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The Role of Rewards and Job Satisfaction in Predicting Employee Commitment to Performance in Service Organizations.

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Abstract

Rewards and job satisfaction are often cited as critical processes in HRM. Nonetheless, research has not provided conclusive confirmation or disconfirmation on rewards and job satisfaction as influencing organizational performance. Thus, this study investigated the predictive roles of rewards and job satisfaction in employee’s commitment to performance of service firms in sub-Saharan Africa. The study adapted a quantitative methodology by drawing a sample of respondents from two multinational service firms in Ghana. Both multiple regression and descriptive analysis were employed as the basis for the study investigation. Findings showed that rewards induced positive job satisfaction of employees. Additionally, findings showed that job satisfaction of employees stimulated employee commitment to performance. However, a very high level of employee dissatisfaction was recorded for employees pay and the amount of work they do which could negate their commitment to performing well in service firms. The study results add to the evidence that good HR practices influence business outcomes rather than the other way around. Thus, the contribution of this paper identifies the roles that management and organizational leadership can play in enhancing HRM and best practices of employee rewards and job satisfaction in the service industry.

Keywords: Job satisfaction, commitment to Performance, Rewards, Sub-Saharan Africa.
Introduction

For the past years, research work has concentrated on rewards and job satisfaction on employees’ outcomes in work organizations. While Job satisfaction is expressed as the affective response of an employee’s work ensuing from a comparison between the actual outcomes and the expected outcomes (Cranny et al., 1992), rewards on the other hand, have been described as the financial and non-financial benefits, derived from the employment relationship and obtained by employees (Bratton and Gold 1994). Rewards and job satisfaction are critical human resource (HR) variables in work organizations. Deficiencies in these variables can jeopardize the health of an organization by opening pathways to absenteeism (Lambert et al., 2005), and staff turnover (Dennis 1998). Most organizations have thus suffered from employees’ loyalty and commitment to perform better in their work due to the ramifications of poor rewards and job satisfaction issues (Aletraris, 2010). More importantly is the unsteadiness of employees’ attitude to work in most Sub-Saharan African organizations due to low reward issues leading to job dissatisfaction of employees and noncommittal to organizational performance (Abugre, 2014). Consequently, both research and anecdotal accounts demonstrate the power of employee rewards and job satisfaction to be linked to organizational performance resulting from employee commitment. In fact, organizational rewards schemes have a critical role in influencing the organization’s ability to attract and retain high performing employees, and also motivate all employees to achieve greater levels of performance (Thompson, 2001). Thus, an organization’s reward system is increasingly viewed as a strategic tool in aligning the interests of workers and management and improving their commitment to firm performance. This means, organizations may use their pay system to motivate strategic behaviors (Milковitch and Newman, 2008), by making it essential that employees are satisfied with their pay. Extant literature suggests that rewards and job satisfaction are linked to HR strategies, and the effective implementation of these strategies can lead to higher performance especially in service organizations. For example, Singh and Loncar (2010) argue that the development and implementation of long term retention strategies such as pay and job satisfaction are critical in ensuring that service institutions are able to provide access to the variety of service delivery. Successful HR strategies need to address rewards and job satisfaction issues that can trigger employee commitment to organizational performance, and this accomplishment will depend essentially on the extent to which the integration of rewards policies and the management of employees are intrinsically consistent with each other. In fact, Fay and Thompson (2001) assert that the alignment of rewards programs to organizational strategy provides a motivational boost to employees. Additionally, greater job rewards induce greater employee satisfaction, and greater job commitment is encouraged by higher rewards, lower costs, and greater investment of resources (Rusbult and Farrell, 1983) leading to increase organizational or firm performance.

While the studies cited above have demonstrated that rewards systems can have a positive impact on employees’ conditions for organizational success, HR researchers and practitioners are still left uncertain about the joint impact of rewards and job satisfaction on successful HR strategies leading to commitment to performance in service organizations. Similarly, researchers and practitioners are uncertain about filling the existing gaps with regard to knowledge of the specific effects of the role of organizational rewards and employee job satisfaction in service organizations in Sub-Saharan Africa (Sarwar and Abugre, 2013). Significantly therefore, this work attempts to fill these gaps, and to contribute to the paucity of literature in HRM rewards systems and job satisfaction leading to commitment to perform particularly in service organizations in Sub-Saharan Africa. Second, the study goes beyond the underlying components of job satisfaction to unearth new insights of worker satisfaction variables as best practices of organizational HRM in the service industry. Third, reward systems
impact strongly on organizational setting, and rewards and job satisfaction both provide a wealth of knowledge for management and academics to understand the significant dynamics that impacts on employees’ stress and well-being (Ganster et al., 2011) and development at work. Consequently, this paper examines the predictive roles of rewards and job satisfaction of employees’ commitment to firm performance of two multinational service firms in Ghana, posing two key questions:

1. To what extent does employee rewards predict their commitment to firm performs in service organizations?

2. How can service firms build and sustain employee commitment to performance output through their reward strategies and employee job satisfaction in service organizations?

Accordingly, we empirically tested the role of rewards and job satisfaction of employees in order to establish their predictive outcomes or otherwise on their commitment to firm performance. The rest of the paper is organized as follows: First, we analyse the literature that informs our theoretical deliberations, and then formulate the hypotheses that guide this study. Second, we describe the research design, data analysis, and the results of the study. Lastly, we discuss the results of the study, and provide recommendations and implications and then the study conclusion.

### Theoretical Considerations and Hypotheses Development

#### Human Resource Management and Service Organizations

Research in strategic human resource management has made considerable progress in documenting the link between organizational performance and human resource (HR) strategies that invest in the human capital of the workforce (Becker and Gerhart, 1996). These strategies are basically those that include coherent sets of HR practices that enhance employee skills, participation in decision-making, and motivation (Appelbaum et al. 2000). HRM is particularly about gaining the employees’ commitment and adaptability, and about standardizing employee contracts and wages (Storey et al., 1991). It involves selecting the best ways to manage people, their skills and knowledge through established rules, regulations, procedures and techniques (Kunda, 1992). HR benefits occur when firms build and sustain competitive advantage substantially through the quality of their human capital and organizational processes (Boxall, 1996).

The match or fit between competitive strategy and HR strategy is greater in services than it is in manufacturing (Boxall 2003). The term ‘service sector’ is used here to refer to all economic activities other than those in agriculture, mining, and manufacturing. Thus, it includes retail and wholesale trade, domestic service, general government employment, the professions, personal services, banking and insurance, construction, transport and communications.

Literature on HRM in service organizations has equally argued that it takes only a moment’s thought to recognize that employee reward is a major motivator for employees as well as an essential tool for organizations performance (Ou and Wang, 2007; Petra and Dorata, 2008). Likewise, several studies have reported that one of the most important determinants of employees’ compensation is their commitment to perform on the job (Hakes and Sauer, 2007; Ou and Wang, 2007). If compensation is closely tied to key performance measures, it is reasonable to expect that employees will work to maximize those performance measures and consequently maximize their pay level (Yilmaz and Chatterjee, 2003). For these reasons, it is logical to expect that rewards and job satisfaction of employees are linked to HR strategies and organizational performance. This is because, employees work hard to maximize performance
measures and consequently maximize their pay level (Yilmaz and Chatterjee, 2003) if these performance measures are controllable from the perspectives of employees.

In most developing countries in Africa, the service sector has become the main economic contributor for most nations in the area of employment. This is due to the liberalization policies which encouraged private investment persuaded by institutional reforms from the Breton woods (World Bank and IMF) institutions, and the need to make state owned companies in Africa self-reliant and viable. As a result, the organizational structures and HR skills in the service sector have undergone a major change from the traditional structure of organizations, which were based on technical requirements. According to Lindsay (2005), the growth of the service sector must be understood as an opportunity for employment but also as a threat. Polarization of wage and job-related skills and the increase in fixed-term employment are linked to the expansion of the service sector (Sassen, 1996). These tendencies also imply changes in reward systems because; constant personal redefinition is viewed as necessary in a competitive and unstable environment (Sennet, 1998). The traditional reward system has thus changed to prioritizing certain social profiles above others in performance processes. As Thompson et al. (2001) point out; the traditional model is being changed by the interactive service work model, which depends upon each worker’s tacit skills (quality of verbal communication, interaction and relational skills etc.). Therefore, effective rewards systems have a critical role in determining the organization’s ability to attract high potential employees, to retain high performing employees, and to motivate all employees to achieve greater levels of performance (Bartol and Locke, 2000; Thompson 2001). This work takes this opportunity to test the predictive roles of rewards and job satisfaction in employee commitment to firm performance of service organizations in a Sub-Saharan African context.

**Rewards and Job Satisfaction as HR Processes**

It has been widely argued in management, total quality management, operational sciences and service literatures that improving job satisfaction leads to higher productivity and profits (Silvestro, 2002). In particular, the HRM and Organizational Behavior (OB) theories suggest that the appropriate use of people enhances organizational effectiveness. This is especially so when employees enjoy both intrinsic and extrinsic rewards since they are sure of achieving a global satisfaction (Tsui et al., 1997; Aletraris, 2010).

In the service sector, employees are regarded as the source of differentiation and competitive advantages (Barney and Wright, 1997; Bartlett and Ghoshal, 2013). The emergence of different schools of thought on worker satisfaction have been able to link employees’ job satisfaction with service quality perceptions, customer satisfaction and display of loyalty over long term outcomes (Dessler, 2011). Yet employees continue to be viewed and treated by many organizations as disposable resources. This appears to be true in some Sub-Sahara African organizational context, where little theoretical understanding in human resource management exists concerning the antecedents and service behaviors of job satisfaction of contact employees (Abugre, 2014). However, high performing organizations are those likely to envisage fairness of their relationships with their employees as a precursor to customer satisfaction and increased staff commitment to perform their work (Snipes et al., 2005). This also involves rewarding the positive behaviour which is likely to ensure reinforcement and long-lasting performance of the contact employees. Hence, the importance of investigating how these HR processes (rewards and Job satisfaction) could predict employee commitment to service firm performance is worthy and necessary.
The Link between Rewards and Job Satisfaction and Employee Commitment to Performance

Rewards have been defined as the financial and non-financial benefits, derived from the employment relationship and obtained by employees (Bratton and Gold, 1994). Both financial and non-financial rewards as HR processes have been associated with employee commitment to work performance (Becker et al., 1996). There are three main categories of rewards as specified in the literature: social, extrinsic, and intrinsic rewards (Williamson et al., 2009). Social rewards refer to those that are obtained as a result of the interactions with others at workplace and may involve having conducive or supportive relationship with colleagues or supervisors. Extrinsic rewards refer to the total package of financial benefits that an employee obtains from the organization, and includes base pay, performance related pay, accommodation allowance, transport allowance, social security provision and medical insurance. Finally, intrinsic rewards are those that arise from the job content itself and have been labelled as ‘job characteristics’ in the Job characteristics theory (JCT) (Hackman & Oldham 2010). They include motivational aspects such as role clarity, skills variety, autonomy and feedback. Jobs that are crafted well in terms of clarity and skills required to do them would excite employees’ commitment to performance (Berg et al., 2010; Hackman and Katz, 2010).

Consequently, the employment relationship has been described as a social exchange relationship, given that it includes a mutual exchange of benefits between the employee and the employer (Aryee et al., 2002). Looking at the norms of reciprocity which explain the theory of social exchange (Cropanzano and Mitchell, 2005), it is suggested that employees exhibit greater satisfaction with their jobs, in return for the receipt of rewards from the organization (Settoon et al., 1996; Aryee et al., 2002). This satisfaction of employees derived from organizational rewards would in turn lead to increased commitment of employee and firm performance as employees may give of their best which would benefit the employer or the organization as a whole. Hence, we hypothesize that:

Hypothesis 1: There is a strong positive relationship between employee rewards and employee commitment to performance in the service industry

Hypothesis 2: Higher employee rewards in service firms is positively related to employee job satisfaction in the service industry

The Link between Employee Satisfaction and the Commitment to Firm Performance

Globalization and increased competition continue to change the business environment. The service sector is a highly competitive industry; therefore, amid the need to stay above rival companies, and to deliver satisfactory financial returns to stakeholders, it is vital that management remains agile which depends on how quickly and effectively it can respond to the ever – changing customer demands (Gursoy and Swanger, 2007). More importantly, customer satisfaction in services such as tourism, hospitality and retailing, has become one of the most frequently examined concepts in the job satisfaction literature (Chi and Gursoy, 2009). This is because in the service industry, both products and services are often highly complex and present a totality of exchange, commitment, performance, satisfaction and an encounter between customers and employees (Bitner et al., 1990). Since the intangible benefits of most businesses reside in employees’ skills and know-how, the level of satisfaction which a customer may experience, is directly related to the level of satisfaction which that employee has with his or her job in the organization and will be committed to go the extra mile. This is in line with Matzler and Renzl (2007)’s work which argues that employee retention and satisfaction have become one of the most critical issues facing the tourism and hospitality firms, and the service
sector in general. In recent years, more service organizations have been acknowledging employees by giving them rewards and allocating significant resources which have not only led to lower turnover rates but, it has also likely impacted the bottom–lines margins of the firms significantly due to commitment. Literature further suggest that employees who are happy and satisfied with their work environment are less likely to leave the organization and tend to stay longer (Chi and Gursoy; 2009; Shuck 2011). Additionally, current research indicates that organizational rewards have a significant influence on the employees’ behavior towards their work and the employing organization (Miao et al. 2013). Thus, it is plausible that a direct link may exist between employee levels of satisfaction and his/her commitment to firm performance in the service management literature (Silvestro, 2002). Consequently, this study hypothesizes that:

**Hypothesis 3a:** There is a strong positive relationship between employee job satisfactions and employee commitment to performance in the service industry

**Hypothesis 3b:** High employee commitment to performance is positively related to employee job satisfaction in the service industry

The Figure 1 above illustrates our study model and summarizes the hypotheses pathway of the study.

**Research Methodology**

**Sample and Procedure for Data Collection**

We conducted our study in the service sector of Ghana. We first sampled two medium to large scale organizations which provide services to the Ghanaian population. The two organizations were purposively chosen for the study. The organizations are subsidiaries of multinational companies providing services to the Ghanaian population. However, in line with social science research, and for the sake of this research we have christened the two organizations as Org 1 and Org 2. We then randomly selected 120 employees from these two organizations based on the total number of employees available to each organization given to us by the respective HR managers. Initial letters of introduction and declaration of interest to survey the employees for a research were given to the HR managers of the two organizations for permission. Hence, a self-administered questionnaire was given to each participant to complete, with a specified time period of four months. The actual data collection was carried out between July and December, 2012. The questionnaire was initially screened by the HR managers of the two organization in line with their organizational ethics and codes of providing information to external source. A total of 110 filled questionnaires were delivered to us after the two months period. After excluding the questionnaires that had missing data and outliers, a total of 104 useable questionnaires were finally obtained for the research, yielding an overall response rate of 86.7%.
percent which is very good. A comprehensive information about the organizations and the respondents for the study is provided in Table 1.

