Influence of Training Needs Assessment on Performance of Small and Micro Enterprises in the Information and Communication Technology Sector in Nairobi City County, Kenya

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Abstract
The objective of this study was to establish the extent to which training needs assessment influence performance of small and micro enterprises in the Information Communication Technology in Kenya. The study was based on training needs assessment theory. Descriptive research design was used to collect qualitative and quantitative data. The target population for this study was 273 small and micro enterprises in the Information Communication Technology sector that successfully received entrepreneurship training prior to the year 2012 under the Information Communication Technology Authority. Systematic random sampling technique was used to select 73 respondents. Descriptive statistics incorporated absolute percentages, frequencies, measures of central tendency and measures of dispersion; while inferential statistics was analyzed through correlation and regression analysis to establish the nature and magnitude of the relationships between the variables and tested the hypothesized relationships. The study established positive influence of training needs assessments and performance of small and micro enterprises in Information Communication Technology sector in Nairobi City County, Kenya. The study recommends that trainers should conduct training needs assessments before conducting entrepreneurship trainings.

Keywords: Training needs assessment, Performance

1. INTRODUCTION
1.1 Background Information
Success or failure of any organization largely depends on the human resource capability of the firm to combine resources in a manner that takes advantage of the opportunities and minimize threats towards achieving organizational objectives. Global Entrepreneurship Monitor [GEM] (2010) identified strategic human resource development as one of the strategies to enhance organizational capability for successful performance. According to Government of Kenya [GoK] (2005), for small and micro Enterprises (SMEs), human resource development through entrepreneurship training is one of the key ingredients for enhancing performance. Entrepreneurship training has been cited to promote innovativeness, risk taking, opportunity identification, business management and technical skills development (Lewrick, 2011).

However, effectiveness of entrepreneurship training is greatly influenced by training needs assessment. A study by Jusoh, Ziyae, Asimiran and Kadir (2011) showed that through training needs assessment, critical issues regarding entrepreneurship training can be highlighted and emphasis given to areas that need to be trained on for business success. Further, a study by Rajani (2008) emphasized that intensified effort has to be taken to assess the social attitude, mentality, needs and abilities of various entrepreneurs so as to impart effective entrepreneurship training. Moreover, a study by Nadeem and Hafeez (2016) established that training needs assessment plays an important role in organization most importantly when giving training to employees. In line with these, a study by Huka, Mbugua and Njehia (2015) established that lack of training needs assessment has a negative effect on acquiring business competencies among youth and women groups in Marsabit County, Kenya. It must however be observed that training needs vary from organization to organization, and are determined by the objectives of the organization at particular times. Therefore, carrying out training needs assessment would bring out specific needs for specific organizations. The study focused on identifying the effect of training needs assessment on the performance of small and micro enterprises (SME) in the ICT sector in Kenya.

The term small and micro enterprise has been defined with respect to different parameters such as number of employees, size of capital, turnover, degree of formality, degree of skilled man-power, listing at the stock market or trading of debt and equity instruments in the public market (ICPAK, 2013). In Kenya, sessional paper number 1 of 2005 on small and micro enterprises defines micro enterprises as those firms with employees ranging between one and nine while small enterprises as having 10 to 49 employees (GOK, 2005). SMEs play a major role at all levels of economic development in different countries. They generate much employment and are widely considered to be vital for competitiveness and economic growth (Caniels & Romjin, 2005). In Kenya, SMEs comprises about 75 % of all businesses, employing 4.6 million people. They account for 87% of new jobs
created and contribute 18.4% of the GDP (GOK, 2009). The Kenyan government considers the sector as the center of industrial development and has hinged several development strategies to improve performance of SMEs (Kiveu & Ofafa, 2013). The Economic strategy for wealth and employment creation 2003 – 2007 (GOK, 2007), indicates that about 25% of all households engage in some form of small business activity with the majority depending on their business for all household income.

1.2 Problem Statement

SMEs in Kenya do significantly contribute to the country’s economic growth through employment creation, poverty reduction, and they act as intermediaries in trade (GOK, 2014). However, nearly three out of five SMEs in Kenya fail within the first few months of operation (Kamunge, Njeru & Tirimba, 2014). This high failure rate is mainly attributed to lack of skilled workforce and stiff competition in the market (Oteri, Kibet & Ndungu, 2015). To address these challenges, the Kenyan Government and Non-Governmental organizations (NGOs) have established entrepreneurship trainings to provide SME with technical and business skills. These entrepreneurship trainings are intended to enable the SMEs acquire unique human resource capabilities for competitive advantage (Mugai, 2012; Sambo, Gichira, & Yusuf, 2015).

