributed to the socio-cultural environment of the

country, which strongly accords the traditional roles of housewife and mother to women. This cultural status may be responsible for some significant gender inequality in the industrial and service sectors of the Nigerian economy. Furthermore, Correlation results also indicated that a significant relationship exists between salary and gender, education, and experience. These variables explain the reasons for salary differential between male and female bank managers in Nigeria.

Baakile (2011) focused the study on comparative analysis of teachers' perception of equity, pay satisfaction, affective commitment and intention to turnover in Botswana. The purpose of the study was to investigate the relationships between equity, pay satisfaction, affective commitment and intention to turnover among junior and senior secondary school teachers in Botswana. Results revealed that, the relationship between equity and pay satisfaction was strong and significant for both junior and senior secondary school teacher. The relationship between equity and affective commitment, pay satisfaction and intention to turnover, and affective commitment and intention were all significant. The major conclusions are that teachers' perception of these variables is similar regardless of whether they are at a junior or senior school.

Nguyen, Taylor and Bradley (2003) conducted the study on the determinants of job satisfaction. It included actual pay, relative pay, hours of work, job autonomy and several personal characteristics. Researchers also investigated the determinants of satisfaction with pay conditional on a worker's satisfaction with other domains of job satisfaction, such as satisfaction with job security. Findings revealed that, income predicted from a wage equation and a worker's prior expected income have the negative effect on satisfaction with pay. The estimated coefficients indicated, however, that the impact of relative income on satisfaction with pay is small compared to the estimated impact of actual income. Current income and hours worked have the expected effect on satisfaction with pay they also found that the major influence on satisfaction with pay is the degree of freedom that workers have over how they do their job. Further, personal characteristics have little effect on satisfaction with pay. *Based on the review of literature, we can construct the conceptual Model for this study.*

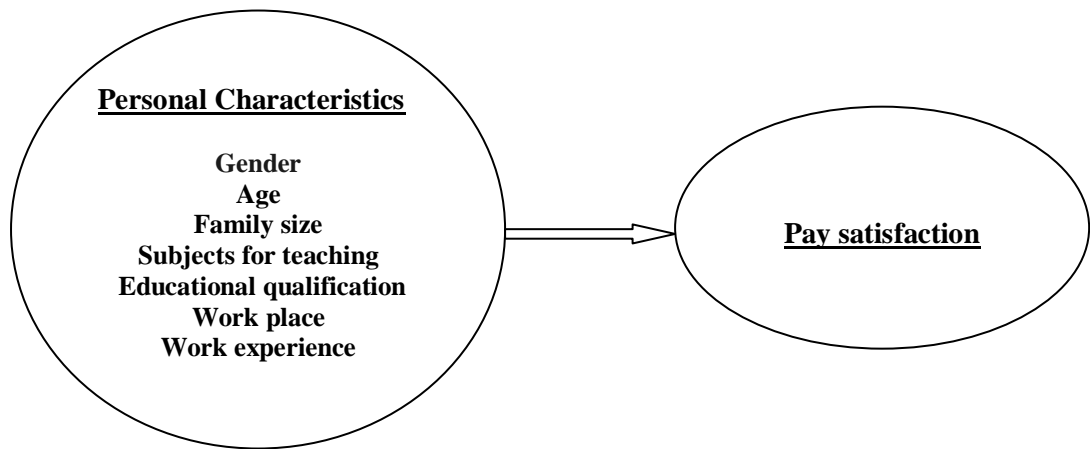


Figure 1 : Conceptual Framework

Source : Developed by Researchers

b) Hypotheses Development

The following hypotheses are developed for this study

H1: There is a significant mean difference in the levels of pay satisfaction between male and female school teachers

H2: There is a significant mean difference in the levels of pay satisfaction among the age levels of school teachers

H3: There is a significant mean difference in the levels of pay satisfaction among the family size of school teachers

H4: There is a significant mean difference in the levels of pay satisfaction among the subjects which have been taught by the school teachers

H5: There is a significant mean difference in the levels of pay satisfaction among the educational qualification of school teachers

H6: There is a significant mean difference in the levels of pay satisfaction among the work experience of school teachers

H7: There is a significant mean difference in the levels of pay satisfaction among the of the work place of school teachers

II. METHODOLOGY

a) Data Sources

Primary and secondary data were used for this study. Primary data were collected through the questionnaire. Secondary data were collected from, texts, journals and magazines.

b) Research Design and Model

Quantitative method is utilized to answer the research question as "To what extent Personal characteristics influence the pay satisfaction among School teachers of the Northern Province, Sri Lanka".

c) Sampling frame work

In the quantitative approach, the survey instrument in the form of close-ended questionnaire was

developed for the purpose of collecting the main data for the study. The study was limited to school teachers in the Northern Province, Sri Lanka. Therefore, Probability sampling method as simple random sampling has been adopted to select respondents (Zikmund, Babin, Carr and Griffin, 2012). And researcher has taken the details of the school teachers in the Northern Province, Sri Lanka., with the help of the document which is uploaded in the URL of the Ministry of Education, Sri Lanka. In which, the document is named as Sri Lanka Education Information, 2012. According to the document, in the Northern Province, 944 school teachers who are graduate, trained, untrained, and trainee are practicing their profession as teaching. We have used 38 % to get the adequate sample size ($944 * 40 \% = 370$) from the population as 944 school teachers. Further, Krejcie and Morgan (1970) pointed that, sample size as 274 is adequate for the population size as 950 through the table for determining sample size from a given population. In this study, researchers considered the sample size as 360. Due to that, sample size for this study is adequate.

In addition, when researchers considered the sample respondents, personal characteristics as gender, age, family size, subjects for teaching, educational qualification, work place and work experience have been considered.

Researcher has issued Three hundred and eighty (380) questionnaires for selecting the respondents. Out of Three hundred and eighty (380) questionnaires, Three hundred and seventy (370) was returned; the response rate was 97%. Then, Out of Three hundred and seventy (370), Three hundred and sixty (360) was used for the study purpose.

d) Instrument development

The research instrument used in this study is composed of two parts. The part one included a number of demographic questions such as gender, age, family size, subjects for teaching, educational qualification,

work place and work experience. The second part involved with the pay satisfaction among school teachers. Pay satisfaction was measured by three dimensions from Judge (1993) namely (1) Pay level and

Benefit (2) Pay Raises (3) Pay Structure and Administration. All items were measured by responses on a seven -point Likert scale of agreement with statements.