<table>
<thead>
<tr>
<th>Table 1: Characteristics of Respondents and Sample Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td><strong>Age</strong></td>
</tr>
<tr>
<td>26-35</td>
</tr>
<tr>
<td>36-45</td>
</tr>
<tr>
<td>46-55</td>
</tr>
<tr>
<td>56 or above</td>
</tr>
<tr>
<td><strong>Education</strong></td>
</tr>
<tr>
<td>Higher Diploma</td>
</tr>
<tr>
<td>University Degree</td>
</tr>
<tr>
<td>Specialized Certificate</td>
</tr>
<tr>
<td>Masters</td>
</tr>
<tr>
<td><strong>Job Position</strong></td>
</tr>
<tr>
<td>Senior Managers</td>
</tr>
<tr>
<td>Middle Managers</td>
</tr>
<tr>
<td>Junior Managers</td>
</tr>
<tr>
<td><strong>Work Experience</strong></td>
</tr>
<tr>
<td>0-5 years</td>
</tr>
<tr>
<td>6-10 years</td>
</tr>
<tr>
<td>11 or above</td>
</tr>
</tbody>
</table>

Instrument and Scale Measurement of Variables

A questionnaire comprising 26 questions relating to participants’ biographical information, and job satisfaction variables was developed. The biographical section (gender, education, tenure, and job rank) were collected using a nominal scale with pre-coded options. The job satisfaction variables included 18 items which were measured using a five-point scale rating instrument, and also measured using closed and open-ended answers. The open-ended questions were meant to enable employees offer their own lived experiences or opinions on aspects of rewards and job satisfaction and commitment to performance. The open-ended questions were also meant to offset any common method bias since the questionnaires were left with them to complete. The advantage of incorporating these open-ended questions in the instrumentation is an attempt to overcome some of the previously reported measures or scale weaknesses.
Job satisfaction was adapted and modified from Quinn and Staines’ (1979) items on job satisfaction. In all 9 items out of the total 18 items on job satisfaction mentioned above were measured with first set of 4 questions using a five point scale with 1= Very Dissatisfied to 5= Very satisfied, and second set of 5 questions with 1= Strongly agree to 5=Strongly Disagree. Examples include; “How satisfied are you with your job?” “Higher rewards will induce higher job satisfaction?” the aggregate internal reliability is .82.

To measure employee commitment to performance, we modified Farrell and Rusbult (1981) items on organisational commitment and performance with five point scale 1= Very likely to 5= very unlikely. Examples of items include: Firm performance will increase as a result of higher pay of employees; Job satisfaction will motivate employees to be more committed towards organisational goals, and job satisfaction and higher rewards will give high employee commitment to performance. The total reliability coefficient of α = .75.

Rewards on job satisfaction and firm performance was measured with five point scale from 1=Very likely to 5= Very unlikely, adapted from Farrell and Rusbult (1981) example of items include: Job commitment and performance is said to increase with increases in organizational rewards; performance of employees will increase with increase employee rewards; firm performance will increase when employees receive higher rewards. The aggregate reliability coefficient is α = .82. All other remaining questions were measured with a simple ‘yes and no answer’, ‘give reasons for this’, or ‘in your opinion, mention some of the factors you think constitute job satisfaction’. Answers to these questions provided individual respondent’s opinions which were then summed up for this work. In fact, these open-ended questions provided a more qualitative information that is productive for explanatory and confirmatory of our study findings.

The survey instrument was pre-tested with ten people before we sent them to the field. This was to get a feedback to refine the content and the structure of the survey questionnaire, and also to enhance the internal validity of the instrument. To further enhance its content validity, the questionnaire was subjected to an initial scrutiny by the two HR managers of the organizations.

Data Analysis

The data collected for this study were coded and analysed using SPSS 16.0. Descriptive and correlation analysis were also used to interpret the data by providing percentages and numeric values of times each value was obtained since most of the questions were opened ended to provide participants’ views and explanations. Additionally, the use of regression analysis to test the hypotheses is very appropriate since multiple regression is good at exploring the relationships between predictive and outcome variables. Hence, the combination of multivariate and descriptive analyses for this study uniquely explains and reveals the conceptual understanding of the predictive and outcome variables used for the study, and the accurate portrayal of the frequency of sampled results respectively.
Table 2: Correlations and Descriptive Analysis of the Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Std</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender</td>
<td>1.5</td>
<td>.50</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Education</td>
<td>3.3</td>
<td>.83</td>
<td>.10</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Tenure</td>
<td>2.3</td>
<td>.80</td>
<td>.07</td>
<td>.08</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Job Rank</td>
<td>3.1</td>
<td>.14</td>
<td>.06</td>
<td>-.11</td>
<td>.04</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Job Satisfaction</td>
<td>10.0</td>
<td>2.0</td>
<td>-.19</td>
<td>.13</td>
<td>-.00</td>
<td>.16</td>
<td>(.82)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Commit to Perform</td>
<td>9.5</td>
<td>4.2</td>
<td>-.06</td>
<td>.18</td>
<td>.02</td>
<td>-.04</td>
<td>.51**</td>
<td>(.75)</td>
<td></td>
</tr>
<tr>
<td>7. Rewards</td>
<td>13.1</td>
<td>3.8</td>
<td>.04</td>
<td>.17</td>
<td>.06</td>
<td>.11</td>
<td>.34**</td>
<td>.69**</td>
<td>(.82)</td>
</tr>
</tbody>
</table>

Note: ** ≤ .01 (2-tailed).

Results

Table 2 presents the correlation matrix of the means, standard deviations of the dependent and independent variables of the study. Figures in brackets show Chronbach alpha (α). From the table, the low intercorrelations figures between the independent variables explain the absence of multicollinearity, and therefore indicating the strength of our analysis. Additionally, an examination of the variance inflation factors (VIFs) in Table 3 revealed that multicollinearity did not misrepresent the results. A VIF above 10 is often interpreted as an indication of multicollinearity (Stevens 2002). The VIFs for job satisfaction, rewards, and employee commitment to firm performance all indicate figures below 2. Table 3 presents a three-step regression analyses to assess the test of the hypotheses. Model 1 presents results for the null model, which includes the control variables of gender, education, organizational tenure and job rank. Results from model 1 show that all four control variables are found not to influence the results. Model 2 presents results of the two main independent variables (IVs) Job satisfaction and rewards on the dependent variable (DV) – employee commitment to firm performance, all two IVs show a strong positive relationship with employee commitment to firm performance. In model 3, we used Job satisfaction as the DV this time round while rewards and employee commitment to performance served as IVs, the analysis show that rewards and employee commitment to firm performance are positively related to job satisfaction. Thus, all four hypotheses (that is H1, H2, H3a and H3b) suggests strong positive relationships between all the predictive variables and the outcome variables. Consequently, and as predicted, results from model 2 indicate that H1, which states that: ‘There is strong positive relationship between employee rewards and employee commitment to firm performance in the service industry’ is accepted (β = 0.601, p < 0.001), at the same time, H2 which states that: ‘higher rewards in service firms is positively related to employee job satisfaction in the service industry’ is accepted (β = 0.309, p < 0.01). Equally, H3a, which states that: ‘There is a strong positive relationship between employee job satisfactions and employee commitment to firm performance in the service industry’ is accepted (β = 0.312, p < 0.001). Finally, H3b which states that: ‘higher firm performance is positively related to employee job satisfaction in the service industry’ is accepted (β = 0.713, p < 0.001).

In general, both model 2 and 3 emerged significantly strong outcomes on our data analysis at (F= 22.846, p < 0.001; F= 25.342, p < 0.001) respectively. Thus, all four hypotheses are supported by the results and accepted with strong and positive beta values. Additionally, our study
models have demonstrated a robust predictive analysis by accounting for 54.7% and 46.1% of the variance explained in the criterion variables respectively.

Table 3: Regression Analysis of Rewards and Job satisfaction in predicting employee commitment to Performance

<table>
<thead>
<tr>
<th>Variables</th>
<th>Commitment to Perform Model 1</th>
<th>Commitment to Perform Model 2</th>
<th>Job Satisfaction Model 3</th>
<th>t-values</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Predictors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>-</td>
<td>.31***</td>
<td>-</td>
<td>4.34</td>
<td>1.22</td>
</tr>
<tr>
<td>Rewards</td>
<td>-</td>
<td>.60***</td>
<td>.31**</td>
<td>8.49</td>
<td>1.17</td>
</tr>
<tr>
<td>Commitment to Perform</td>
<td>-</td>
<td>-</td>
<td>.71***</td>
<td>8.59</td>
<td>1.38</td>
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<tr>
<td><strong>Control</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-.08</td>
<td>-.02</td>
<td>.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>.19</td>
<td>.03</td>
<td>.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenure</td>
<td>.01</td>
<td>-.01</td>
<td>.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job rank</td>
<td>-.01</td>
<td>-.14</td>
<td>.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Regression Statistic</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>.98</td>
<td>22.9***</td>
<td>25.3***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>-.00</td>
<td>.56</td>
<td>.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δ Adjusted R²</td>
<td>.04</td>
<td>.55</td>
<td>.46</td>
<td></td>
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</tbody>
</table>

Note: ** ≤ .01, *** ≤ .001 (2-tailed).

Apart from testing our four hypotheses above using multivariate analysis, we also explored additional descriptive analysis on the overall impact of rewards and job satisfaction as HR strategies that can influence the commitment and performance of employees leading to overall performance of service organizations. Hence, we identified 90.3 percent of respondents indicating that job satisfaction leads to higher job performance in organizations. Similarly, 58.6 percent stated that job satisfaction stimulates workers’ enthusiasm to work even at abnormal times, while 53.8 percent were of the view that work will be done more accurately and expediently when employees feel satisfied with their jobs. In addition, 26.9 percent indicated that job satisfaction guarantees good customer service, whilst 15.4 percent indicated that organizational innovations results from employees who experience job satisfaction because they become committed to their work.

In the next step of our descriptive analysis which was to determine the percentage impact of rewards on employee performance, we identified 95.2 percent of respondents indicating that higher rewards will induce employee’s job satisfaction, while only 4.8 percent of respondents stated that rewards cannot induce employee’s job satisfaction. As a follow up question to determine the kinds of rewards employees believe would induce job satisfaction, 74 percent of the respondents indicated ‘allowances and increases in salaries’, 60.6 percent of respondents indicated ‘incentive package like accommodation’, 43.3 percent of respondents indicated ‘promotion of employees in organizations’, 41.4 percent of the respondents indicated ‘employee training’, and 28.8 percent of respondents indicated ‘continuous appraisal of workers’.

In order to determine the level of satisfaction of employees with regard to recognition they (employees) get from management, results showed that 35.6 percent were dissatisfied with recognition they get for the work they do, while 25 percent indicated neutral. Only 24 percent of
them (participants) indicated satisfied. In benchmarking employees’ salaries within the service industries, our results showed that 38.5 percent and 24 percent of respondents were dissatisfied and very dissatisfied respectively with their current pay as compared to their colleagues in similar jobs of analogous organizations while, only 6.7 percent of respondents said they were satisfied with their pay.

On Current Aspirations of Employee Job Satisfaction, our results showed that 60.6 percent wanted their managers to provide fair opportunities for all categories of staff in the organization while, 38.5 percent required management to demonstrate transparency in leadership activities through regular staff meetings. Equally, 27.9 percent and 26.9 percent indicated regular training to sharpen employees’ skills and regular salary increase respectively would boost job satisfaction of employees.

The Figure 2 above illustrates our Final study model and specifies the performance indicators of the study constructs.

Discussions and Conclusion

A significant contribution of this research is the confirmation of a common set of reward plans and a common set of conditions that are associated with successful rewards initiatives and job satisfaction in the service sector within sub-Saharan Africa. We found that good financial compensation, employee satisfaction, leadership and employee interpersonal relationship serve as critical criteria for success on rewards and worker satisfaction initiatives in service organizations. More specifically, the results of the study suggest that higher rewards and satisfied employees in service organizations play a major role both in the promotion of employee job satisfaction and consequently employee commitment to perform in service organizations. This is supported by as many as 90 percent of respondents who indicated that employee job satisfaction leads to improved job performance, and consequently increased organizational profit margins. In addition, more than half (58.6 percent) of participants said that job satisfaction stimulates employees’ interest on work, while 53.8 percent said that organizational tasks are done accurately and expediently when employees experience job satisfaction. These findings reveal the critical role job satisfaction of employees can play in the overall organizational strategy and performance in the service industry. Thus, our findings are consistent with Wang and Feng (2003)’s assertion that the more employees experience job satisfaction, the more they (employees) would have a positive outlook on their jobs. The explanation of these findings are that organizational leaders in the service industry particularly those in Sub-Saharan Africa must see employee work performance as a kind of feedback on effective organizational rewards. When workers feel that their efforts are being rewarded in like terms, their perceived satisfaction for the effort increases leading to enhanced service delivery and subsequently the overall firm performance because they become committed to their work. Hence, organizational rewards and employee job satisfaction are undeniably linked to HR
strategies and organizational performance. Without a doubt, the confirmation of our findings is very significant to the acceptance of our hypotheses H1 and H3a which state that ‘there is a strong positive relationship between employee rewards and employee commitment to performance in the service industry’ and ‘there is a strong positive relationship between employee job satisfactions and employee commitment to performance in the service industry’ respectively. Similarly, our H2 and H3b show that higher rewards in organizations are mutually linked to job satisfaction and firm performance of service firms. The strength of the relationship between the test variables is confirmed by the positive t-values (the t-value or test values are statistical analysis showing additional contribution to prediction accuracy of the variables) of fit in Table 3. Consequently, our study findings established that; first, when service firms use rewards as an effective HR policy, the relationship between rewards and employee job satisfaction is positive and second, when employees in service firms enjoy higher employee satisfaction, the relationship between satisfied employees and their commitment to firm performance is positive. Similarly, our analysis suggests that majority of service employees are not pleased with the current salary they receive from their organizations. Generally, employees try to compare what they get as salary to what their colleagues earn from analogous organizations. They are therefore less likely to give off their best when they perceive great disparities in the salaries. This calls for HR strategy in wage standardization within the service industry. If not, the intention to leave among service employees will rise. Equally, recognition for work done through praises and acknowledgement should be encouraged in service organizations. This is likely to motivate employees who go the extra mile in their work and, may offset the insufficient wages in most Sub-Saharan African organizations. The overall findings of this work thus provide distinctive answers to our research questions which state that: 1), to what extent does employee rewards predict their commitment to firm performs in service organizations, and 2), how can service firms build and sustain employee commitment to performance output through their reward strategies and employee job satisfaction in service organizations. The findings have equally helped to build a strong model that guides service organizations by presenting a conceptual clarification of rewards and job satisfaction as predictors of service firm performance (see Fig 2).

Theoretical Implications

The present research has a number of theoretical implications regarding organizational reward system, employee job satisfaction, and employee commitment to firm performance. To begin with, our findings have important theoretical contributions for the rising research in identifying organizational reward systems as an effective HR strategy that will induce employee job satisfaction, and consequently their commitment to performance of service organizations. Managing employees is a difficult task particularly in Sub-Saharan Africa where there is perceived insufficiency in wages and salaries, organizational resources for work, and good management practices. Thus, our findings revealed the current aspirations of employees as what makes them satisfied with their jobs as follows: that organizational management must grant fair and equal opportunities to each and every worker in the organization, that management must demonstrate concern for workers through regular meetings and durbars, that training and seminars should be a hallmark for organizational policy so that employees’ skills could be sharpened and also, there should be a regular review of salary of employees. The above outcomes (a plethora of social, extrinsic and intrinsic rewards) form the core desires of employees in the service organizations, and therefore make a strong contribution to human resource management theory and practice in the area of extrinsic and intrinsic reward systems. Thus, this work theorizes that job satisfaction and high rewards for employees can be associated with employee commitment to work performance.
A third theoretical implication from this study is the validation of employee job satisfaction and organizational reward systems as a process of employee commitment to perform in our study model (figure 2). The literature generally shows job satisfaction as a means (Silvestro 2002; Wang & Feng 2003; Abugre 2014) to organizational performance. However, by showing the relationship between rewards, job satisfaction and employee commitment to perform, we provide additional evidence on the view that organizational rewards and employee job satisfaction are processes. The process begins with the presence of organizational rewards system and goes through the intrinsic and extrinsic actions that constitute satisfaction of the employee before emerging as an outcome of commitment to perform and the individual’s job satisfaction.

Managerial Implications

Practically, our findings provide important implications for managers and human resource development Practitioners. First, participating workers in this study generally complained of low incomes and anticipated rewards in their organizations. Extant literature suggests that employees’ expectations of desired income and rewards play an important role in worker motivation, job satisfaction and performance in organizations. Consistent with our results which indicate a similar link between expected rewards and worker satisfaction and service performance, it is clear that enhancing employee satisfaction, and consequently their commitment to perform, hinges on providing rewards and incomes that workers desire. Second, our findings suggest that satisfied employees resulting from paying competitive rewards, and instituting international best practices in terms of HR strategies that motivate workers extrinsically and intrinsically would build employee satisfaction and commitment and consequently enhance organizational output.

Limitation and Future Research

Despite these contributions and implications, the study has a few limitations that can be corrected in future. First, the findings of this study though very important to service organizations in Ghana, the overall findings may not necessarily be generalized to other developing organizations due to contextual demands and differences. Our study is equally limited in the sample sizes of the organizations and participants. We believe that more organizations and participants for an important study like this could have resulted in a better generalization of the study. Replication of this study in other geographical areas with larger sample sizes is suggested for further validation.

Our third possible limitation is the measurement of organizational performance. Though we measured commitment to performance, measuring performance has always been challenging to many researchers as investigation of firm performance entails that it be defined by a set of stakeholders. This study used performance measures that relate to both internal and external organizational outcomes using subjective managerial perceptions on commitment. This is because organizations are reluctant to disclose exact performance records or indices. Therefore, future studies may explore specific organizational performance mechanisms in more detail.

Notwithstanding these limitations, the findings of this study are expected to provide both theoretical and practical inputs to the HRM literature in service organizations.

Conclusion

Organizational rewards and other quality organizational practices and processes appear to affect the work experience from the beginning of employment onward. The impact of job costs on satisfaction and commitment may initially be low and unrecognized at early stages of
employment but this may pay off as time goes on because, satisfied employees will keep their performance level high due to commitment as they feel part of the organization. This assertion is consistent with intuition and with direct evidence from previous research (Bartol and Locke, 2000; Thompson, 2001; Abugre, 2011).

To date, it appears many companies in the service sectors particularly developing countries in Sub-Saharan Africa have not considered the impact of HR factors in driving service climate and employee commitment to performance. Our study confirmed these HR-based drivers, namely employee rewards and Job satisfaction as competitive forces in service organizations in Sub-Saharan Africa.

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Network Dimensions and Performance of Small-sized Food Processing enterprises in Dar es Salaam Tanzania: An Empirical Study

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Abstract

Food processing sector in developing countries as it is in Tanzania largely depend on networks. This is because businesses in context are often constrained by lack of enough financial and other physical resources. Although network literature is replete of its dimensions, small-sized firms’ networks are not fully contextualized. This study examines network dimensions on performance of small-sized food processing enterprises in Dar es Salaam Tanzania. Investigation is done in two perspectives (i) network dimension defined by range and intensity of firms’ level of involvement into particular network relationships is essential resource that foster business expansion, increase market size and guarantees new markets. (ii) The expansion process is further translated or measured as firm’s performance. The research variables were innovatively developed based network dimension model and ‘fine grained’ from theoretical literature review whereby two hypotheses were generated and tested using p-values and a multivariate logistic regression model from 50 food processors. Findings reveal that firm’s with intensive and many network relationships are comparatively performing better than those without. However, costs related to networks sometimes acted as bottleneck to performance. To lower the costs of networking, businesses had respective departments that liaise with business associations and the government. We recommend that the government should support business associations and where possible reduce bureaucracy in her communications with businesses.

Keywords: Network Dimensions, Performance, Small-sized food processors, Dar es Salaam, and Tanzania.
1. INTRODUCTION

Small and medium-sized businesses regularly operate in limited financial and managerial resources important for ensuring firm performance (Bengesi and Roux, 2014). They also often lack knowledge about markets, financiers, agents and other network partners. Consequently, they may make their business decisions slowly therefore their performances may not be as good as for large businesses. Important decisions like which market to enter, whether to internationalize or not, increasing new products, improving quality of products and expanding market share just to mention few performance indicators are extremely hampered by inability of SMEs to access resources. Therefore, decisions about the resources which SMEs utilize for certain level of performance are among the most pivotal for success and survival (Maina, Marwa and Waiguchu, 2016).

One important explanation of how SMEs overcome resource limitation is that they use relationships they have with other businesses (Agndal, Chetty and Wilson, 2008). For example, it is often asserted that for a business to successfully perform must acquire information about markets it intends to serve, gather resources to produce the products and have appropriate strategies on hand (Bengesi and Roux, 2014). Networks may then be utilized to achieve targeted level of performance such as internationalization, increasing market shares or convincing new customers. A firm can therefore learn from other businesses in a network and improve its performance.

A firm’s network relationships and resources can be grouped into many dimensions such as the relational dimensions and structural dimensions (Tedla, 2015). Olomi (2009) categorised network based on range and intensity into two: vertical network and horizontal network. Vertical network also termed as marketing channel networks is formed for the objective of solving for example like: marketing problems with buyers, suppliers, producers. Horizontal network is formed between similar enterprises located in a given geographical area operating in a given sector (competing firms) for co-operation purposes (e.g. joint purchase of raw materials). FAO (2008) have shown that small processors serve as a catalyst which stimulates rural development from dimensions such as health, education, development of infrastructure (roads, electricity and water) thereby helping to reduce the rural–urban income disparity. Small processors also enhance the viability of small-scale farms by providing market outlet for their products, often within the vicinity of rural areas.

Network range and intensity can both be affected and affect business performance depending on the number of relationships a firm has and the level of involvement into such network (Agndal et al 2008). This happens because firms have options to deepen into the existing relationships, form new ones and terminate those found to have problems (Bengesi and Roux 2014). For SMEs, this implies that the range and intensity of networks impact business performance in different ways. For example, certain type of network like horizontal one may be necessary for sales performance in the domestic markets while vertical integrations and joint ventures are necessary for internationalizing firms (Maina, et, al., 2016). While the concept of network dimensions is often implied in the business performance literature, it is should be highlighted that the influence of network range and intensity on business performance has received limited research attention (Coviello, 2006). Consequently, there is limited knowledge on influence of the network dimensions on business performance.

This study investigates the impact of network range and intensity on SMEs performance. To our knowledge, few – if any – studies have studied network range and intensity on business performance of SMEs in a developing country context. We focus of food processing SMEs in Dar es Salaam, Tanzania because it is an area where most SMEs of the country are located.
SMEs in this sector are also capital intensive however due to inherently financial limitations in the country, networks are apparently necessary.

2. LITERATURE REVIEW

2.1 Concept of Networking

Chipika and Wilson (2006) defined networking as a set of sustained relationships which entail cooperation and collaboration and are mutually beneficial to all the parties involved in the network. It is a set of stable links established for cost effective economic transactions among the network members founded on formal and informal links with mutual goals (Scalera and Zazzaro, 2009). Conway et al (2006) identified four components for networking this are: actors, links, flows and mechanisms. The actors are individuals (human beings, computers, places and organization) that make up the network. The links are arches that connect individuals. The flows indicate the exchanges (flows of information, advice, money, goods, power, and friendship) that occur between actors within the network. The mechanisms of the network are the modes interaction (face-to-face interactions, meetings, planning, and joint participation like in trade fairs or business seminars) employed by the actors within the networks.

Networking has long been linked with sharing resources among business partners, access to market and new technologies that small firm could not be able to access in isolation and size disadvantaged. The benefits of networking rely on trust and confidence among networking partners which are very important in sharing strategic resources. Such a relationship can be set up when a firm has relational skills to institute and sustain favourable exchange of strategic resources, ability to identify potential partners with relevant resources to complement resource needs and coordinate attained resources for the firm’s advantage (Bengesi and Le Roux, 2014). In this view, it can argued that networking is indispensable for firms to build trust and confidence among business partners to allow exchange of strategic resources that consequently promote firms performance.

2.2 Type of Networking

The definition of networking can be broken down into the three (3) main types. This allows for a discussion of the three main types of networks (social networks, general networks and managerial) and how they are linked to one another.

2.2.1 General Business Networks

Moeller (2010) defines business network as voluntary inter-business cooperation between at least three enterprises whose entrepreneurial autonomy is partially limited by their cooperation. Xu, Lin and Lin (2008) views business networks as a set of two or more connected relationships in which each exchange relation is between business enterprises that are regarded as collective actors in the network. Besser, Miller, Korsching, and Welch (2006) described business networks as formal linkages composed primarily of business owners or managers established to facilitate the success of their respective enterprises. From all these definitions it can be noted that business networks add value to and increase the performance of an enterprise. Thus, enterprises form business relations to gain value central to business networks are trust and commitment (Moeller, 2010).

2.2.2 Managerial Networks

Managerial networks involve networking with suppliers, customers and with similar enterprises. Managerial networks involve links between the manager of a firm and the managers of other firms. Managerial networking between a firm’s manager and the other top managers of other firms presents opportunities for information acquisition is essential. These
managerial ties have pivotal influences on firm activities, provide a source of competitive advantages, enable the superior performance of the firm and help in increasing the legitimacy of firms (Ngoc and Nguyen, 2009). Managerial networks of firm owners may improve the sharing of information and contacts (Khwaja, Asim Ijaz, Atif Mian, and Abid Qamar, 2011), access to bank loans from the banks, more clients, business associates, suppliers, and technical and market knowledge (Farinda, Kamarulzaman, Abdullah and Ahmad, 2009) and gain managerial skills (Hicklin, O’Toole and Meier, 2006). This mutual support from firms and managers in the same managerial networks may lead to better performance of the firms (Thrikalawa, 2011). However, Hicklin et al (2006) proposed that too much investment in managerial networks will result in diminishing returns in terms of performance.

2.2.3 Social Networks

Hung (2006) defined social networks as linkages or social systems of individual(s) that facilitate access to resources or valued sources of information that are beneficial to business enterprises. Lea, Yu, Maguluru and Nichols (2006) considered social networks as set of people who are connected by socially meaningful relationships, such as friendship, co-working and information exchange to achieve mutual goals. Krebs (2008) posits that the essence of social capital entails that it is not what individuals can do that provides competitive advantage. This view corroborates with Laibanca and Brass (2006) who argued that in business enterprises, employees’ and manager’s social contacts convey benefits that create opportunities for their enterprises which lead to competitive advantages.

2.3 Overview of Micro, Small and Medium Enterprises

There have been many efforts to define MSEs. At present, there is no universally acceptable definition (Scarborough, Wilson and Zimmerer, 2009; Olomi, 2005; Khan, 2010). The definitions use various measures of sizes depending on the purpose and the person doing the measuring (Tambwe, 2015). Commonly used yardsticks include quantitative measures such as total number of employees, total investments, and sales turnover (Olomi, 2009). The definition also varies from country to country and from industry to industry depending on criteria such as the number of workers employed, volume of output or sales, value of assets employed, and the use of energy (Das, Shil, and Pramanik, 2007).

European Union defines a micro enterprise has a headcount of less than 10, and a turnover or balance sheet total of not more than €2 million. A small firm has a headcount of less than 50, and a turnover or balance sheet total of not more than €10 million (EC, 2006). In USA a small enterprise is defined as an entity with average annual gross revenues for the preceding three years not to exceed $15 million, and very small enterprises (Micro enterprises) as an entity with average annual gross revenues for the preceding three years not to exceed $3 million (Aynadis & Mohammednur, 2014). Australian Bureau of Statistics defined small businesses to include sole proprietorships and partnerships. Businesses employing fewer than five (5) people are defined as micro-businesses and other businesses employing five or more people but less than 20 people as small ones, while medium-sized businesses are those employing fewer than 200 people (Zeinalnezhad et al., 2011).

In Tanzania micro enterprises are those with one (1) to four (4) employees and a capital up to Tshs. 5 million, while small enterprises have employee between 5 and 49 and a capital investment ranging between Tshs.5 million to Tshs.200 million (UNIDO, 2012b; URT, 2012). From this definition majority of these enterprises fall under the informal sector, mainly performing activities such as trading, manufacturing, agriculture, mining, and services. They contribute to 27% of GDP, 23.4% of the total employment (URT, 2012) where every year more than 850,000 people enter the labour market and many of them are absorbed by this sector.
(UNIDO, 2012a). This indicates how important the sector is in employment creation and economic development.

**Table 1: Tanzania Definition of MSMEs**

<table>
<thead>
<tr>
<th>Category</th>
<th>Capital investment (Tshs)</th>
<th>Number of Employees</th>
</tr>
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<tbody>
<tr>
<td>Micro Enterprise</td>
<td>Up to 5 million</td>
<td>1 – 4</td>
</tr>
<tr>
<td>Small Enterprise</td>
<td>5 – 200 million</td>
<td>5 – 49</td>
</tr>
<tr>
<td>Medium Enterprise</td>
<td>200 - 800 million</td>
<td>50 – 99</td>
</tr>
</tbody>
</table>

*1 US$ = Tshs. 2,279.70/= BOT May 10th, 2018

**Source**: SMEs Development Policy of 2003

2.1.6 Networking and MSMEs

Scarcity of resources is one of the main problems of SMEs (UNIDO cited in Zeinalnezhad et al, 2011). SMEs can solve problems with regard to economies of scale and scope imposed by their size-disadvantaged by being linked into national, regional and global networks of firms and value chains. Networked firms may enjoy higher growth rates and superior performance. Networks also affect firm's strategic choices and performance (Batjargal and Liu cited in Hossein et al., 2011). Networking significantly positively associated with firm survival. Formal and informal network are associated with firm survival, but that only formal networks are associated with growth (Watson, cited in Hossein et al., 2011).