Table 1 : Demographic Breakdown of Respondents in the Study

Description	Frequency	Percentage
Gender:		
Male	175	48.6
Female	185	51.4
Total	360	100
Age:		
20 - 30	62	17.2
31- 40	163	45.3
41 – 50	90	25.0
51 and above	45	12.5
Total	360	100
Family Size		
1-2	51	14.2
3-5	266	73.9
6- 8	43	11.9
Total	360	100
Educational qualifications:		
G.C.E. (A/L)s	105	26.7
Diploma	111	51.3
Bachelor Degree	104	13.3
Master Degree	40	8.7
Total	360	100
Subjects for Teaching :		
Social Studies	69	19.2
Pure Science	38	10.6
Business Studies and Commerce	51	14.2
Fine Arts	43	11.9
Other Subjects	159	44.2
Total	360	100
Work Place:		
Jaffna	150	41.7
Vavuniya	60	16.7
Mannar	50	13.9
Kilinochchi	50	13.9
Mullaitivu	50	13.9
Total	360	100
Work Experience:		
1-5 Years	76	21.1
6-10 Years	119	33.1
11-15 Years	77	21.4
16-20 Years	29	8.1
21 and above	59	16.4
Total	360	100

Source: Survey data (2014)

III. RESULTS AND ANALYSIS

a) Data analysis method

Statistical methods have been employed to compare the data collected from 360 respondents. These methods include inferential statistics, which involves in drawing conclusions about a population based only on sample data. It includes t-test and f-test, which was used to identify the significant mean difference between the levels of pay satisfaction across the personal characteristics.

b) Reliability

The internal consistency of the research instrument should be tested by reliability analysis (Ndubisi 2006). Nunnally (as cited in Ahsan et al., 2009) suggested that the minimum alpha of 0.6 sufficed for early stage of research. The cronbach's alpha in this study were all much higher than 0.6, the constructs were therefore deemed to have adequate reliability. (Overall Cronbach alpha value was 0.758.)

c) Normality of data

Normality data should be tested before conducting the inferential statistics (Ahsan et al.,

2009). According to the "Test of Normality" all the variables in this research were in 0.05 level significant. Therefore the normality assumption is the valid one.

d) T- Test and F- Test Analysis

i. T-Test was used to identify the significant difference between the two variables. In this research, among the several t-tests, the independent sample t-test was used. The Independents-Samples t- test procedure compares means for two groups of cases. F-Test was also used to identify the significance of differences between sample means where more than two conditions were used, or even when several independent variables were involved (Velnampy, 2012 ; Sivathaasan, Achchuthan, & Kajanathan, 2013). And also the data analysis for the proposed research was performed with the latest SPSS computer package.

ii. T- Test Analysis

Independent samples t-test is utilized to identify the significant mean difference in pay satisfaction between male and female group.

Gender Vs Pay satisfaction

Table 2 : Results of Independent samples t-test

t-test variables	t-value	p-value / sig	Mean difference
Pay Level and Benefit	-1.016	0.310	-.1398
Pay Raises	-1.747	0.081	-.2375
Pay Structure and Administration	- 1.008	0.314	-.1288

Source: Survey data (2014)

Table 3 : Results of Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Pay Level and Benefit	Male	175	2.8331	1.30271	.09848
	Female	185	2.9730	1.30814	.09618
Pay Raises	Male	175	2.7048	1.28547	.09717
	Female	185	2.9423	1.29344	.09510
Pay Structure and Administration	Male	175	3.0324	1.23470	.09333
	Female	185	3.1613	1.19225	.08766

Source: Survey data (2014)

According to the Table. 2, Results of Independent samples t-test, there is no significant mean difference in pay satisfaction between male and female school teachers ($P > 0.05$). It means that both male and female school teachers have approximately same level of pay satisfaction in terms of pay level & benefits, pay raises and pay structure & administration.

Therefore, H_1 is rejected.

Independent sample one-way ANOVA test.

One-way ANOVA test can be used to find out the significant mean difference in pay satisfaction among age, family size, subjects for teaching, educational qualification, work place and work experience.

Age Vs Pay satisfaction

Table 4 : Results of independent sample one –way ANOVA test

		Sum of Squares	df	Mean Square	F	Sig.
Pay Level and Benefit	Between Groups	11.611	3	3.870	2.295	.078
	Within Groups	600.300	356	1.686		
	Total	611.911	359			
Pay Raises	Between Groups	6.779	3	2.260	1.355	.256
	Within Groups	593.651	356	1.668		
	Total	600.429	359			
Pay Structure and Administration	Between Groups	8.743	3	2.914	1.997	.114
	Within Groups	519.562	356	1.459		
	Total	528.305	359			

Source: Survey data (2014)

According to the Table. 4, Results of Independent sample one- way ANOVA test, there is no significant mean difference in pay satisfaction across the age levels of school teachers. The significant levels for the dimensions as pay level & benefit, pay raises and pay structure & administration are greater than the 0.05

levels ($P > 0.05$). It means that school teachers who are in different age levels have the same level of pay satisfaction in terms of pay level & benefit, pay raises and pay structure & administration approximately. Therefore, H_2 is rejected.

Family Size Vs Pay satisfaction

Table 5 : Results of independent sample one –way ANOVA test

		Sum of Squares	df	Mean Square	F	Sig.
Pay Level and Benefit	Between Groups	42.776	2	21.388	13.416	.000
	Within Groups	569.135	357	1.594		
	Total	611.911	359			
Pay Raises	Between Groups	39.512	2	19.756	12.574	.000
	Within Groups	560.918	357	1.571		
	Total	600.429	359			
Pay Structure and Administration	Between Groups	31.107	2	15.554	11.168	.000
	Within Groups	497.198	357	1.393		
	Total	528.305	359			

Source: Survey data (2014)

According to the Table. 5, Results of Independent sample one- way ANOVA test, there is a significant mean difference in pay satisfaction across the family size of school teachers. The significant levels for the dimensions as pay level & benefit, pay raises and pay structure & administration are less than the 0.05

levels ($P < 0.05$). It means that school teachers who hold different family size in their family have dissimilar levels of pay satisfaction in terms of pay level & benefit, pay raises and pay structure & administration.

We can also explain the finding summary through the Mean Plot.