Networks account for differences between SMEs with regard to their likelihood to succeed. Networks explain why SMEs are likely to upgrade in a particular country (Loewe et al., 2013). Networking has a positive impact on the SMEs performance and increased legitimacy that in turn influences access to external finance and tapping of resources in an external environment successfully (Olawale and Gware, 2010). Networking helps SMEs to access markets information, finance advice or support, and official documents that are usually not easily accessible. This according to Thrikalawa (2011) may lead to better firm performance.

2.1.5 Theoretical Review

There are three major theories in the firm’s networking literature: Resource Dependency Theory (RDT), Transaction Cost Theory (TCT) and Social Network Theory (SNT). RDT argues that firms enter in network of relationship in order to gain access to scarce resources. Unlike the RDT, TCT describes that collaboration among firms is undertaken for the aim of minimizing transaction cost in doing different marketing activities. SNT emphasizes the importance of trust, commitment in investing resources and times for the network are crucial for the successful relationship within network (Sahakijicharn, 2007; Casals, 2011). This study therefore adopts the Resource Dependency Theory (RDT).

The major tenet of Resource Dependency Theory (RDT) is resource scarcity, resulting in multiple organizations competing for the same or similar sets of scarce resources. Firm’s survival depends on their ability to acquire and retain resources from other actors in the immediate task environment (Hessels & Terjesen, 2010). RDT also considers a firm’s ability to acquire resources needed for exporting (Mwiti, Olafa, & Mkimu, 2013). One of the key resources that these firms require from the home market is networking necessary for their performance locally or internationally.

Small-sized food processing enterprises are constrained with resources, particularly when compared with medium, large, and multinational enterprises. They are predominantly reliant on the resources considered to be available in their home market. Network linkages provided by the governments in the domestic market with the aim of boosting their performance are
among the key confined resources among food processing enterprises. Building on RDT, Small-sized food processing enterprises depend on the level of production costs in the home market environment.

When network resources are widely available and easily accessible in the home market, Small-sized food processing enterprises may be more likely to compete in the markets easily. When production costs are perceived to be favourable, Small-sized food processing enterprises may be able to develop better competitive products and services. Thus, Small-sized food processing enterprises with access to network resources may have an adequate context for developing such competitive products. This study adopted two major forms of networking i.e. network range and network intensity. From this position hypothesis $H_{A1}$– $H_{A2}$ are formulated:

$H_{A1}$: There is a relationship between network range and performance of Small-sized food processing enterprises in Dar es Salaam Tanzania.

$H_{A2}$: There exists a relationship between network intensity and performance of Small-sized food processing enterprises in Dar es Salaam Tanzania.

2.2 Empirical Literature Review

Tooksoon and Mudor (2012) studied the relationship between networking resources and export performance among SMEs in Thai exporting the agro based sector. The study findings showed that business network was statistically significant and positively associated with export success and export penetrations. While institutional network was also statistically significant but shows a negative association with export performance. Yet knowledge network was not associated with both dimensions of export performance.

Behyan (2011) did a study on conceptualizing export performance influences of internationalizing and Social Network. The study found that social network and foreign partnership had positive effect on the internationalization process, knowledge of foreign market opportunities, international experience and international knowledge. The relationship between social network and export performance had positive effect on the export performance and its indicators such as sales growth, profit growth and so on. But, the study did not tell us the impact of formal networking relationship (domestic supporting institutions for SMEs) on the performance of SMEs. it was focused only studying the impact of foreign partnership and interpersonal relationship on the performance of SMEs.

Hassan and McCarthy (2011) investigated Influential capabilities for SMEs export performance, they found that the capability to develop business networking, innovation capabilities and capability to meet export standard were crucial for Malaysians SMEs export performance. The SMEs need to focus on developing their business networking in order to enhance both their innovation capabilities and their capability to meet export standards which in turn leads to export performance improvement. The research followed a qualitative research approach by interviewing 23 managers of SMEs. The research design used in the study was exploratory in nature and the data was collected through in depth interview with CEOs and employees. Since qualitative method of analysis used in the study it difficult to confirm the reliability and validity of the result of the study statistically.

Ge et al (2009) studied the impact of networking and resource acquisition on the performance of SMEs in China. A total of 227 firms were surveyed through personal interview and questionnaires designed on a five point Likert scale. Descriptive statistics, correlation and structural equation modeling were used in the analysis. Findings indicated that that networking intensity was positively related with resource acquisition capability and resource acquisition outcome. The study established a positive relationship between networking range and resource
acquisitions capability and resource acquisition outcome. Resource acquisition capability and resource acquisition outcome were also positively related with firm performance.

Trulsson (1997) was interested in understanding industrial entrepreneurship and structural change in North-west Tanzania. It was found that networks are not crucial for entrepreneurs but dyads are (one to one relations). Murphy (2001) examined the social factors related to small and large scale manufacturing firms in Tanzania. It was found that networks facilitate innovation when they are structurally dense and spatially extended and when participating business people are willing to create strong bonds in their local communities. Nnunduma (2003) conducted a qualitative study on the structure and behaviour of food trading networks in Tanzania and observed that reciprocity, durability, and reachability were key attributes of strength of ties. Swabir (2002) studied the social relationships and networks on the growth of SMEs in Tanzania and found that networking had assisted in terms of business information, finance, physical assets and moral support. Rutashobya and Jaensson (2004) in their study on the role of networks in internationalization of small firms in Tanzania, found that many owner/managers belonged to at least more than one network relationship. A study by Kristiansen et al (2005) dealt with information flow and adaptation in Tanzanian cottage industries indicate that social networking was a dominant contributor in accessing market information. Rutashobya et al carried out an exploratory study on the networks, relationships and performance of SMEs in the shipping sub-sector in Tanzania reveal that not all firms use networking as a strategy.

2.3 Research Gaps

Several studies have been done on networking and enterprises’ performance, including Ge et al, (2009), Hassan and McCarthy (2011), Behyan (2011), Tooksoon and Mudor (2012), Behyan (2011), Tooksoon and Mudor (2012). These studies exposed networking and enterprise performance issues, yet they did not involve performance of small-sized food processing enterprises, and neither did they include Tanzania. In addition to these, the study did not tell us which type of networking resources had positive or negative impact on enterprise performance. There is also seemingly evidence of lack of viable network approaches and strategies which seek to identify and serve specific and unmet needs of small-sized food processing enterprises operators by network providers. Thus, it is obvious that there is a deficiency of local studies on this observable fact. Based on this background, this study, therefore intended to fill theses pertinent gaps in literature on network dimension with a specific focus on network intensity and network range.

2.4 Conceptual Framework

In this study, the dependent variable is the performance of small-sized food processing enterprises. The independent variables (network intensity and network range) are specific factors which lead to either progress or regression of firm performance. Access to networking by the small-sized food processing enterprises will reflect their overall export performance, either positively or negatively. The association between variables of the study is clearly illustrated in the schematic diagram in Figure 1 forming the conceptual framework for this study.
3. METHODOLOGY

The research design of this study was a case study. The study was conducted in Dar es Salaam Tanzania. The study consisted of 50 small-sized food processing enterprises obtained by using purposive sampling and snowball sampling techniques. Data were carefully collected through questionnaire with questions focused on network dimensions and performance of small scale food processors. A five-point Likert scale was used where respondents were asked to rate their opinions. The scale ranged from “strongly agree” to “strongly disagree.”

The study also used Pearson correlation coefficient (r) to establish the strength of the relationship between network range, network intensity and performance of small-sized food processing enterprises. A multivariate logistic regression was also used to model the relationship between the independent variables (network intensity and network range) and performance of food processing enterprises. The developed equation was:

\[
\text{Logit } [p(x)] = \log \left[ \frac{p(x)}{1-p(x)} \right] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon_0
\]

Where:

- Logit (P) = Performance of small scale food processors (measured by Profitability, Sales growth and Customer base)
- \( \beta_0 - \beta_1 \) = Coefficients of the model
- \( X_1 \) = Network range (Relationship with suppliers, government research institutes, Business Development Services Providers BDSPs)
- \( X_2 \) = Network intensity (Intimacy levels and Meeting frequency)
- \( \epsilon_0 \) = Error term

The overall significance of the model was assessed by using Omnibus tests of model coefficients which shows the relationship between the dependent and independent variable. The Cox and Snell R Square and the Nagelkerke R square value, were used to measure the amount of variation in the dependent variable as predicted by the variation in the independent variables. The study also used Hosmer-Lemeshow test to determine the good fit of the model. Two hypotheses were developed and tested by using P-value and t-statistic at 5 per cent level of significance. Appropriate alphas were used for assessment at the different significance levels. If p-value is less than 0.05 we accept the alternative hypothesis, otherwise we reject it (Cooper, Schindler, and Sharma, 2012).
4. RESULTS AND DISCUSSION

4.1 Demographic Characteristics of Respondents.

4.1.1 Age of Respondents

It was of interest knowing age differences as age brings along experiences, responsibilities and skills (Bass, 2005). The study findings in figure 2 revealed that among 40% were the age of 45 to 70 years old, 34% aged 25 to 35 years old, 26% were the age of 36 years old to 45 years old. This implies that the majority of respondents were between 45 to 70 ages while small number of respondents belonged to 36 to 45 ages. This suggests that there is high proportion of adults who mainly participate in food processing industry.

![Figure 2: Respondent's Age](image)

4.1.2 Gender of the Respondents

Results in figure 3 shows that female owned small-sized food processing enterprises outnumbered those owned by males by 72% to 28% thus 44% difference. This is in line with (Kazungu, Ngugi, Rotich and Odhiambo, 2018; Mori, 2014) who indicated that more women are involved in owning and running SEs. The domination of women in this industry is due to the introduction of new simple technologies, nature of tasks, special cultural characteristics, society’s social and economic changes (Almamari, 2015).

![Figure 3: Gender of respondents](image)

4.1.3 Education level of the Respondents

The study also evaluated the respondents educational level. Findings in figure 4 revealed that 42% had secondary education, 38% primary school education, and 20% had College/University education. It is very important to look at entrepreneurs’ levels of academic qualifications as they influence the impartation of both managerial and entrepreneurial skills of most entrepreneurs.
The performance of MSEs in Tanzania can thus be attributed by the level of education of the entrepreneurs as it was observed that 62% of the entrepreneurs in this industry have above basic education which is primary school level in Tanzanian context. This corroborates with Xiaowei and Zhang (2010) who found that owner education level had a positive effect on firm operation and performance.

![Education level of the respondents](image)

**Figure 4**: Education level of the respondents

### 4.2 Network Intensity

On the aspect of intensity, results in table 2 established that most of food processors (54%) agreed on working closely with their customers (Mean=3.48). The study further revealed that most of the food processors maintained good relationships with other actors in the business environment, it was noted that most of the food processors working closely with suppliers (Mean=2.96), maintained good relationships with their competitors by 34% and (Mean=2.84) and agreed on receiving feedback from their customers by 58% with the mean of 4.14 as catalysts for networking. Also it was noted that most of the food processors were not working with the research institutes (42% strongly Disagree) also 62% were disagreed on working closely with BDSPs and 58% were strongly disagreed on enjoying the government incentives and support. This findings are consistent with the assertion of Ahuja (2000) who noted that the closer the relationship among members, the faster the speed of sharing. This observation supports the findings by Seck and Mazzarol (2006) who found that network intensity is a predictor of firm’s performance. Further, this study findings support Lagat (2016) who found that network intensity had an effect on supply chain performance.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>MEAN</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>We work closely with our customers?</td>
<td>04%</td>
<td>22%</td>
<td>08%</td>
<td>54%</td>
<td>12%</td>
<td>3.4800</td>
<td>1.09246</td>
</tr>
<tr>
<td>We work closely with our suppliers?</td>
<td>28%</td>
<td>04%</td>
<td>22%</td>
<td>36%</td>
<td>10%</td>
<td>2.9600</td>
<td>1.39913</td>
</tr>
<tr>
<td>We work with research institutes</td>
<td>42%</td>
<td>26%</td>
<td>22%</td>
<td>10%</td>
<td>0%</td>
<td>2.4000</td>
<td>0.94761</td>
</tr>
<tr>
<td>We work closely with BDSPs?</td>
<td>08%</td>
<td>62%</td>
<td>26%</td>
<td>04%</td>
<td>0%</td>
<td>2.2600</td>
<td>0.66425</td>
</tr>
<tr>
<td>We have good relationship with our</td>
<td>10%</td>
<td>26%</td>
<td>34%</td>
<td>30%</td>
<td>0%</td>
<td>2.8400</td>
<td>0.97646</td>
</tr>
</tbody>
</table>
competitors

We enjoy government incentives & support

We receive feedback from our customers

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>MEAN</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have good relationship with each other?</td>
<td>02%</td>
<td>0%</td>
<td>16%</td>
<td>58%</td>
<td>24%</td>
<td>4.0200</td>
<td>0.76904</td>
</tr>
<tr>
<td>Keep close relationship with each other?</td>
<td>06%</td>
<td>10%</td>
<td>18%</td>
<td>42%</td>
<td>24%</td>
<td>3.6800</td>
<td>1.13281</td>
</tr>
<tr>
<td>Meet regularly with each other?</td>
<td>06%</td>
<td>24%</td>
<td>24%</td>
<td>28%</td>
<td>18%</td>
<td>3.2800</td>
<td>1.19591</td>
</tr>
<tr>
<td>Know each other?</td>
<td>0%</td>
<td>12%</td>
<td>22%</td>
<td>46%</td>
<td>20%</td>
<td>3.7400</td>
<td>0.92162</td>
</tr>
<tr>
<td>Have trade associates?</td>
<td>16%</td>
<td>16%</td>
<td>04%</td>
<td>34%</td>
<td>30%</td>
<td>2.9000</td>
<td>1.12938</td>
</tr>
</tbody>
</table>

4.3 Network range

Results in Table 3 on network range revealed that most of the food processors maintained good relationships with each other in the business environment. 58% agree working closely with their customers (Mean=4.02). Further, it was established that majority of them 42% agree maintain close relationship with each other (Mean =3.68), it was noted that most of them 28% (Mean=3.28) meet frequently. Most of respondents accounting to 46% indicated they had agreed to know each with (Mean=3.7400). Finally it was established that 34% of respondent agreed to have trade associates. This study supports Ge, Hisrich and Dong (2004) who found positive association between network range and firm performance, it is evident that most respondents maintain close relationship with customers and hence they receive feedback from them.

Table 3: Descriptive Analysis of Network Range

4.4 Correlations of the Study Variables

This study used Pearson product-moment correlation coefficient (r) to determine the strength of linear relationship between the independent variables and the dependent variable. Table 4 indicated the highest correlation was between performance of small-sized food processing enterprises and network range (r = 0.807, p< 0.01) signifying that network range had a strong positive correlation with the performance of small scale food processing enterprises. Results also showed that network range had a strong positive correlation with performance of small-sized food processing enterprises(r = 0.616 p < 0.01); with network range and network intensity having a positive correlation (r = 0.736 p < 0.01). In this study, the variables varied from -1 to +1
indicated that the variables were sufficiently different measures of separate variables. Therefore, all the variables were retained in the study.