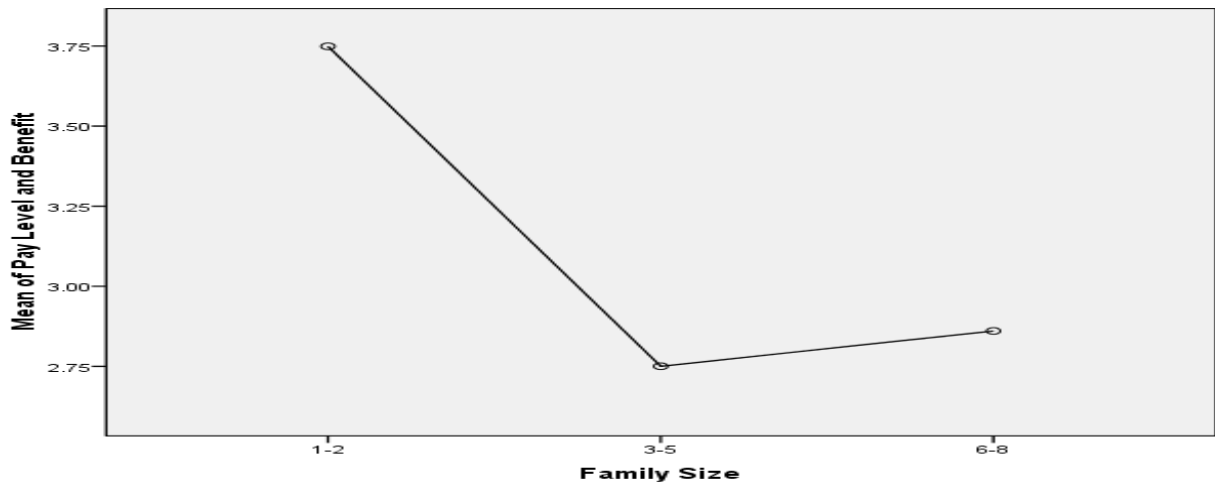


Figure 2 : Mean Plot for Family size Vs Pay level and Benefit

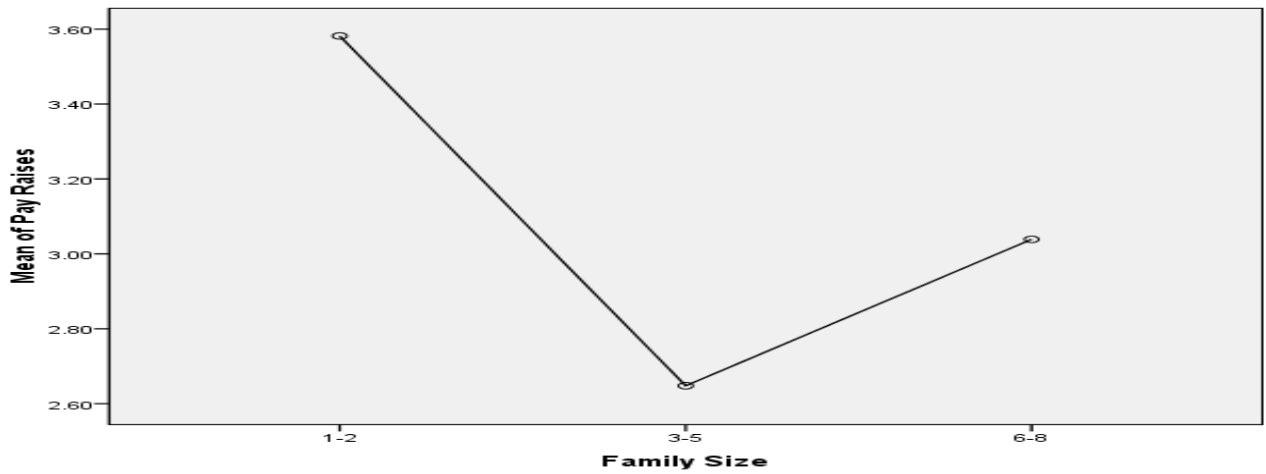


Figure 3 : Mean Plot for Family size Vs Pay Raises

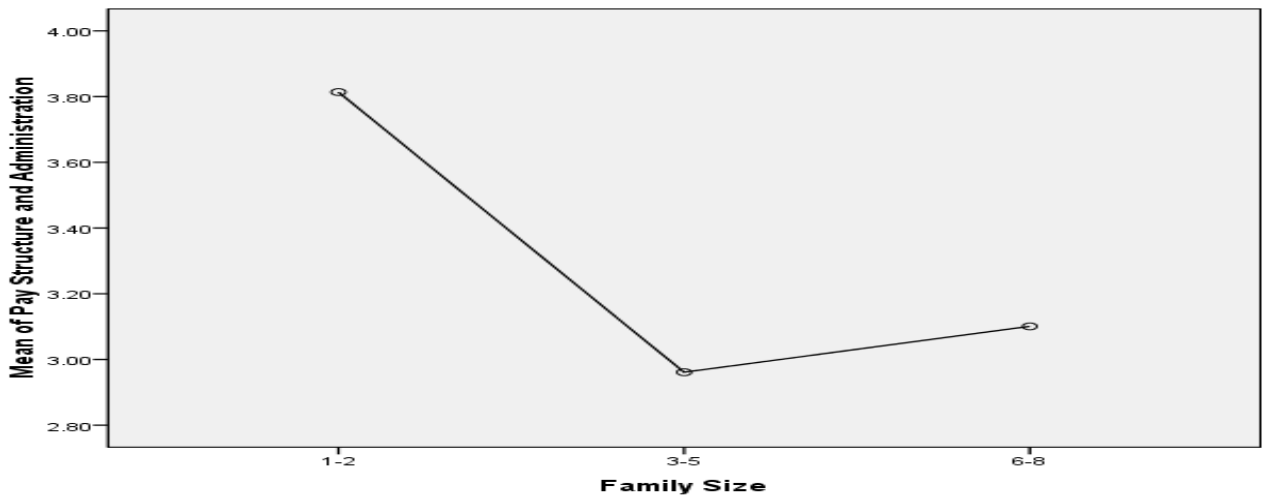


Figure 4 : Mean Plot for Family size Vs Pay Structure and Administration

According to the mean plots, school teachers who have the family size as 1-2 hold the high level of pay satisfaction in terms of pay level & benefit, pay raises and pay structure & administration than others

who have the family size as 3- 5 & 6-8. Interestingly, we found that, respondents who have the family size as 6-8

hold the high level pay satisfaction than the respondents who possess the family size as 3-5.

Hence, H3 is accepted.

Subjects for teaching Vs Pay satisfaction

Table 6 : Results of independent sample one –way ANOVA test.

		Sum of Squares	df	Mean Square	F	Sig.
Pay Level and Benefit	Between Groups	11.763	4	2.941	1.739	.141
	Within Groups	600.148	355	1.691		
	Total	611.911	359			
Pay Raises	Between Groups	8.200	4	2.050	1.229	.298
	Within Groups	592.229	355	1.668		
	Total	600.429	359			
Pay Structure and Administration	Between Groups	20.242	4	5.061	3.536	.008
	Within Groups	508.062	355	1.431		
	Total	528.305	359			

Source: Survey data (2014)

According to the Table. 6, Results of Independent sample one- way ANOVA test, there is no significant mean difference in pay satisfaction in terms of pay level & benefit and pay raises across the subjects for teaching. The significant levels for the dimensions as pay level & benefit and pay raises are greater than the 0.05 levels ($P > 0.05$). In contrast, we found that, there is a significant mean difference in pay

satisfaction in terms of pay structure & administration across the subjects for teaching. The significant level for the dimension as pay structure & administration is less than 0.05 levels ($P < 0.05$). It means that school teachers who taught different subjects as social studies, business studies and commerce, pure science, fine arts have different level of pay satisfaction in terms of pay structure & administration.

We can also explain the finding summary through the Mean Plot.

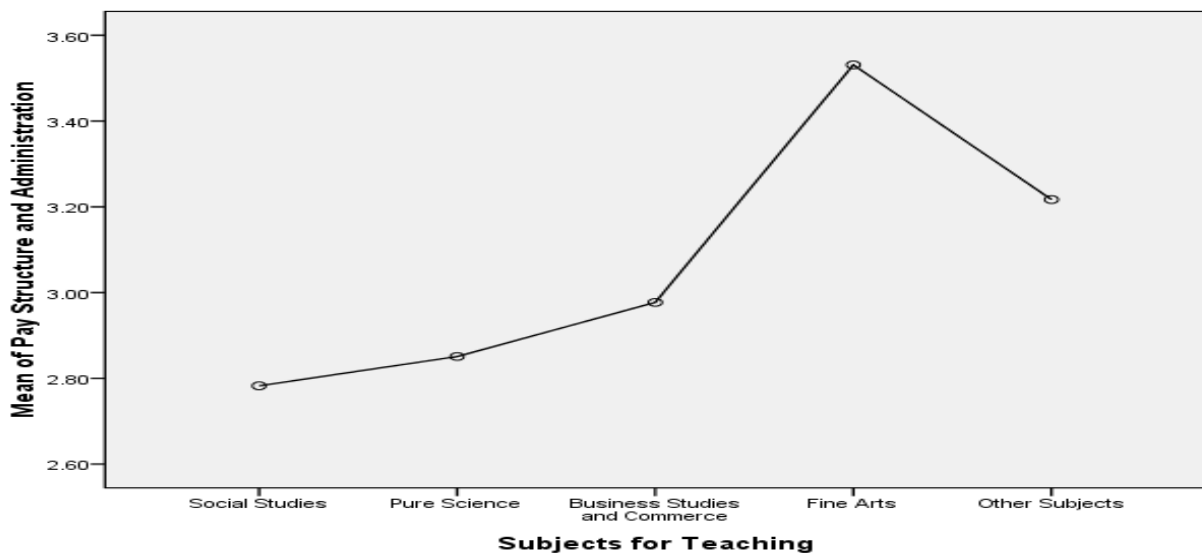


Figure 5 : Mean Plot for Subjects for Teaching Vs Pay Structure and Administration