Table 4: Correlations Matrix for the study variables

<table>
<thead>
<tr>
<th></th>
<th>Network Intensity</th>
<th>Network Range</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Intensity</td>
<td>Pearson Correlation</td>
<td>1</td>
<td>.736**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.002</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td>.736**</td>
<td>1</td>
</tr>
<tr>
<td>Network Range</td>
<td>Sig. (2-tailed)</td>
<td>.002</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td>.616**</td>
<td>.807</td>
</tr>
<tr>
<td>Performance</td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

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

4.5 Multivariate Logistic Regression Analysis for Performance of food processing enterprises

A multivariate logistic regression was used to model the relationship between the independent variables (network intensity and network range) and performance of food processing enterprises. In this study, the multivariate logistic regression model took the following equation:

\[
\text{Logit} \ [p(x)] = \log \frac{p(x)}{1-p(x)} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon \ldots \quad \text{Equation (1)}
\]

The multivariate logistic regression involves fitting an equation of the following form to the data:

\[
\text{Logit} \ (p) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon \ldots \quad \text{Equation (2)}
\]

Where:

- \( \text{Logit} \ (p) = Y = \text{Odds of performance of food processing enterprises (i.e. the probability that the firm performs well or otherwise, coded as 1 or 0) } \)
- \( \beta_i \ [i=1,2,3,4,5] = \text{The coefficients for the various independent variables } \)
- \( X_1 \quad \text{for; } X_1 = \text{Vector of network intensity } \)
- \( X_2 = \text{Vector of network range } \)

Table 5 shows that network intensity is statistically associated with performance of food processing enterprises (p<0.000). This means a unit increase in network intensity increases the probability of high performance by 5.805 times. This reflects the fact that the more the network intensity the higher the chances of performing well. Results in Table 5 also confirm that network range is statistically associated with performance of food processing enterprises (p<0.003). That is an increase network range increases the probability of having high performance of food processing enterprises by 10.273 times. Thus firms accessing network range have higher chances of performing better than those without.
Table 5: Multivariate Logistic Regression Analysis for Performance of food processing enterprises

<table>
<thead>
<tr>
<th>Variable</th>
<th>β</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(β)</th>
<th>95% C.I. for Exp(B)</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Intensity (NI)</td>
<td>1.759</td>
<td>.454</td>
<td>14.997</td>
<td>1</td>
<td>.000</td>
<td>5.805</td>
<td>2.384</td>
<td>14.138</td>
<td></td>
</tr>
<tr>
<td>Network Range (NR)</td>
<td>2.330</td>
<td>.798</td>
<td>8.532</td>
<td>1</td>
<td>.003</td>
<td>10.273</td>
<td>2.152</td>
<td>49.038</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.851</td>
<td>1.088</td>
<td>2.896</td>
<td>1</td>
<td>.089</td>
<td>.157</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Omnibus test of Model Coefficients (Chi-square = 37.724; Sig 0.000)

Log likelihood = 14.262; Cox & Snell R Square = 0.198; Nagelkerke R Square = 0.755

Hosmer and Lemeshow Test (Chi-square = 0.209; Sig 0.901)

Dependent variable: Performance of food processing enterprises (Perf_FPEs) = Binary: Y = if performing well, Y = 0 if not performing well

Using the values in Table 5, the multivariate logistic regression equation can be reported as follows:

\[
\text{Perf_FPEs} = 1.851 + 1.759 \text{NI} + 2.330 \text{NR} \ 
\]

\text{Equation (3)}

Overall test of relationship

Model fitting information in Table 10 illustrates the relationship between the dependent and independent variables and divulge that probability of the model chi-square 37.724 was 0.000, less than the level of significance of 0.05 (i.e. \( p < 0.05 \)). Thus the overall relationship between the variables of this study is significant.

Strenght of binary logistic regression relationship

The study also intended to establish the strength of the binary logistic regression relationship, by using correlation measure (Pseudo R square measures, such as the Cox and Snell R Square and the Nagelkerke R square values), which provide a sign of the amount of variation in the dependent variable. Results in Table 5, Cox and Snell R and Nagelkerke R square values are 0.198 and 0.755 respectively, this gives a suggestion that 19.8% to 75.5% of the variability (in performance) is explained by the variables used in the model (network range and network intensity). The Wald test also shows that the independent variable is statistically significant.

Findings in Table 5 shows that network intensity had an Odds Ratio (OR) = 5.805 (95% CI 2.384 to 14.138), \( p = 0.000 \), than Network range which was found to have an Odds Ratio (OR) = 10.273 (95% CI 2.152 to 49.038), \( p = 0.003 \). This implies that while a unit change in network intensity increases the performance by 5.805 units, one unit raise in network intensity increases the performance by 10.273 units.

Hosmer and Lemeshow Test

This study used the Hosmer and Lemeshow test to measure how the performance of food processing enterprises is connected with access to network intensity and network range. In this test, for a good fit of the model p-value must be greater than 0.05 (Mangasini, 2014, Mendes & Ganga, 2013; Hosmer & Lemeshow, 2000). Findings in Table 5 indicate a p-value of 0.901 on the Hosmer and Lemeshow test. This suggests the presence of a good fit of the model with a
positive and significant relationship between the predictor variables and the log of the odds of the criterion variable (p-value > 0.05).

Hypothesis testing
From Table 5, the model produced a positive and significant relationship between network intensity and performance of food processing enterprise in Dar es Salaam ($\beta = 1.759$, $t = 3.8744$, $p = 0.000$). $H_{A1}$ is therefore accepted, and it was concluded that there is a positive significant relationship between network intensity and performance of food processing enterprise in Dar es Salaam. Findings in Table 5 further suggests a positive and significant relationship between network range and performance of food processing enterprise in Dar es Salaam ($\beta = 2.330$, $t = 2.9198$, $p = 0.000$). $H_{A1}$ is therefore supported, and it was concluded that there is a positive significant relationship between network range and performance of food processing enterprise in Dar es Salaam. These findings corroborate with those of Cisi, Devicienti, Manello and Vannoni (2016), Kumburu (2016), Surin and Wahab (2013), and Gronum (2015) who observed a positive and significant link between networking and SMEs performances.

5. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion
Findings of this study were able to establish that both network intensity and range play an important role in performance of small-sized food processing enterprises. The study results not only enrich literature on small scale enterprises and food processing industry in relation to networking but also have indicated specifically that network dimensions (network intensity and range) influences their performance. The study statistically concludes that network dimensions significant effect on the performance of small-sized food processing enterprises. Firms with well established inter-firm linkages can be sure that they can achieve superior performance. From descriptive statistics it was observed that well established network ties have a strong impact on performance. It was therefore concluded that there is positive significant relationship between network dimensions (network intensity and range) and performance of small-sized food processing enterprises

5.2 Recommendations
The study recommends for new policies and programmes which will come up with strategies which will promote networking among the operators of small-sized food processing enterprises. It is also recommended that small sized enterprises need to establish mechanisms that will enable them to work closely and establish strong network ties with BDSPs, research institutes and trade associations. The government through the ministry of trade is also recommended to make a need assessment and establish as small-sized enterprises scheme that will be charged with the provision of incentives and support to industries of this nature and size.

5.3 Contribution of the Study to the Existing Knowledge
The study examined the influence of network dimensions on performance of small-sized food processing enterprises in Dar es Salaam Tanzania. The outcome was that networking has a significant influence on performance of small-sized food processing enterprises. Entrepreneur owners or managers in these firms should therefore invest in accessing vital network resources for venture performance enhancement. Further studies can also be undertaken linking business networks and performance of small-sized enterprises operating in other industries.
5.4 Areas for further Research

This study considered network dimensions among small-sized food processing enterprises. A replica of this study can be carried out with a further scope to include other sectors and industries with dominance of small-scale enterprises like the agro processing and handicrafts. Another study can investigate how industry life cycles affect firm networking. Future studies should apply different research instruments like interviews and focus group discussions to engage respondents more in discussions so as to generate detailed information which would help in bringing out the best network strategies for enhanced entrepreneurship development in Tanzania.

REFERENCES


Bounded Rationality in Decision-Making

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Abstract

The purpose of this paper is to study the relationship between rationality and decision making. As a specific objective it will be explained the benefit of learning in the decision making process derived from its results. The research question is: How does bounded rationality impact the decision making of organizations? The initial hypothesis is that the organization, as a social system, seeks to maintain the balance between the behavior that determines the positions of people and the structure of values and beliefs shared among them, but that is bounded to the rationality of the decision maker. The research method used is descriptive, being a qualitative analysis, that follows from the understanding of the behavioral theory of the firm also the behavioral decision theory, in terms of behavioral decision-making processes and the analysis through learning. The main conclusion is that bounded rationality occurs when companies lack context information of the results of their actions, being forced to make less than optimal decisions because they have to adjust to the conditions in which they operate. Decisions involve a commitment of large amounts of resources of the organization for the fulfillment of the objectives and purposes of the organization through the appropriate means. These means can be translated into models that help reduce the limits of rationality in organizations.

Keywords: Decision making, bounded rationality, learning process.

1. Introduction

This document is a reflection of the decision-making process in organizations, and the growth of companies through the behavioral theory of the firm. Decision making is analyzed from the point of view of bounded rationality, this with the aim of clarifying how decisions are made considering the human aspect of who decides. From a general point of view, the decision is an act that leads to the action of choosing between different alternatives. The adequate selection of
these depends, to a large extent, on their success or failure, since they must cover the risk, certainty and uncertainty inherent in the decision and the action (Egan, 2007).

In organizations there is evidently a complex network of decisions and actions, the latter consisting of events that can be attributed to a system (Luhmann, 1997), while the decision finds its identity in the choice between alternatives, understanding that the decisions are much more sensitive to context than actions and, therefore, not equal to stable. Simon (1947) describes how organizations influence the decisions of their members, trying to make them compatible with the global objectives of the organization.

The theory of decision making, under different schemes, indicates the steps for a decision to be rational (Eduards, *The theory of decision making*, 1954). The people in charge try to do it this way, but in the real world it is not always possible. It is argued that an adequate study of human behavior in organizations should take into account the motivational, attitude and rational aspects of human behavior. In this way, both the works of economists on planning processes and the work of psychologists on organizational communication and problem solving capacities (March and Simon 1958), cited in (Vargas-Hernández, Guerra-García, Bojórquez-Gutiérrez, & Bojórquez-Gutiérrez, 2014).

In this regard, Cyert & March (1963) in their book "*A Behavioral Theory of the Firm*" offered four main research topics; a) A small number of key economic decisions, b) Development of a general theory, generalizing the results of studies of specific companies, c) Linking empirical data to models, d) Orientation towards the process instead of the results. They argue that, the behavior approach takes the company as the basic unit of analysis, trying to predict the behavior with respect to the decisions of price allocation, production and resources; the decision-making process is emphasized.

On the other hand, economists and some psychologists have produced a large number of theories and experiments that have to do with decision-making with a particular focus on rational behavior.

Alfred Marshall proclaimed in his principles of economics that economics was a science of psychology, stating:

> Economy is a study of humanity in the ordinary business of life; examines that part of individual and social action that is most closely related to achievement and to the use of material welfare requirements. Therefore, it is on the one hand a study of wealth; and on the other hand, and more importantly, a part of the study of man. Because the character of man has been shaped by his daily work and the material resources that he therefore seeks, rather than by any other influence, unless it is that of his religious ideals. Marshall, 1890, (quoted by Simon, 1979, p.493)

Subscribing to the previous contribution, Simon (1979) mentions that economic science has focused on a single aspect of human character, which is the use of reason, and particularly the application of it to problems of decision making. The organization, as a social system, seeks to maintain the balance between the behavior that determines the positions of people and the structure of values and beliefs shared among them, that import a certain order between individuals and the dynamics of organizations.

The behavioral theory of the firm takes from the theory of games, and research of operations, between several branches of social sciences in which there is interdependence and
complementarity; models to express a way of anticipating problems, and simulate a solution of them in a given context. This document will not address these models in detail.

Why bounded rationality? Answering this question is not possible only in one way, that is why Conslick (1996) provides four reasons; the first, there is abundant empirical evidence that is important. Second, models of bounded rationality prove themselves. Third, justifications that assume that rationality is not bounded are not convincing in general. Fourth, the deliberation of an economic decision is a costly activity and a good economic decision requires that all costs be covered.

2. Background of the study of bounded rationality in decision making

In recent years there has been growing interest in the description of decision making that refers and analyzes the way people perform these actions in real contexts, which mostly prevents them from taking them rationally and in what conditions they will actually be relatively rational. This problem was analyzed by Barnard (1938), in which he defined formal organization as a consciously coordinated system of activities or forces of two or more people; He also emphasized the role of the informal organization, in which the individual personality is maintained against certain effects of the formal organization that tends to disintegrate the personality. In fact, Barnard (1938) concludes that: "the expansion of cooperation and development of the individual are mutually dependent realities, and that due to a proportion or balance between them is a necessary condition for human welfare" (p. 16).

This of course is related to the incentives of formal organizations, which are related to the social capacity in which people feel in the work environment, the condition of communion or camaraderie. On the other hand, authority is also mentioned as the character of a communication or order in a formal organization by virtue of which the dependents accept that order. The latter has greater impact on the issue of decision making, since the holder of the authority must have the rationality to take an action from among the alternatives within his reach and communicate this to his dependents through the authority that he enjoys.

From this point one of the fundamental problems of the organizations with respect to the communication begins, since the signature is considered like a processor of information more efficient than the individual, having failures in the communication or understanding, deriving from her a complex system cognitive called bounded rationality, of which the behavioral theory of the firm centers its study (Simon H., 1955).

After Barnard, one of the authors of the Behavioral theory of the firm, Herbert Simon, describes the importance of organizations in the decision-making of its members, considering these organizations remove such individuals as part of their autonomy and replace it with an organizational process of decision making (Vargas-Hernández et al., 2014). In this theory is provided a self-conscious attempt to develop linguistic and conceptual tools appropriate to reality, and meaningfully applied to organizations. The main thesis of Simon (1947) is that decision making forms the heart of the organization, and that the vocabulary of organizational theory must be derived from the logic and psychology of human choice.

From the perspective of the vision of rational systems, the behavior of organizations is considered as actions carried out by determined and coordinated agents. In this sense, Simon (1947) is consistent with the logic of economics and uses the flow of information, efficiency, implementation and design. Insists on reaching good terms with cognitive limitations, implying that the rationality of the behavior of organizations with clearly specific limitations. Regarding bounded rationality, Simon (1947) observes that a person does not live for years in a particular position in an organization, exposed to some currents of communication, protected from others,
without profound effects on what the person knows, believes, wait, emphasize, fear and propose.

So, the organization provides positions of responsibility to exercise authority and influence over others, executives who make decisions and take actions, they must do so with an eye on the situation and another eye on the effects of this decision and future effects on the organization. This means that decisions are also influenced by the authority relationship. The major contribution of Simon (1947) to the economics of the organization is the argument that it is precisely in the realm where human behavior is intentionally rational, but only in a bounded way.