According to the mean plot, school teachers , who taught fine arts subjects have high level of pay satisfaction in terms of pay structure and administration

than the teachers who taught subjects like social studies, pure science, and business studies & commerce. Further, teachers who taught social studies

have lowest level of pay satisfaction in terms of pay structure and administration among others in the group as subjects for teaching. Hence, H4 is partially accepted.

Educational qualification Vs Pay satisfaction

Table 7 : Results of independent sample one –way ANOVA test.

		Sum of Squares	df	Mean Square	F	Sig.
Pay Level and Benefit	Between Groups	12.283	4	3.071	1.818	.125
	Within Groups	599.628	355	1.689		
	Total	611.911	359			
Pay Raises	Between Groups	23.800	4	5.950	3.663	.006
	Within Groups	576.630	355	1.624		
	Total	600.429	359			
Pay Structure and Administration	Between Groups	15.823	4	3.956	2.740	.029
	Within Groups	512.482	355	1.444		
	Total	528.305	359			

Source: Survey data (2014)

According to the Table. 7: Results of Independent sample one- way ANOVA test, there is a significant mean difference in pay satisfaction in terms of pay raises and pay structure & administration across the educational qualification .The significant levels for the dimensions as Pay raises and pay structure & administration are less than 0.05 levels (P < 0.05). It means that school teachers who hold the educational qualifications as GCE A/L , diploma, Bachelor degree

and masters have the different levels of pay satisfaction in terms of pay raises and pay structure and administration. In contrast, we found that, there is no significant mean difference in pay satisfaction in terms of pay level and benefits across the educational qualification. The significant level for the dimension as pay level & benefit is greater than the 0.05 levels (P > 0.05).

We can also explain the finding summary through the Mean Plot.

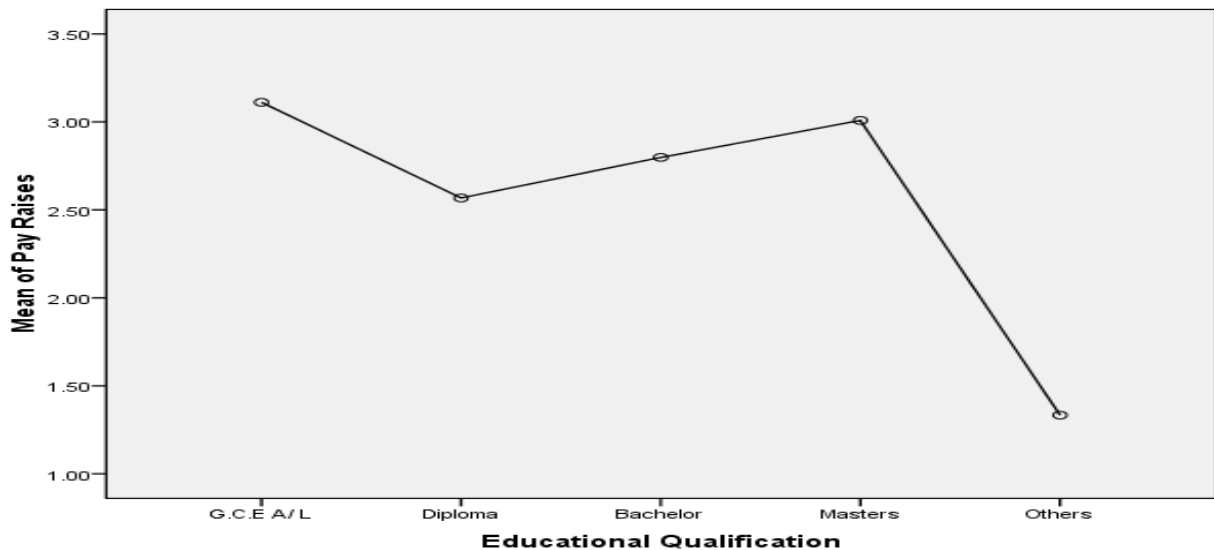


Figure 6 : Mean Plot for Educational Qualification Vs Pay raises

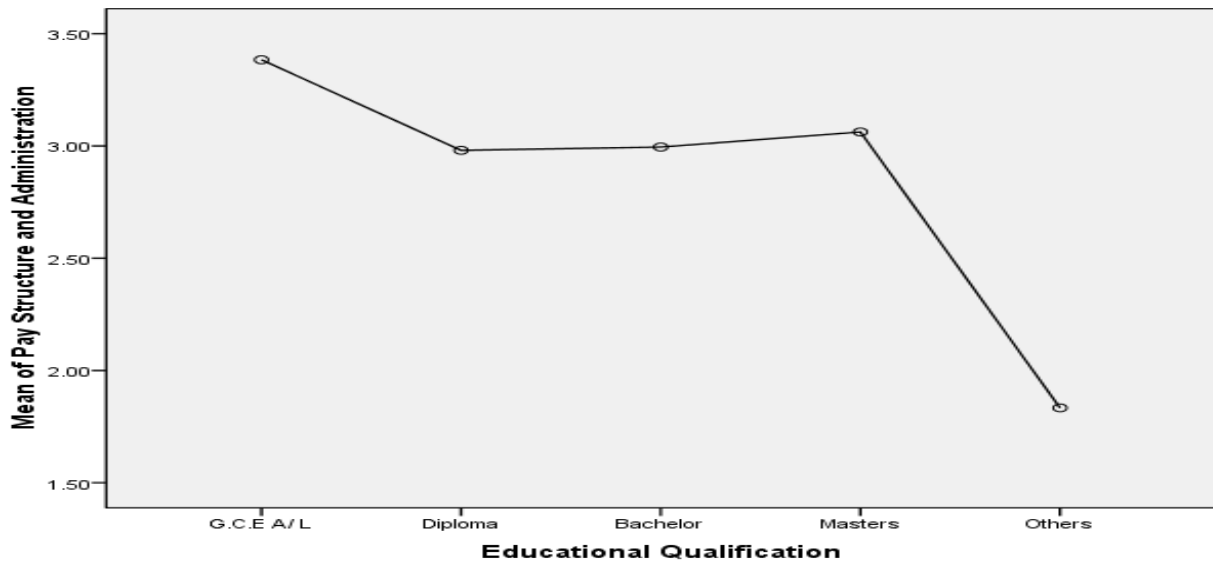


Figure 7 : Mean Plot for Educational Qualification Vs Pay Structure and Administration

According to the mean plot, school teachers, who have the educational qualifications as diploma, bachelor degree and masters have same level of pay satisfaction in terms of pay raises and pay structure & administration than the teachers who hold the educational qualifications as diploma, bachelor degree and masters. Further, teachers who

have the educational qualifications as diploma, bachelor degree and masters have same level of pay satisfaction in terms of pay raises and pay structure & administration.