Organizational behavior is the theory of intentional and bounded rationality: it is about the behavior of humans that satisfy because they do not have the capacity to maximize (Simon, 1947). While the "economic man" maximizes and selects the best alternative among all available, the "man of the organization" satisfies, seeks a course of action that is satisfactory or "good enough." The economic man deals with the real world "in all its complexity. The world organization that man perceives is a drastically simplified model of the real world (Eduards, *The theory of decision making*, 1954).

The limits of rationality are the central theme that is addressed in this document. Rationality requires a choice between all possible alternative behaviors, in reality only a few of those alternatives come to mind. Complete rationality is "bounded" by the lack of knowledge. At the simplest level, performance may be bounded by manual dexterity or reaction time, and decision-making processes may be bounded by the speed of mental processes (Simon., 1979). Individuals are also bounded by their values and the conceptions of purpose that influence them in making their decisions, and these tend to be shaped by their organizational experience.

For example, if the loyalty of the executives of the organization is high, their decisions can show sincere acceptance of the set of objectives given within the firm. As mentioned above, people are bounded by their knowledge of the relevant factors for their work. This limitation applies both to the basic knowledge required in decision-making (bridge designers must know the fundamentals of mechanics) and to the information required to make appropriate decisions in a given situation.

On the other hand, Cyert & March, (1963) proposed that companies in reality, aim to "satisfy", instead of maximizing their results. That is, some groups can settle for "good enough" achievements instead of fighting for the best possible outcome. Again, this comes from bounded rationality. In the authors' model, the objectives are not established to maximize the relevant magnitudes, such as profits, sales and market share. Instead, the objectives are commitments negotiated by the groups of the organization. In the decision-making process the information is required to take the most appropriate, however, the collection of information by itself has a cost and requires resources.

The information is not transmitted immediately or automatically from its point of origin to the rest of the organization. Vargas-Hernández et al., (2014) affirm that there is often a lack of information transmission upwards, simply because subordinates cannot visualize the information with precision that their superiors need. These authors suggest that the problem also exists in an inverse situation, since the superior can retain information from subordinates; it can be accidental or fraudulent. This is a weight variable that affects rationality, again limiting the feasibility with which decisions are made.
This current work focuses on investigating the close relationship of the decision-making process and the rationality in it. Then the following research question will be pursued: What is the impact of bounded rationality in the decision making of organizations? In the study, only the relationship between the decision factor is analyzed, which in this case will depend on the bounded rationality of the person who performs the decision actions and what to do with the behavioral theory of the firm.

3. Conceptual theoretical review

A. Bounded rationality

It is known that behavior can be rational or irrational, then, it could be inferred that preferences, beliefs, expectations and the decision-making process are also. Cyert and March (1963) mention that the company is an institutional, functionally rational response to uncertainty and bounded rationality. How much of this can be observed in reality is to be doubted. Rationality in the real world is a complex concept, due to which there are numerous research works that argue that rationality is bounded by the lack of knowledge.

Human beings struggle for rationality, but it is restricted within the limits of their knowledge. The rational choice is feasible as the bounded set of factors on which the decision is based corresponds to a closed system of variables, Vargas-Hernández et al. (2014). This indicates that decisions can be made without taking into account the possible results derived from knowledge biases. A branch of the social sciences that tries to mitigate these biases, along with the economy, is operations research, however, the behavioral part is incorporated into these areas to try to explain and solve the limitations of the decision making in the firms.

A decision can be called objectively rational, if, in fact, it is the correct behavior to maximize the values given in a specific situation. A decision is subjectively rational if it maximizes achievement relative to the subject’s actual knowledge (Mahoney Joseph, 2012). From this it can be inferred that an action is consciously rational insofar as the adjustment of the means to the ends is a conscious process. This resembles what economic man (homo economicus) represents, since it has characteristics such as being fully informed, sensitive and rational.

An economic man according to the theory of the decision, has complete information, assuming that he knows not only all the courses of action, but also his results. It is sensitive to the available alternatives. The crucial fact about the economic man is that he is rational. This means that their preferences are complete, transitive and that there are perfect substitutes; and on the other hand he makes his decisions to maximize his utility (Eduards 1954). The same author refers to the behavior in the decisions, mentioning that humans are neither perfectly consistent nor perfectly sensitive.

The above makes sense to the extent that it is understood that in the tensions that exist between society and the individual, there is a great demand to compete within the individual conscience. Where rational economic approach is to think individually, as well as the economic man who seeks to maximize its utility derived from instrumental rationality (rational choice). And since the capacity of the human mind to formulate and solve complex problems is very small compared to the size of the problems, whose solution is necessary for objectively rational behavior in the real world, instrumental rationality becomes, so to speak, bounded rationality.

The Theory of the instrumental rationality or rational choice, assumes that, in a situation of decision, the means, the information, the beliefs and personal analyzes, are optimal; the estimates of probabilities are easily realizable; the individual has at his disposal information about all possible alternatives and has a complete and consistent system of preferences that allows him to make a perfect analysis of all of them. It does not present difficulties or limits in
the mathematical calculations that it must carry out to determine which is the best, therefore, it guarantees that the chosen alternative is a global optimum (Aumann, 1997).

The theory of bounded rationality, sees the decision process from a very different point of view. In the decision-making process, even in relatively simple problems, a maximum cannot be obtained since it is impossible to verify all possible alternatives. People differ in both available opportunities and desires (influenced by environmental factors). When an individual must decide, they influence him, both the desires that he possesses and the opportunities that he thinks he has. It is not certain that these beliefs are correct: it is possible that the individual is not aware of some opportunities that are actually viable to him or, he may believe that certain opportunities are favorable to him, which in reality are not, therefore it cannot be guaranteed that choose the best alternative (Elster, 1990).

As mentioned in Vargas-Hernández et al. (2014), about bounded rationality, referring to the fact that human behavior is rational first intention, but bounded by information asymmetry. And as mentioned earlier, the ability of the human mind to formulate and solve problems is small and is bounded by neuropsychological issues on the one hand and language limits on the other. Physical limits are the individual abilities to receive, retrieve and process information; those of language refer to the inability of individuals to articulate their knowledge or feeling by the use of a word, so that they can be understood by others (Williamson, 1979).

Table 1. Comparative Rational Choice and Bounded Rationality

<table>
<thead>
<tr>
<th>Bounded rationality</th>
<th>Rational choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Necessity of assistance of the bounded mental capacity</td>
<td>Unbounded cognitive ability of the subject who decides.</td>
</tr>
<tr>
<td>of the subject that decides.</td>
<td></td>
</tr>
<tr>
<td>Knowledge of an acceptable set of actions</td>
<td>Knowledge of all available actions.</td>
</tr>
<tr>
<td>Approximate and heterogeneous knowledge of the consequences.</td>
<td>Numerical knowledge of all the consequences of actions.</td>
</tr>
<tr>
<td>Evolutionary and unsettled preferences.</td>
<td>Stable and ordered preferences.</td>
</tr>
<tr>
<td>Temporary and cost limitation that affects the quality</td>
<td>Unbounded or non-influential resources in the decision-making process.</td>
</tr>
<tr>
<td>of the decision.</td>
<td></td>
</tr>
<tr>
<td>Search for a satisfactory result</td>
<td>Search for the best possible result</td>
</tr>
<tr>
<td>Help the one who decides to understand what will happen</td>
<td>Inform the one who decides about what to do.</td>
</tr>
<tr>
<td>if he does something.</td>
<td></td>
</tr>
</tbody>
</table>

Source: Own elaboration with data from Simon (1957) and (2000).

B. Decision Making

The theory of the decision under the behavior Paul & Fischhoff (1977), mentions that the decisions taken under a system of perceptions have, in a certain degree, to do with the uncertainty about the states of the environment in which the decision maker is. For example, who takes an umbrella depends on something that is not known with certainty that is the weather; or if you are a smoker, the decision will depend on the point of view of the loss of health due to smoking.

With this respect the theory of the decision making of Eduards (1954), three main ideas are assumed, first of all, there are options to choose from, so if a doctor wants to measure the reflexes when hitting the knee with a Neurological hammer, produces an automatic reaction, therefore there is no decision made (by the patient). However, from the doctor's point of view when he chooses between the two knees of the patient to hit, he makes a decision, because he has options (the legs). So, the theory of decision is about deciding with different options.
Second, this theory assumes that decisions are made in a non-random way. So it does not make sense to investigate the mechanisms of decision making, if these decisions are random. And finally, as a third point it is assumed that the decisions are oriented in specific goals. In general, decision theory is concerned with goal-directed behavior, in the presence of options.

Paul & Fischhoff (1977) mention that there are two types of decision theories; normative and descriptive. The first, explains how decisions should be made, the second describes how decisions are actually made. The behavioral decision theory in a descriptive way tries to explain the real behavior. In this context it makes sense to separate the decisions in different stages, then, different philosophers and psychologists, and scientists, separated the decision-making process in different stages, but more or less, all of them suggest, that first, we identify the problem, then, we collect information related to the problem; solutions are produced, alternatives are evaluated and finally selected among them. Figure 1 explains the above.

![Decision Process Diagram](image)

**Figure 1. Comparison of the states of the decision process.**

Source: Own elaboration with data from Simon (1982) and Mintzberg et al. (2001).

### C. Behavioral theory of the firm

The behavioral theory of the firm has had an enormous influence on the theory of organization, strategic management, and socio-scientific research fields. Its central concepts have given motivation and foundation of theoretical and empirical works focused on the organizational phenomenon. In the present investigation the behavioral theory of the firm is used to explain the relationship in decision making and bounded rationality. The authors are mentioned, Barnard (1938) studied the functions of executives; where he emphasized the role of the individual personality in the informal organization, which subsists against the current of the formal organization. In the studies of administrative behavior, Simon (1947) and organizations March & Simon (1958), a behavioral theory of the firm Cyert & March (1963), were three contributions of the Carneige School that founded the scientific studies of the administration and behavior of the signature. Again Simon (1982) publishes a paper entitled “Models of Bounded Rationality”. In the following paragraphs their contributions that form the behavioral theory of the firm will be analyzed.

1) **The functions of the executive of Barnard (1938).**

Barnard (1938) notes that successful cooperation is an abnormal condition rather than normal. In his work it is mentioned that, within innumerable failures of cooperation, it can see successes that survive these. Both the failures of cooperation and those of the organization are characteristic of human history. Its purpose is to provide a comprehensive theory of cooperative behavior in formal organizations. The main characteristics of the contribution of Barnard are:
The willingness to cooperate, the ability to communicate and the existence and acceptance of a purpose. In this work it is argued that there is a zone of indifference in each individual, in which the orders are accepted without consciously questioning them about their authority.

It is pointed out that the art of executive decision making consists in not deciding questions that are not pertinent, in not deciding prematurely, in not making a decision that cannot be made effective, and in not making decisions that others must make. Such good judgment of the executive preserves morality, develops competence and preserves authority.

It is concluded that the expansion of cooperation and development of the individual are mutually dependent realities, and a due proportion or balance between them is a necessary condition for human well-being, Barnad (1938) cited in Mahoney (2012).

2) Administrative behavior of Simon (1947).

Simon's main thesis is that decision-making is the heart of the organization and must be derived from the logic and psychology of social choice. Three roles of the organization are highlighted: Organizations influence people's habits, organizations provide means to exert authority and influence over others; and organizations influence the flow of communications. Simon (1947) argues that it is precisely in the realm where the behavior is intentionally rational, but only in a bounded way, that there is room for a true theory of organization.

Organizational behavior is the theory of intentional and bounded rationality. In this sense, the term bounded rationality is used to designate a rational choice that takes into account the cognitive limitations of the person responsible for decision making, limitations of both knowledge and computational capacity. Bounded rationality is a central issue in the behavioral approach to economics, which is deeply rooted in the ways in which the actual decision-making process influences the actions that are taken.

Considering the brain as a scarce resource, Simon (1947) states that the information processing systems of modern civilization swim in an extremely rich soup of information. In a world of this kind, the scarce resource is not information; it is the processing capacity to attend to the information. Attention is the main bottleneck in the organization's activity, and the bottleneck becomes increasingly narrow as we move towards the top of the organizations.

3) Organizations de March & Simon (1958)

This model imposes a responsibility on the managers, which is to continuously seek to complement the information of their assignment of tasks. An organizational model that neglects economic incentives will be, for most humans, a poor predictive model; and the behavior of the organization can often be predicted by knowing previous behaviors and routines (March & Simon, 1958).

The characteristics of its organizational structure model was the optimization was replaced by the "satisfy", the alternatives of the action and its consequences are discovered sequentially through the search process, and each specific action deals with a bounded range of situations and a bounded range of consequences. It can be interpreted as the search is partially random, but in the effective search for problems is not blind, given that the design of a search process by itself is often an object of a rational decision (Mahoney Joseph, 2012)

4) A behavioral theory of the firm of Cyert and March (1963)

His work contains four research commitments: 1) Focus on a small number of key economic decisions made by the company; 2) Develop models oriented to company processes; 3) Link the
company's models as close as possible to the empirical observations; and 4) Develop the theory with generality beyond the specific studies of the companies.

According to Cyert & March (1963) the organizations consist of a series of coalitions and that the function of the administration is to achieve a quasi-resolution of conflicts and avoid uncertainty. The problematic search that is stimulated by a problem with (or lack of) an existing routine is assumed to be motivated, simplified and biased, reflecting unresolved conflicts within the organization.


To cover the conflict of objectives and uncertainty, Simon (1982) mentions that we need to know something about perceptual and cognitive processes to predict short-term behavior. Also, the filtering of information is not a passive process, but an active process of attention, which is influenced by hopes and desires. (Simon., 1979).

The abundance of information means the scarcity of something else: the scarcity of information consumed, the information consumes the attention of its recipients. Information systems need to listen and think more than they speak. Establishing the problem of organization in this way leads to a very different system design that deals with information overload, (Simon H. A., 1997).

In this work we also talk about two concepts, one called Substantive Rationality, which deals with an appropriate behavior for the achievement of the given goals within the limits imposed by the given restrictions. In this vision of the economy, given the objectives, the rational behavior is determined in its entirety by the characteristics of the environment in which said behavior develops. And the other concept is Procedural Rationality, which is a search for better heuristics (heart of intelligence). Organizational economics is a description and explanation of human institutions. Decision processes, like all other aspects of economic institutions, exist within human reasoning. This is subject to changes in what humans know, and with each change in their means of calculation, (Simon H. A., 1997). A commercial company equipped with the operations research tools does not make the same decisions, for example, in regards to inventory management, as it did before it possessed such tools (Simon., 1979).

In this work it is concluded that complexity is profound in the nature of things, and the discovery of approachable procedures and tolerable heuristics that allow to select large spaces selectively is the core of intelligence, whether human or artificial (Mahoney Joseph, 2012).