Hence, H5 is partially accepted.

Work Experience Vs Pay satisfaction

Table 8 : Results of independent sample one –way ANOVA test.

		Sum of Squares	df	Mean Square	F	Sig.
Pay Level and Benefit	Between Groups	13.237	4	3.309	1.962	.100
	Within Groups	598.674	355	1.686		
	Total	611.911	359			
Pay Raises	Between Groups	8.828	4	2.207	1.324	.260
	Within Groups	591.602	355	1.666		
	Total	600.429	359			
Pay Structure and Administration	Between Groups	14.170	4	3.543	2.446	.046
	Within Groups	514.135	355	1.448		
	Total	528.305	359			

Source: Survey data (2014)

According to the Table. 8 : Results of Independent sample one- way ANOVA test, there is no significant mean difference in pay satisfaction in terms of pay level & benefit and pay raises across the working experience of school teachers. The significant levels for the dimensions as pay level & benefit and pay raises are greater than the 0.05 levels ($P > 0.05$). In contrast, we found that, there is a significant mean difference in pay satisfaction in terms of pay structure & administration across the working experience. The significant level for the dimension as pay structure & administration is less

than 0.05 levels ($P < 0.05$). It means that school teachers who hold the working experience as 1-5, 6-10, 11- 15, 16-20 and 21 and above have the different levels of pay satisfaction in terms of pay structure & administration.

We can also explain the finding summary through the Mean Plot.

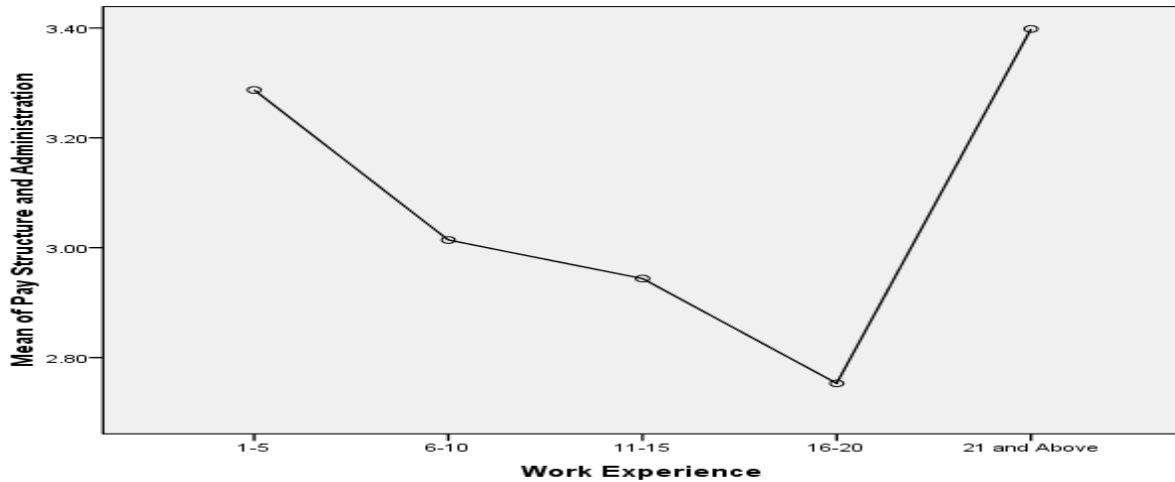


Figure 8 : Mean Plot for Educational Qualification Vs Pay Structure and Administration

According to the mean plot, school teachers , who have the working experience as 1-5 and 21 and above years hold the high level of pay satisfaction in terms of pay structure and administration than the respondents who possess the working experience as 6-10 , 11-15 and 16-20 years . Importantly, school

teachers who hold the working experience as 16-20 years have the lowest level of pay satisfaction in terms of pay structure and administration.

Hence, H6 is partially accepted.

Work Place Vs Pay satisfaction

Table 9 : Results of independent sample one –way ANOVA test

		Sum of Squares	df	Mean Square	F	Sig.
Pay Level and Benefit	Between Groups	10.791	4	2.698	1.593	.176
	Within Groups	601.120	355	1.693		
	Total	611.911	359			
Pay Raises	Between Groups	12.813	4	3.203	1.935	.104
	Within Groups	587.616	355	1.655		
	Total	600.429	359			
Pay Structure and Administration	Between Groups	13.523	4	3.381	2.331	.056
	Within Groups	514.782	355	1.450		
	Total	528.305	359			

Source: Survey data (2014)

According to the Table. 9, Results of Independent sample one- way ANOVA test, there is no significant mean difference in pay satisfaction across the work places of school teachers. The significant levels for the dimensions as pay level & benefit, pay raises and pay structure & administration are greater than the 0.05 levels ($P > 0.05$). It means that school teachers who are in different work places have the same level of pay satisfaction in terms of pay level & benefit, pay raises and pay structure & administration approximately. Therefore, H7 is rejected.

IV. CONCLUSION AND RECOMMENDATION

Based on the overall study findings, there is a significant mean difference in pay satisfaction among family size, subjects for teaching, educational qualification and working experience. In the family size, school teachers who have the family size as 1-2 hold the high level of pay satisfaction in terms of pay level & benefit, pay raises and pay structure & administration than others. In relation to the subjects for teaching, school teachers, who taught fine arts subjects have high

level of pay satisfaction in terms of pay structure and administration than the teachers who taught subjects like social studies, pure science, and business studies & commerce. In terms of educational qualification, school teachers, who have the educational qualifications as GCE A/L hold high level of pay satisfaction in terms of pay raises and pay structure & administration. Further, in the working experiences, school teachers, who have the working experience as 1-5 and 21 and above years hold the high level of pay satisfaction in terms of pay structure and administration. In contrast, researchers found that, there is no significant mean difference in pay satisfaction among gender, age level and work place.

When the drafts on policies in terms of the pay structure and administration of the school teachers especially in the northern part of the Sri Lanka are initiated or designed, governmental bodies like ministry of education should consider the differences in the level of pay satisfaction among personal characteristics. Finally, this study would hopefully benefit to the academicians, researchers, policy makers, and practitioners of Sri Lanka as well as other countries.

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Determinants of Capital Structure in Jordan Industrial Sector

By Mohd I M Alnajjar

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Abstract- Purpose: This research aims to examine the manager's behaviour about the capital structure adjustment in relation to the bankruptcy risk, profitability and the asset tangibility.

Design/methodology/approach: Data of all industrial sectors of Jordan from the period of 2009-2011 is used for this research. Simple linear regression model is used for data analysis along with the descriptive stats.

Findings: High survival probability (low bankruptcy risk) and profitability is positively related with the capital structure (debt equity ratio) but asset tangibility is negatively related with the capital structure.

Originality: Significant strength of effect of bankruptcy risk is defined in this paper so that financial analysts and investors can have information about the chances of bankruptcy of the firms in industrial sector in Jordan. This study is creating value in the literature by considering the factor of risk for the firms in the developing country. This study explains the capital structure maintained by the managers by considering the bankruptcy risk and how the profitability and asset tangibility are contributing to the capital structure formation. This paper also gives information to the analysts and investors about the agency problem by considering the behavior of managers regarding debt equity mix.

Keywords: bankruptcy risk, profitability, asset tangibility, capital structure.

GJMBR-A Classification: JEL Code: J53, L59



Strictly as per the compliance and regulations of:



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1. INTRODUCTION

Since the theory of irrelevance of firm's value presented by Modigliani and Miller,(1958) many theories tried to explain the debt equity mix determinants but there is not a single generally accepted theory which could explain the determinants of debt-equity mix. Titman and Wessels,(1988) has discussed briefly the financial policy determinants namely asset structure, earning volatility, operating leverage, non-debt tax, size, uniqueness, growth, classification of industry, profitability. Taxes & bankruptcy cost are associated with debt (DeAngelo and Masulis, 1980). Dividend policy, control and agency cost are used by (Harris and Raviv, 1991).

In market timing theory, firms decide their mode of financing, whether they should use equity or they should use debt. According to Baker and Jeffrey (2002) market timing theory defines the capital structure but it also does not care whether a company uses debt for

financing or equity. According to market timing theory, company uses that instrument which is more valued in market at that time. Under the market timing theory, companies issue stock when their stock price in the market is high and purchase their stock when their market price is low.

Free cash flow theory defines the dividend decision. This theory states that dividend is given after the investing the cash into projects having net present value. Free cash flow is the cash flow which is surplus after investing it in different projects. Managers invest this cash in below the cost of capital.

Agency theory is highly correlated with capital structure because there could be conflict of interests between corporate managers and shareholders. Jensen and Meckling, (1976) said that managers do not implement value maximizing debt equity mix. Managers prefer to minimize business risk and reduce the cash payout. Cash payout to shareholders, is a major conflict between them because it reduces the control of managers over the resources.

There is also an argument that which factors could affect the capital structure decision and which variables could not affect. Van Horne,(2002)has identified the bankruptcy risk as important factor in corporate capital structure decision. Firms with low survival probability and significant bankruptcy cost are less striking for investors, because of having high debt equity ratio. In fact, risk is considered as critical dynamic in financial decision. Existing literature gives ambiguous answers to the effect of bankruptcy risk on the financial policy (Kale, Noe and Ramirez, 1991).

Risk is a critical factor in the capital structure decision. Therefore, it is important to decide the risk intensity during the selection of capital structure. Increased uncertainty has increased the importance of investigation of risk in the Jordan. Therefore it is vital to consider that: Does risk exposure affect the capital structure of the non-financial listed firms of Jordan?

This study is exploring the effect of bankruptcy risk on the capital structure of non-financial listed firms in Jordan. Significant strength of effect of bankruptcy risk is defined in this paper so that financial analysts and investors can have information about the chances of bankruptcy of the firms in industrial sector in Jordan. This study is creating value in the literature by considering the factor of risk for the firms in the developing country. This study explains the capital

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structure maintained by the managers by considering the bankruptcy risk. Effect of profitability and asset tangibility are also the main concern of this study. Significant strength of profitability and asset tangibility is recorded in this study while managers form their capital structure. Investors can use the results of this study for extending their loans to the firms in industrial sector firms of Jordan.

As, debt existence in capital structure decreases the survival probability of firm and if the cash flows are deviating then it leads to increased business risk which ultimately increased the likelihood of bankruptcy. Previously, most researches have been done in America and in European countries. Therefore, it would be worthy to conduct the research in the developing country relating to the effect of risk dynamics on the financial policy of the firms, as it is a newly emerged line for research. Institutional arrangements and their efficiency are different in the developing countries and emerging economies from the developed countries (Eldomiaty, 2007).

II. LITERATURE

a) *Bankruptcy Risk*

From the last few decades, corporate capital structure has received intense attentions of scholars. Corporate capital structure is a debt equity mix suitable for expanding firm's operations. Glen and Pinto (1994) argued about the choice of debt equity mix as it is concerned with financing decision of a firm. Bancel and Mittoo (2004) and Graham and Harvey (2001) surveyed in America and Europe and stated that capital structure decision is crucial for corporate management. Colombage (2007) surveyed in Sri Lanka and argued that decision of financial policy is critical for corporate executive.

Bos and Fetherst on (1993) argued that firm's financial policy significantly affects the firm's profitability and risk. Previously many theories had developed for defining the factors that determine the financial policy of a firm. First work done on the financial policy was by the Modigliani and Miller (1958). Their landmark paper defines the theory of irrelevancy, means the decision of financial policy is unrelated with firm's value under some controlled conditions. If the tax benefits are eliminated and the cost of transactions and bankruptcy are absent then the decision of capital structure does not create any difference to value of the firm. Hence concluded, that decision of debt equity mix has no effect on cost of capital and market value of firm.

Hamada (1972) originate the issue of risk associated with the use of debt and defined that 21-24% of systematic risk can be explained by the debt-equity ratio. After that Castania (1983) examined the leverage ratios of 36 business lines and states that firms which are more exposed to risk employ less debt in their

debt equity mix because of bankruptcy threat. This argument support that firms will use a smaller amount of debt because of bankruptcy probability.

Risk of devastate increased as the leverage increased and it also increases the interest rate. Interest rate increased slowly when the debt is less risky but it increases sharply when the debt become more risky. This debt riskiness depends upon the earning volatility, if the earnings are less volatile then the debt is less risky but if the volatility in earnings is high the debt is highly risky. Likelihood of ruin is less for the corporations having stable cash flows. Therefore the interest rate will be low for these firms. Financer will not demand high interest rates because of less risk (Baxter, 1967).

Pettit and Singer (1985) stated that firm's probability of bankruptcy enhances as they employ more debt in their debt equity mix because of increase in cost of debt. These companies will prevent bankruptcy by issuing less debt in future. Bankruptcy cost is less important in determining capital structure (Haugen and Senbet, 1978). Study of Titman and Wessels (1988) stated that uniqueness and firm size are inversely linked with debt ration but tax shield, volatility, future growth and collateral value are positively influencing the debt-equity ratio. Argument stated by Michaelas, Chittenden and Poutziouris(1999) is against the theory of Modigliani and Miller because it states that tax has no influence on debt-equity ratio. Their study was on SME therefore they argued that tax has no influence on capital structure decision because SME have low profitability therefore it does not create any difference in SMEs.

Kim and Sorensen (1986) stated that debt should be used by the firms if their bankruptcy cost is lower. Graham (2000) also argues that firms should use leverage if the bankruptcy cost is lesser for firm. These arguments support that firms with low bankruptcy cost should employ supplementary debt in their debt equity mix so that they can enjoy additional tax benefits and realize high net profits. Study of Lasfer (1995) stated that bankruptcy cost is negatively associated with firm's leverage level. Risk has been acknowledged as vital aspect in the literature of capital structure. Many studies are carried out for explaining the relationship of financial policy with risk but theirs answers has no generalizability.

Like there is a disagreement about the effect of business risk on the optimal debt level. Long and Malitz (1985) found a negative effect; Castanias (1983), Carleton and Silberman (1977) and Bradley, Jarell, and Kim (1984) argued favourably about the business risk effect on debt equity mix but Titman and Wessels (1988), Flath and Knoeber (1980), and Ferri and Jones (1979) conclude that business risk have no significant relationship with leverage. Therefore upon the basis of above results we cannot make positive or negative

relation of business risk with the capital structure of Jordan industrial sector firms.