4. Research methods

The present investigation is of descriptive character, being a qualitative analysis that follows from the understanding of the behavioral theory of the firm of Simon (1947, 2000; Cyert and March, 1963), the theory of the behavior of the decisions, (Paul & Fischhoff 1977; Busemeyer & Bruza, 2012; Gonzalez & Pegah, 2017), in terms of behavioral decision-making processes and their analysis through learning, which significantly influence the process of making decisions that help mitigate rationality bounded to a certain degree due to this key factor, which is learning.
As can be seen in figure 2, the main difference with respect to figure 1, is shown in the learning that adds value to the decision process is learning. From this valuable concept, the results of each action will be evaluated. The learning process can modify all the states of decision making. It is likely that flexibility, which characterizes learning by greater openness of ideas, greater discussions, allowing for the possibility of being creative contributing to rational decisions (Hart & Banbury 1994), and in this way, mitigating its limitations, less in an aspect that is the adequate use of information, obtained through learning.

It is considered by what he mentions (Raport, 1975) that learning is of great importance because decisions are not always static. Static decisions are characterized by a single option and are often conceptualized as linear processes: one observes explicit alternatives and makes a decision, but one cannot learn from the consequences of those decisions (Gonzalez, 2012). Alternatives in typical static decisions are often described by probabilities and probabilities. A choice between an alternative that gives $ 3 with security and one that gives $ 4 with a probability of 0.8 and $ 0 otherwise is an example of a static decision (Gonzalez & Pegah, 2017).

There are other types of decisions that are dynamic decisions. These, in contrast to static ones, involve a sequence of choices made in an environment that can change exogenously or based on previous choices and where decisions are sequentially linked to each other through their effects so that an action at a specific time influences directly or indirectly future actions. Consider the previous example about finding the best couple. If we continue to see a person affects or not our chances of knowing a better or worse candidate. This can occur because dynamic environments vary in their inclusion of delayed feedback, interrelated actions and their effects over time, and dependence on time, where the value of actions is determined when an action is taken (Gonzalez & Pegah, 2017).
Simple tasks can have a dynamic complexity, arising from the relationship between the choices and their effects over time, from the sequential nature of these interdependencies, and the different lags between the actions and their effect on the environment and looking for the best partner is influenced by who we know and with whom we spend time, before making a marriage decision (Gonzalez & Pegah, 2017).

According to figure 2 and the theoretical analysis of Raport (1975) another very common approach for the modeling of learning in the tasks of the decision-making process is reinforcement learning (Reinforcement Learning from now on RL). In a typical RL problem, an agent tries to find an association between an observed result and the previous actions using either its memory or environmental cues. An agent performs an action in each state (for example, by selecting an option in a binary choice task) and the environment delivers a reward or punishment based on the action state pair and changes the agent’s current state. It is important to note that an RL agent tries to estimate the dynamics of the environment when experiencing it.

5. Analysis of results

As discussed above, an agent learns how good or bad each action is, based on the reward received. These characteristics can be probabilistic or deterministic and can be modified dynamically over time (Busemeyer & Bruza, 2012). This vision of the learning process originates in the work of Simon (1955), Edwards (1962), and the research paradigms that followed from the Behavioral Theory of the Firm. Under this tradition, the effects of real-world characteristics of decisions were investigated, such as time constraints, delays in feedback and cognitive workload, and how people handle such environmental constraints and learning everything. This process.

The thought cannot be thought stable and according to general objectives, the individuals that make up the group responsible for decision making are the matrix of ramification of the objectives, which are rationally subjective and then give coherence to what has to be decided, with personal interests, as a result of the rational limitations offered by the generalization to which it subscribes. Due to this, the learning of the predictive becomes a meta-theoretical challenge about the rationality of the organization; Only from this challenge can the organizational objective be generalized: "Learning, in the sense of reacting to perceived consequences, is the main way in which rationality manifests itself” (Simon, 1978, p.162) cited in (Hart & Banbury (1994).

In the solution of problems, human thinking is governed by programs that organize a multitude of simple information processes, in ordered and complex sequences that respond and adapt to the environment of the task and to the data extracted from that environment as develop the sequences. The secret of problem solving is that there are no secrets: it is done through complex structures of simple and familiar elements of learning in a decision process (Simon., 1979).

6. Conclusions

From a rational point of view, Simon (1979) states that choice is the process by which an alternative behavior for each moment is selected. For this, the possible alternatives must be selected, determine the consequences of each alternative and compare them. Being able to determine the consequences of the decisions taken is complex, since we must know the actions of other individuals or firms. However, from a logic of the limits of rationality in individual behavior it is not possible to reach a high degree of rationality (Simon 1947).
Choices made by an individual usually take place in an environment where premises are given, which are accepted as the basis of choice; and the behavior only fits within the limits set by these given environments. One of the functions of the organization is to establish its members in such a psychological environment that it helps to adapt their choices to the objectives of the firm, providing the necessary information to make their decisions.

Bounded rationality occurs when companies lack perfect information, that is, they do not have context information about the results of their actions, for example; they have bounded resources, and are restricted to the ability to process information. Under these conditions, firms are forced to make decisions, based on the data available for this, their resources and capacities to process information (Simon, 1979). This implies that firms can make decisions that are not completely optimal because they have to adjust to the conditions in which they operate.

Decisions involve a commitment of large amounts of resources of the organization for the fulfillment of the objectives and purposes of the organization through the appropriate means. These means can be translated into models that help reduce the limits of rationality in companies (Grosvold, Stephan, & Hoejmose, 2013).

7. Recommendations

Addressing the bounded rationality and complexity of the problems that organizations have to deal with, implies that the personnel of the organizations adopt a number of reductionist strategies, that is, that allows them to simplify their representation of the situation that presents a problem, trying to include the outstanding information, before trying to model the objective reality. For example, to contribute to a better understanding of the decision-making processes, recent research has reduced the control tasks to its fundamental elements: a stock, an inflow and an outflow, and called for judgments about the relationships between these elements over time (Gonzalez & Pegah, 2017).

Recent efforts present cognitive explanations of failure in decision making, suggesting the importance of human capacity to observe the similarities between experienced patterns of behavior.

Although research on complex and dynamic tasks will continue to inform the limits of human behavior. By studying simple tasks, we can focus on the study of human decisions that depend on the relationships between choices and their effects over time, and thus in the decision process, when repeated decisions are made, it can be observed and obtained feedback on the results.

References


Role of Islamic Micro Credit Activities of Akhuwat in Poverty Alleviation in District Nowshera

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Abstract  
The study entitled "Role of Islamic Micro Credit activities of Akhuwat in poverty Alleviation in District Nowshera" was carried out to find the role of micro credit activities of Akhuwat in poverty alleviation in tehsil Nowshera. Details about the respondents were taken in written form from the local and branch offices of Akhuwat. Sample of respondents consisted of 100 male and 50 females. A questionnaire was developed in two parts. Part A was to find out the main characteristics of the respondents. Part B was about the operational and financial activities of Akhuwat. Data was collected from 150 respondents comprising 100 males and 50 females through questionnaire. The data was analyzed through SPSS version 17. Results of the analyzed data showed remarkable role of Akhuwat in poverty alleviation. Social status of the respondents has been improved after taking loan. Their health, education, savings, purchasing power, decision making power, income and capitals have been improved. Hence micro credit activities of Akhuwat in District Nowshera has a positive relationship with poverty alleviation. It was suggested that the government must cooperate with Akhuwat so maximum benefits may be achieved. Government must also start such activities at the doorsteps of the loan takers.  

Keywords: Islamic Microcredit, Akhuwat, Poverty Alleviation.
Introduction
The impact of micro credit reduces the poverty through highly self-employment and producing good income. It helps the poor to get sustainability in the socio-economic, educational and health consequences. Micro Credit has a positive effect on the children of borrowers (Nathanael Goldberg, 2005) Micro Credit is sometimes called micro lending which is given to the poor for self- employment. The poor people increase their living standards by investing these small loans in some activities (Fernando, 2006). Micro Credit has been proved as an important tool for poverty alleviation and uplifting the living of poor. Micro Credit is mainly an observable innovation in poverty alleviation in the last half century. Due to high running costs the interest rate of micro credit s very high as compared to other banks (Nawai, 2010). The high rate of interest of micro credit can be reduced by novelty, effectiveness and by attractive selling rivalry (Fernando, 2008).

Poverty is a common issue to all the nations of the world. It is a multidimensional problem. Poverty occurs when most of the citizens of a country are lacked of their basic rights and needs. There may be some social, economical and political problems which hurdles the poverty but education and awareness are considered to be the fundamental requirement to cope with this giant problem. Pakistan is also facing the problem of poverty. Hussien and Hussain (2003) suggest that increasing the opportunity of micro credit would ultimately reduce poverty. The society plays a pivotal role in the development of the locality and the best of the society is to provide the schemes which reduce the level of poverty (Lindvert, 2006).

Micro Credit is considered as a vital tool of poverty reduction. The importance of microcredit was seriously felt in 80’s after when Yunus introduced Grameen Bank for micro credit. The aim of micro credit was to reach the poor and needy people. The basic purpose of micro credit is to provide small loans to those poor people who are not able to reach the formal system of loans. These small loans help in poverty reduction (Otero, 1999). No external guarantor was required for these loans. A group of few individual was made and each member of the group has to serve as a guarantor of the other member. The group responsibility and repayments of loans in due time made it easy to qualify for the loans (Chaudhuri, n.d). The interest rate of these loans was very high. This was because of the small amounts for a short period of time (Fernando, 2006). The major drawback of this credit was that the bank was at far flung distance from the rural areas (Bakhshoodeh and Karami, 2008).

Review of Literature
Many micro credit institutions were set up after the realization that it is a short way to cope with the poverty. This has changed the formal system of banking and opened a new era of banking (Delfiner and Peron, 2007). Governments and different NGOs are using micro credit as a tool for reducing poverty (Llnto, 2003). The money provided as micro credit to the low income people is utilized in business activities for the improvement of life standards (Nawai, 2010).

The main functions of micro credit are as follow:

1. Ending exploitation of poor
2. Easy provision of loans
3. Ease in repayment of loans
4. Self-employment
5. Reduction of poverty
Pakistan is an agricultural country and mainly depends upon agricultural products. Pakistan is facing a giant problem of poverty. It is due to lack of income and human resources. Different steps have been taken to eradicate poverty but all these struggles went fruitless. In the recent decade micro credit has been showing tremendous achievements against the poverty. Different NGOs and banks are providing micro credit to the poor. Presently a number of institutions such as NGOs, private firm and government sponsored rural programs are providing micro credit to the poor people of the country. Khyber bank, First women bank, Khushali bank, First Micro Finance bank and Akhuwat are providing loans to the poor. Employment is the basic right of every citizen but if there is no employment then the best way to reduce the unemployment is to provide the small loans to these citizens to make them empowered (Yunus, 2006).

Erik Thorbecke (2004) has pointed out many issues related to poverty. He has also pointed out the causes of permanent poverty that why people remain in that state. He has also discussed various types of poverty. Inequality is the main source of poverty. Naryan and Petech (2002) have declared that every strategy of poverty reduction must be initiated from the poor. When the poor are heard and invetigated carefully then it is easy to resolve the problem by simply investing in poor people assets and capabilities.

Atif Jamil (2006) considers the poverty as a socio-economic problem of Pakistan after executing that one third of its population is living beyond the poverty level. He has pointed out the most susceptible groups of people such as children, workers, Women and religious minorities.

M. Sharif (2006) has pointed out poverty among the several issues in Pakistan. Pakistan has started the Millennium Development Goal of eradicating the poverty by 2015. Pakistan’s claim of the rate of poverty reduced cannot be justified by any measure and tool according to Asian Development Bank and United Nations Development Program.

Hoque (2008) has suggested micro credit as a powerful tool for the poverty alleviation. It has been observed that micro credit increases the income of the poor. More and more and more resources are mobilized. Investments are increased and hence the living standards are improved.

Marr (2004) has pointed out that due to the high rate of interest on micro credit; the repayment has become a burden the poor people. The process may be made as easy as to the poor. Basher (2009) has considered agriculture sector the most beneficial for the poverty alleviation. Micro credit in agricultural sector enhances the chances of investments. Agricultural sector is a vast field and several sub categories and employment opportunities are mostly available in it. Khan et al (2007) conducted research on short term loans to the farmers and suggested that farmers must avail this loan in time to meet their needs.

Mason and Smith (2003) concluded that micro credit is very essential to the women empowerment. Most of the poor women do not directly participate in jobs. They have free time at their homes and they can easily accommodate in small business by providing them small loans for short interval of time. Irobi (2008) pointed out that micro credit has been proved fruitful in the context of small business and women participation in this regard has been excellence. The utilization and repayments of these loans have shown a tremendous result upon women. Shastri (2009) said that micro credit is the best solution of poverty reduction but the process to access the credit is very complicated. The poor do not able to access the small loans in appropriate time. The process must be made such that almost all the poor can easily obtain the loan opportunity, so that poverty can be eradicated.

Momoh (2005) has pointed out that useful and successful micro credit systems are operating in rural areas along with some obligations from the government. The government must legalize
the process of credit according to the needs of the poor. Latife (2003) also stated that poor people are in high risk of poverty. They are still facing hardships in obtaining the small loans. Ahmad & Naveed (2004) experimented the role of micro credit in the field of poverty and found that a positive relationship between micro credit and income. The credit provided to the poor by Khushali Bank has raised the life standard and working capital.

Waheed (2009) concluded that micro credit has improved the income. Morduch (2002) has examined the impact of micro credit and found that micro credit has raised the standard of life in several aspects such as size of the family, health and education. Low income developing countries always faces severe problem of poverty and micro credit works as a weapon against poverty in these countries (Akram & Hussain, 2011). Micro credit plays an important role in the rural areas where there is little access the formal banks for loans. It is anticipated that micro credit must be used as a fundamental source of investment for the rural fabrication actions to enhance the conditions of poor people. Micro credit is not expected to be used for daily expenditure. Micro credit is also offered to the low income poor (Seemi, 2009). Developing countries have adopted several policies through which an ordinary individual can access to the micro credit and can run his/her business for the betterment of the country (Beck et al., 2008). Despite of these efforts and conveniences most of the poor do not reach these micro credit institutions (Chodhury, 2009).

Pakistan is a developing country and mainly depends upon agricultural products. Due to insufficient resources hardly Pakistan can produce agricultural products which fulfill the needs of 50% of the local people. (SBP-a, 2007). Savings are always lower than the consumption in Pakistan. In order to fill the gap between saving and consumption government of Pakistan introduces micro credit loans. Micro credit is a new phenomenon yet it proving to be an excellent tool for development (Haroon, Jamal, 2008).

Micro credit facilities are open to poor as well as middle level people in Pakistan. Micro credit loans are unique in their nature. It is not offered in the conventional manner. The main purpose of these loans is to get full benefits of the loans. These loans are offered in the collectoral form in which each borrower is the guarantor in the same group (Bajwa, 2001). Pakistan is facing an extreme level of poverty. The government as well as the inhabitants of Pakistan is capable to meet the challenging situation of poverty. The people have strong commitment and ideas to fight against poverty. It is very difficult to alleviate the poverty from top to bottom. Poverty must be eradicated from the grass-root level. Micro credit is somewhat a best choice for the poverty alleviation. Poor of Pakistan can well utilize the loans and use their potentials for self-sustainability and alleviation of poverty (Ahmed, 2000).

Qureshi, M.I et al (2012) considered the micro credit scheme still a new approach for the poor of Pakistan. Saving power of the poor is very low and only 5% poor have availed the micro credit facilities in Pakistan. Pakistan is a country where micro credit has a vast potential. Different programs and policies were formulated for the small scale loans by the government for poverty reduction in Pakistan. Micro credit is one of the best among these policies (Nasim et al, 2009). Micro credit is incorporated with self-employment. It has been observed that micro credit has increased the saving power of poor. Micro credit model has remarkably shown good results in economic development (Kazim, 2010). Waheed (2009) in his research found micro credit a best tool for poverty reduction and uplifting the life standard of beneficiaries.

Akhuwat is a non-governmental, non-political organization providing micro credit to the rural poor free of interest throughout Pakistan. Akhuwat has 500 branches in 207 cities and towns throughout Pakistan. So far Akhuwat has a total of 1,460,708 benefitting families consisting of 857,260 males and 603,448 females and it has disbursed Rs 28,276,804,342 among these
beneficiaries with 99.93% of recovery rate. Akhuwat is providing small loans to the poor without discrimination. Akhuwat has certain objectives which are poverty reduction and self-sustainability. Akhuwat provides loans in collectoral system and changing the borrowers into lenders. Most of the Pakistan’s population is living below poverty line. Akhuwat reaches these people and try start the journey of hope with them. Akhuwat provides financial support for their better life. The current study found out that Akhuwat has been proved a best model for micro credit program.

**Objectives of the Study**

1. To know about the role of Akhuwat in self-sustainability.
2. To analyze the basic characteristics of the micro credit beneficiaries.
3. To evaluate the level of poverty alleviation due to micro credit provided by Akhuwat.

**Questions/Hypotheses**

1. Does micro credit bring sustainability?
2. Does micro credit improve employment status?
3. Does micro credit improve income?
4. Does micro credit fulfill the basic needs of poor?
5. Does micro credit alleviate poverty?

**Methodology**

It was a survey type study which focused on the micro credit activity of Akhuwat in Tehsil Nowshera. Akhuwat is a non-governmental organization which provide small loan free of interest to the poor. Information was got through local offices of Akhuwat about the borrowers. Two basic approaches de-jure and de-facto were used to collect data from the population. In de-jure approach persons are counted at their usual place of living or residence and in de-facto approach persons are counted where they are found at the time of survey or census data collection. In this study de-jure approach was used to collect data from the population and data was tabularized on de-jure basis.

**Population**

All the borrowers of Akhuwat in District Nowshera were counted as the population of the study. There was no restriction on gender, race or age.

**Sample**

Large sample size is considered best for the accuracy of a research. The researcher preferred small size of sample for better management such as time management, best observation management and financial control. Ten Union Councils were randomly selected. Fifteen borrowers from each Union Council were selected. In this way sample size became 150 borrowers from Tehsil Nowshera.

**Instrument**

Questionnaire was constructed on 5 point close ended likevert scale. Questionnaire had two parts A and b. Part was about the basic information and characteristics before and after taking the loan. Part B was about the role of micro credit activity of Akhuwat in Tehsil Nowshera.
Data Collection Procedure

Before starting data collection process, the researcher had visited many times the local offices of Akhuwat to get information about the borrowers. After getting information and addresses of the respondents, the researcher visited the respondents by local leaders, influential, leaders of prayers and female social workers to established good understanding with respondents. Different introductory meetings and sessions of the researcher with the respondents established pleasant climate for data collection. The researcher awakened and agreed upon the respondents and interview time framework was set according to the convenience of the respondents. It took more than three months to gather the data from the respondents.

Data Analysis

Collected data was separated according to part and part B. The collected data was encoded and put in by using frequencies and percentages. Inferential statistics Paired T test and Chi Square test were used to find out the result. The coded data was analyzed using SPSS version 17.

Results/Major Findings

Table 1: Employment opportunities have improved

<table>
<thead>
<tr>
<th>Employment opportunities have improved</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disagree</td>
<td>8</td>
<td>5.3</td>
<td>5.3</td>
<td>5.3</td>
</tr>
<tr>
<td>Neutral</td>
<td>2</td>
<td>1.3</td>
<td>1.3</td>
<td>6.7</td>
</tr>
<tr>
<td>Agree</td>
<td>9</td>
<td>6.0</td>
<td>6.0</td>
<td>12.7</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>131</td>
<td>87.3</td>
<td>87.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Table 1 indicates that 87.3% of the borrowers are strongly agreed, 6% are agreed, 1.3% are neutral and 5.3% are disagreed with statement.

Table 2: Standard of the family has improved

<table>
<thead>
<tr>
<th>Standard of the family has improved</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disagree</td>
<td>8</td>
<td>5.3</td>
<td>5.3</td>
<td>5.3</td>
</tr>
<tr>
<td>Neutral</td>
<td>1</td>
<td>.7</td>
<td>.7</td>
<td>6.0</td>
</tr>
<tr>
<td>Agree</td>
<td>5</td>
<td>3.3</td>
<td>3.3</td>
<td>9.3</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>136</td>
<td>90.7</td>
<td>90.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 indicates that 90.7% of the borrowers are strongly agreed, 3.3% are agreed, 0.7% are neutral and 53% are disagreed.
Table 3: T-Test Pairs Paired Sample Statistics for paired differences (Monthly Income before and after taking loan):

<table>
<thead>
<tr>
<th>Monthly income before taking loan</th>
<th>Monthly income after taking loan</th>
<th>Mean</th>
<th>SD</th>
<th>SEM</th>
<th>T</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monthly income before taking loan</td>
<td>Monthly income after taking loan</td>
<td>-2.273</td>
<td>1.015</td>
<td>0.082</td>
<td>-27.40</td>
<td>149</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Table 3 shows the comparison of monthly income before and after taking loan. It is obvious that monthly income has been increased after taking loan.

Table 4: T-Test Pairs Paired Sample Statistics for paired differences (Employment Status before and after taking loan):

<table>
<thead>
<tr>
<th>Status before taking loan</th>
<th>Status after taking loan</th>
<th>Mean</th>
<th>SD</th>
<th>SEM</th>
<th>t</th>
<th>Df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment Status before taking loan</td>
<td>Employment Status after taking loan</td>
<td>-0.806</td>
<td>0.412</td>
<td>0.033</td>
<td>-23.93</td>
<td>149</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Table 4 indicates that there is strong change in the employment status after availing the facility of loan. Most of the people have been engaged in self-employments.

Table 5: T-Test Pairs Paired Sample Statistics for paired differences (Capital before and after taking loan)

<table>
<thead>
<tr>
<th>Nature of capital</th>
<th>Mean</th>
<th>S.D</th>
<th>S.EM</th>
<th>t</th>
<th>Df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital before taking loan</td>
<td>Capital after taking loan</td>
<td>-0.993</td>
<td>0.798</td>
<td>0.065</td>
<td>-15.237</td>
<td>149</td>
</tr>
</tbody>
</table>

Table 5 shows that the capitals of the respondents have been increased after taking loan.

INFERENTIAL ANALYSIS

Inferential analysis is concerned with the conclusion and drawings of the data obtained from the population.

Hypothesis No.1: Does micro credit bring sustainability?

H₀: There is no association between role of micro credit activity of Akhuwat and sustainability of the respondents.

H₁: There is no association between role of micro credit activity of Akhuwat and sustainability of the respondents.

Chi square test was applied to determine the association between the role of micro credit activity of Akhuwat and sustainability of the respondents. Operational micro credit support of Akhuwat was taken as independent variable while sustainability of respondents was taken as dependent variable.
Table 6: Does micro credit bring sustainability?

<table>
<thead>
<tr>
<th>Variables</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>312.220a</td>
<td>33</td>
<td>.000</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>226.504</td>
<td>33</td>
<td>.000</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>124.053</td>
<td>1</td>
<td>.000</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>150</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6 indicates that there was a significant relationship between the two variables (Chi square value = 312.22, df = 33 and p = 0.000 which is < 0.05). As p < 0.05, so the alternative hypothesis H1 that is there is association between role of micro credit activity of Akhuwat and sustainability of the respondents is accepted. Hence the null hypothesis H0 that is there is no association between the role of micro credit activity of Akhuwat and sustainability of the respondents.

Hypothesis No.2: Does micro credit improve employment status?

H0: There is no association between role of micro credit activity of Akhuwat and improvement in employment status of the respondents.

H1: There is no association between role of micro credit activity of Akhuwat and improvement in employment status of the respondents.

Chi square test was applied to determine the association between the role of micro credit activity of Akhuwat and improvement in employment status of the respondents. Operational micro credit support of Akhuwat was taken as independent variable while improvement in employment status of respondents was taken as dependent variable.

Table 7: Does micro credit improve employment status?

<table>
<thead>
<tr>
<th>Variables</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>171.264a</td>
<td>33</td>
<td>0.000</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>85.893</td>
<td>33</td>
<td>0.000</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>61.892</td>
<td>1</td>
<td>0.000</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>150</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7 shows that there was a significant relationship between the two variables (Chi square = 174.264, df = 33 and p = 0.000 which is < 0.05). As the level of significance for the calculated value is less than 0.05, so the alternative hypothesis H1 that is there is association between role of micro credit activity of Akhuwat and improvement in employment status of the respondents is accepted. Hence the null hypothesis H0 that is there is no association between the role of micro credit activity of Akhuwat and improvement in employment status of the respondents.

Hypothesis No.3: Does micro credit improve income?

H0: There is no association between role of micro credit activity of Akhuwat and improvement in income of the respondents.

H1: There is no association between role of micro credit activity of Akhuwat and improvement in income of the respondents.

Chi square test was applied to determine the association between the role of micro credit activity of Akhuwat and improvement in income of the respondents. Operational micro credit
support of Akhuwat was taken as independent variable while improvement in income of respondents was taken as dependent variable.

Table 8: Does micro credit improve income?

<table>
<thead>
<tr>
<th>Variables</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>150.137</td>
<td>33</td>
<td>.000</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>75.403</td>
<td>33</td>
<td>.000</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>64.826</td>
<td>1</td>
<td>.000</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>150</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 8 indicates that there was a significant relationship between the two variables (Chi square value = 150.137, df = 33 and p = 0.000 which is < 0.05). As p < 0.05, so the alternative hypothesis $H_1$ that is there is association between role of micro credit activity of Akhuwat and improvement in income of the respondents is accepted. Hence the null hypothesis $H_0$ that is there is no association between the role of micro credit activity of Akhuwat and improvement in income of the respondents.

Hypothesis No.4: Does micro credit fulfill the basic needs of poor?

$H_0$: There is no association between role of micro credit activity of Akhuwat and fulfillment the basic needs of the respondents.

$H_1$: There is no association between role of micro credit activity of Akhuwat and fulfillment the basic needs of the respondents.

Chi square test was applied to determine the association between the role of micro credit activity of Akhuwat and fulfillment the basic needs of the respondents. Operational micro credit support of Akhuwat was taken as independent variable fulfillment the basic needs of respondents was taken as dependent variable.

Table 9: Does micro credit fulfill the basic needs of poor?

<table>
<thead>
<tr>
<th>Variables</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>146.186</td>
<td>33</td>
<td>0.000</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>72.558</td>
<td>33</td>
<td>0.000</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>58.198</td>
<td>1</td>
<td>0.000</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>150</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 9 indicates that there was a significant relationship between the two variables (Chi square value = 146.186, df = 33 and p = 0.000 which is < 0.05). As p < 0.05, so the alternative hypothesis $H_1$ that is there is association between role of micro credit activity of Akhuwat and fulfillment the basic needs of the respondents is accepted. Hence the null hypothesis $H_0$ that is there is no association between the role of micro credit activity of Akhuwat and fulfillment the basic needs of the respondents.
Hypothesis No.5: Does micro credit alleviate poverty?

H₀: There is no association between role of micro credit activity of Akhuwat and poverty alleviation of the respondents.

H₁: There is no association between role of micro credit activity of Akhuwat and poverty alleviation of the respondents.

Chi square test was applied to determine the association between the role of micro credit activity of Akhuwat and poverty alleviation of the respondents. Operational micro credit support of Akhuwat was taken as independent variable poverty alleviation of respondents was taken as dependent variable.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>178.568a</td>
<td>33</td>
<td>0.000</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>107.486</td>
<td>33</td>
<td>0.000</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>76.003</td>
<td>1</td>
<td>0.000</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>150</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 10 indicates that there was a significant relationship between the two variables (Chi square value = 176.568, df = 33 and p = 0.000 which is < 0.05). As p < 0.05, so the alternative hypothesis H₁ that is there is association between role of micro credit activity of Akhuwat and poverty alleviation of the respondents is accepted. Hence the null hypothesis H₀ that is there is no association between the roles of micro credit activity of Akhuwat and poverty alleviation of the respondents.

Discussion on Major Findings

Findings of the study show the activity of Microcredit of Akhuwat has positive relationship with the characteristics of beneficiaries. The giant problem of poverty has been minimized. The social conditions of the beneficiaries have been improved. Saving and purchasing powers have been improved. The beneficiaries have changed their traditional life style and started concerns about their health and hygiene. They planned good education for their children. The employment opportunities have been increased. It can be summarized that microcredit activity of Akhuwat has positively changed the borrowers’ life into satisfied life.

Conclusions

a) Akhuwat provided loans to the needy and poor people.

b) Akhuwat provided loans to the poor at their doorsteps.

c) No other NGOs or CBOs has provided micro credit facility to the people in the area except Akhuwat.

d) Bank of Khyber also provided free of interest loans to the poor in the area but the procedure was very tough as compared to Akhuwat.

e) Akhuwat provided professional on-job training to their borrowers.
f) Educational status of the people has been improved after availing the micro credit facility of Akhuwat.

g) Micro credit activities of Akhuwat have raised the social status of the people in the area.

h) Most of the people became empowered after availing micro credit facilities of Akhuwat.

i) Akhuwat has raised the saving power of the poor in the area.

j) Akhuwat has raised the standard of life of the people.

8. Recommendations/Implications of the Study

a) Akhuwat must be encouraged for its efforts.

b) Government must impart the model of Akhuwat in the country.

c) Micro Finance Institutions and banks must follow the micro credit model of Akhuwat.

d) Government of Pakistan must support NGOs and CBOs in micro credit programs.

e) Micro credit programs must be initiated from bottom to top.

f) Institutional training must be provided to the borrowers before sanctioning the loan.

g) Micro credit programs must be embedded with skills.

h) In order to achieve the objectives a proper formative and summative evaluation may be undertaken.

i) Proper feedback must be given to the borrowers like Akhuwat.

j) Strong monitoring programs may be launched so as to get rid of any faults from borrowers or lenders like the collectoral system of Akhuwat.

k) Women must be involved in the micro credit programs on priority basis as pointed out in the present study for their high concerns and repayment of loans.

l) Easy installments of recovery of loans have shown better results, so the recovery process may be made conducive.

m) The Poor showed remarkable potentials for the utilization of loans, so poor people may be prioritized and encouraged towards micro credit programs.

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