Bankruptcy risk is the probability of default of a firm. When companies use more debt it increases the probability of default of a company which also increases the cost of bankruptcy (Pettit and Singer, 1985). Leverage increases the bankruptcy risk of a company. Kim and Sorensen(1986) stated that if the bankruptcy cost of a firm is low then they must use the debt because their survival probability is high and risk of default is low. Graham (2000) also argued in the same way, firms should use leverage if their bankruptcy risk is low.

Considering the above researches it can be concluded that much of the research work have been done in the developed market. But there is a difference in developed economies and emerging economies regarding the institutional arrangement and level of efficiency (Eldomiaty, 2007). Therefore it is necessary to conduct studies in emerging economies. Level of leverage is lower in the emerging economies than the developed economies and has declined more in recent years (Glen and Singh, 2004). Interestingly, current study of Jong, Kabir and Nguyen (2008) stated that firm specific factors which determine the debt equity mix vary from one economy to other economy. Therefore it is worth noting to conduct study in an emerging economy.

Ohlson(1980) o-score is used in this study for measuring the bankruptcy risk of a company. This is considered as better measure than the Altman's Z-score (Pongsatat, Judy and Howard, 2004).

H_o = Bankruptcy risk of the firm influences the financing policy of a firm.

H_i = Bankruptcy risk of the firm does not influence the financing policy of a firm.

b) Asset Tangibility

Fix assets are positively associated with leverage. Harris and Raviv (1990); Friend and Lang (1988) and Williamson (1988) investigated a positive association between tangible assets and debt. Variation in cash flow generation is more difficult from tangible assets than the intangibles. Therefore, the scope of tangible assets to reduce risk transfer, and is in line agency theory, business and more debt will be supported by tangible assets (Abor and Biekpe, 2009; Yartey,2006).On the other hand, Titman and Wessels (1988) argued, a negative relationship exists between the assets' tangibility and leverage on the basis of agency theory. Monitoring the usage of tangible assets is easier, and the firms with more intangible assets will go for more debt financing for monitoring their tangible assets.

Asset tangibility is the ratio of fix asset to total assets. Capital structure of firm will depends on the ability of owners to engage in speculation at the cost of creditors and other parties. This, in response, to some

extent debt equity ratio depends on the assets composition of company. Pandey and Chotigeat (2004) analysed the Malaysian companies' financial characteristics and their financial policy. Outcome of their study states that tangibility, size and profitability have influence on debt but investment opportunities, risk and growth have no influence. The company has a high proportion of the total assets are expected have long-standing debt. An optimistic association among tangible assets and debt levels exists as trade-off theory proposes. Fix assets are positively associated with leverage (Friend and Lang,1988; Harris and Raviv,1991) and Williamson (1988) investigated a positive association between tangible assets and debt. In particular, liquidation value of tangible assets reduces the chances of financial distress. These tangible assets have usually relatively lofty security worth of intangible assets; this means that more debt is supported by these assets.

H_o = Asset tangibility of the firm influences the financing policy of a firm.

H_i = Asset tangibility of the firm does not influence the financing policy of a firm.

c) Profitability

Although many theoretical works made since the Modigliani and Miller (1958), no forecast has been agreed among the profitability and debt relationship. Tax-based model suggests that companies take more debt, other things being equal, because they have greater needs in order to shield the company income. On the other hand, the pecking order theory that retained earnings will be used for investment, and after that transferred to the new debt and equity only when essential. This scenario shows that profitable organizations employee less debt in their capital structure. Another model is contradictory to our prediction namely agency-based model. Firms having high debt and high profitability can inhibit the management discretion. However, among the internal and external shareholder, the optimal contract can be understood as a debt equity mix, and profitable organizations are less inclined to use debt.

Empirical research shows that the most significant negative correlation between leverage and profits. Friend and Lang (1988) and Titman and Wessels (1988) surveyed to U.S. companies and got such results. Kester(1986) found an inverse relation between leverage and profitability in the United States and Japan. Above mentioned studies used data from developed economies. Rajanand Zingales (1995) and Wald(1999) used data from developed countries, Booth, Varouj, Asli and Vojislav(2001) and Wiwattanakantang (1999)used data from developing countries. This paper is using EBIT for measuring the effect of profitability on the financial policy.

H_0 = Profitability of the firm influences the financing policy of a firm.

H_1 = Profitability of the firm does not influence the financing policy of a firm.

III. METHODOLOGY

This study uses the market data of industrial sector listed companies of Jordan over the period of 2009 to 2011. Accounting data is taken from balance sheet analysis of industrial sector. There are 11 industrial sectors therefore this paper is using the data of all 11 industrial sectors of Jordan. Descriptive stats are used for describing the central tendency of data and standard deviation of values of data. Panel data set is used for broader set of data and collinearity diagnostics are used for confirming that there is no multi-collinearity in the variables. Following model is specified on the basis of financial theories and previous empirical studies.

$$v_{it} = \alpha + \beta X_{it} + P_{it} + [AT]_{it} + \mu_{it} \quad (1)$$

O-Score = $-1.32 - 0.41 X_1 + 6.03 X_2 - 1.43 X_3 + 0.08 X_4 - 2.37 X_5 - 1. X_6 + 0.285F - 1.72G - 0.52H$

X_1 = Size (natural log of total asset divided by the GDP deflator)

X_2 = Total Liabilities/Total Assets

X_3 = Working Capital/Total Assets

X_4 = Current Liabilities/Total Assets

X_5 = Net Income/Total Assets

X_6 = Pre-Tax Income plus Depreciation and Amortization/Total Liabilities

F = indicator variable equal to one if cumulative net income over the previous two years is negative, and zero otherwise

G = indicator variable equal to one if owners' equity is negative and zero otherwise

H = the scaled change in net income

IV. RESULTS AND DISCUSSION

This section is describing the results of this study. Table 1 is describing the results of descriptive stats and table 2 is describing the describing the values of collinearity diagnostics and table 3 is describing the results of regression analysis.

Where subscript i represents firm and subscript t represents time. v_{it} is the measure of financial policy. v_{it} is a measure for capital structure which is measured by debt and equity ratio. α is a constant and μ_{it} is an error term of the common effect model.

βX_{it} is the measure of bankruptcy risk. P_{it} is denoted for the profitability variable and $[AT]_{it}$ is denoted for asset tangibility variable. Linear regression model is used for panel data analysis. Profitability is measured by the return on asset ratio and asset tangibility is measured by ratio of fix asset to total assets. Bankruptcy risk is measured by Olson score. Results of the study conducted by Pongsat, Judy and Howard (2004) shows that Olson's (1980) O-score has more predictive ability for the non-bankrupt firms than the z-score of (Altman, 1968). Therefore, this study is using o-score for measuring the one year ahead probability of default. When the O-score value is increased, the risk of bankruptcy decreases. This is measured as follow

a) Descriptive Statistics

Descriptive stats are describing the values of mean and dispersion of the values from the mean. Below mentioned table is also showing the number of observations.

Table 1

	Mean	Std. Deviation	N
Capital Structure	.6416299441	.29070654970	33
Bankruptcy Risk	.8659785994	1.13369596377	33
Profitability	3.3358728002	7.34518498470	33
Asset Tangibility	4000887346	10013423782	33

Mean value for Capital Structure is .6416299441 and standard deviation is .29070654970. Bankruptcy risk, mean value is .8659785994 with the standard deviation value of 1.13369596377. Mean value of profitability is 3.3358728002 with the disparity value of 7.34518498470. Value of mean of asset tangibility is .4000887346 at .10013423782 standard deviation value.

b) Collinearity Diagnostics

Multi-collinearity in the variables of observation is observed through the collinearity diagnostics. VIF values showed are above 1 and the values of tolerance should be below the 1 value for describing that there is no multi-collinearity in the data.

Table 2

	Tolerance	VIF
Bankruptcy Risk	0.872	1.146
Profitability	0.863	1.159
Asset Tangibility	0.986	1.014

Values of tolerance for all variables are below 1 and the VIF values are above 1 and below 10 which shows that these variables have no multi-collinearity

factor. Therefore linear regression model can be used for analysing the data.

c) *Regression Model*

Table 3

Variables	Regression Coefficients	T – Statistics	Standard Errors	P Values
(Constant)	.627	3.309	.190	.003
Bankruptcy Risk	.202	4.499	.045	.000
Profitability	.015	2.176	.007	.038
Asset Tangibility	-.530	-1.294	.410	.026
R – Square	.462			
Adjusted R Square	.406			
F – Statistics	8.288			
Overall P Value	.000			

Results are showing that bankruptcy risk is significantly related with industrial sector firms and has significant positive impact on firm's financial policy. Profitability is also significantly related with industrial sector firm's financial policy and has positive relation with firm's financial policy in industrial sector. Asset tangibility also has a significant effect on financial policy of industrial sector firms and has a negative relation with financial policy. R-square and adjusted R-square values are 0.462 and 0.406 are showing that how much this model is explaining the relationship. F-stats values 8.288 are showing the fitness of model.

O-score is positively related with the capital structure which means that when the risk of bankruptcy decreases then the ratio of debt and equity increases. Bankruptcy risk is measured by the Olson's o-score, which measures the one year ahead, probability of survival. Higher survival probability shows low bankruptcy risk. Bankruptcy risk is analysed without taking the natural log of their value that is the reason behind the higher mean values and higher standard deviation values.

Bankruptcy risk in industrial sector is showing a significant positive relationship with the financial policy of the firms. This shows that the survival probability is high in this sector therefore these firms are having low bankruptcy risk. Therefore these firms are enjoying the benefits of leverage and the tax shield benefits. Firms in this sector are employing more debt because of low borrowing cost and the lenders are also lending them

the money because of low bankruptcy risk. These firms are also enjoying the benefit of tax shield as they have high debt in their capital structure.

Industrial sector has a positive significant relationship between capital structure and profitability. This shows that when profitability increases, usage of debt financing also increases as the companies have more profit which increases their repayment capacity. Therefore, companies prefer to incorporate more debt in their capital structure. So that they could enjoy tax shield benefit and low cost of financing as well. This shows that industrial sector firms are relying more heavily on external financing while earning more profits. These results are in line with the results of Carleton and Silberman (1997) who surveyed to U.S companies. As this study is conducted in a developing economy but the results of this study are also in line with the studies conducted in the developing economies by the Booth, Varouj, Asli and Vojislav(2001), Rajan and Zingales (1995), Wald (1999) and Wiwattanakantang (1999).

Industrial sector firms are showing a significant negative relationship between asset tangibility and firm's capital structure. This shows that firms with high proportion of fix assets imply less debt in their capital structure, as they are in the strong position to run their operations. Result shows that firms with more fix assets do not take risk of debt so that they could decrease their bankruptcy risk. As, this argument is also confirmed by the positive relationship between low bankruptcy risk and capital structure.

V. CONCLUSION AND IMPLICATIONS

Analysis of economic value creation process has been the core field of study for financial and business economics researchers. Analysts always observed the variables and factors that have influence on economic value creation process and try to augment these variables by controlling their effects. Therefore, analyzing of optimal capital structure factors is very important.

This study explores that how companies adjust their capital structure in relation to risk exposure by using the data for the period of 2009-2011 for the companies from the industrial sector of Jordan. When the bankruptcy risk lowers down in the industrial sector firms and they have high profitability, managers go for external financing. Therefore they are having high debt and equity ratio. But when the firms have high fix asset ratio, managers use internal financing as they do not want to risk their assets. Results are supporting this argument that industrial sector firm adjust their capital structure according to the bankruptcy risk, profitability and asset tangibility. All the results are in-line with the previously conducted studies in the developing and developed economies. Results are supporting the trade-off theory, as the risk increased, firms imply less debt for decreasing their chances of bankruptcy.

Managers of industrial sector firms are himself adjusting their capital structure according to their risk level, profitability and asset tangibility. Therefore lender should not be much anxious about lending them the money. As the analysis of this study are showing that when the bankruptcy risk increases, managers imply less debt for avoiding the bankruptcy risk and when the profit increases the firms obtain more debt because their capacity to repay the debt increased because of increased profitability. Same is the case with asset tangibility, when asset tangibility increases, manager do not go for more debt as they want to risk their assets. This paper gives the information to the lenders that they can lend their money to industrial sector firms of Jordan as firms are himself much caring about their capital structure and survival probability. Therefore there are very less chances of bankruptcy of these firms.

Results show that managers of industrial sector are sensitive to risk exposure. They consider bankruptcy risk, profitability and asset tangibility while incorporating debt in there capital structure. Therefore, lenders should not be worried about their money while lending to industrial sector firms. This study results are useful for lenders, analysis and for investors as well.

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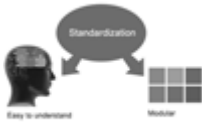




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- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or in manuscript form.

What to stay away from

- 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.
- Do not present the similar data more than once.
- Manuscript should complement any figures or tables, not duplicate the identical information.
- Never confuse figures with tables - there is a difference.

Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report
- If you desire, you may place your figures and tables properly within the text of your results part.

Figures and tables

- If you put figures and tables at the end of the details, make certain that they are visibly distinguished from any attach appendix materials, such as raw facts
- Despite of position, each figure must be numbered one after the other and complete with subtitle
- In spite of position, each table must be titled, numbered one after the other and complete with heading
- All figure and table must be adequately complete that it could situate on its own, divide from text

Discussion:

The Discussion is expected the trickiest segment to write and describe. A lot of papers submitted for journal are discarded based on problems with the Discussion. There is no head of state for how long a argument should be. Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implication of the study. The purpose here is to offer an understanding of your results and hold up for all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of result should be visibly described. Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved with prospect, and let it drop at that.

- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
- Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work
- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
- Submit to work done by specific persons (including you) in past tense.
- Submit to generally acknowledged facts and main beliefs in present tense.



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<i>References</i>	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring



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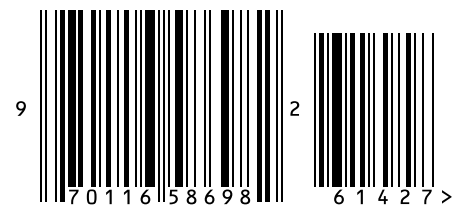
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