Several studies have been carried out to establish the relationship between training needs assessment and performance (Rajani, 2008; Jusoh, Ziyae, Asimiran and Kadir, 2011; Huka, Mbogua and Njehia, 2015; Nadeem and Hafeez, 2016). However, there lacks sufficient evidence on the specific roles played by training needs assessment on performance of small and micro enterprises in information communication technology sector in Nairobi City County, Kenya. This descriptive research study investigated perceptions of SMEs ICT owners/managers and training managers of ICT Authority on how training needs assessment influence SME ICT performance in Nairobi City County. The study brought out theoretical, practical and policy implications.

1.3 Research Objectives

To assess the extent to which training needs assessment influence the performance of Small and Micro enterprises in ICT sector in Nairobi City County, Kenya.

1.4 Research Hypothesis

Ho: Training needs assessments does not influence performance of Small and Micro enterprises in ICT sector in Nairobi City County, Kenya.

Ha: Training needs assessments has a positive influence on performance of Small and Micro enterprises in ICT sector in Nairobi City County, Kenya

2. LITERATURE REVIEW

2.1 Theoretical Review

Kaufman and English (1979) developed training Needs assessment theory. The theory argues that an actual need can only be identified independent of premature selection of a solution. To conduct a quality needs assessment, first, the current results are determined, and then the desired results articulated. Hence, the distance between the results (current and desired) forms the actual need. Once a need is identified, then a solution can be selected that is targeted to closing the gap. The theory postulates that need in the simplest sense is a measurable gap between two conditions—what currently is and what should be. The assessment process points to problem areas, issues, or difficulties that should be resolved.

In most contexts, needs assessment focuses on gaps in results rather than in wants or possible solutions. Watkins and Kaufman (2002) explain that needs assessment requires ascertaining what the circumstances are at a point in time, what is to be desired in the future, and a comparison of the two. Needs assessment also includes making judgments with regard to needs and putting them into prioritized order to guide decisions about what to do next. According to Altschuld and Kumar (2010) usually when needs are assessed, several ideas are found and since resources are limited for improvement (closure of those gaps), priorities must be set. Causal analysis, for example, may be employed to identify which gap might be most amenable to change and for which a solution strategy has a high likelihood of success. Literature suggest that for training, to be effective and to isolate both training needs and those problems having other, non-trainable solutions, training must be preceded by a needs analysis.

Applying this theory in entrepreneurship training involves a systematic process of assessing the training needs of employees in line with the organizational objectives before choosing and implementing training programmes, which facilitate enhancing of the organizational performance. The process, may be as simple as asking questions, comparing answers, and making informed decisions about what to do next to improve human (or organizational) conditions and performance. This theory addressed the variable of training needs assessment in the study, Training needs assessment helps to identify the gaps and development of issue focused training programmes to address specific gaps. This ensured effectiveness of the trainings.
2.2 Empirical Review

According to Firdousi (2013) training needs assessment forms the most basic common forms of assessment used by human resource development professionals in the workplace. In this respect, needs assessment help to determine when training is needed and for whom. This means that assessment ensures that training programs have relevance to the people being trained. Training needs assessment therefore provides the information that is usually necessary for designing training programs. Firdousi (2013) posits that the basic purpose of a training needs assessment is twofold; one is to identify the knowledge and skills that people must possess in order to perform effectively on the job, and secondly to prescribe appropriate interventions that can close these gaps. This is in line with what Watkins and Kaufman (2002) explained that needs assessment requires ascertaining what the circumstances are at a point in time, what is to be desired in the future, and a comparison of the two. Hence, needs assessment includes making judgments with regard to needs and putting them into prioritized order to guide decisions about what to do next.

According to Goldstein (1991), needs assessment should be wholesome in nature and is critical in avoiding misdiagnosing of non-training problem as a training problem. Hence, the process include determining specific training needs of individuals in the organization, and then selecting the most appropriate training content and delivery methods, evaluating the effectiveness of the training procedures before it is delivered. Furthermore, it can play an important role in assessing the organizational context regarding resources, management support, and other organizational environment that either hinder or facilitate the successful transfer of a training initiative.

Firdousi (2013) outlined five main strategies employed to conduct training assessment. The first technique involves conducting meetings with the management. The presumption is that most supervisors are involved with the planning of projects and the future strategic plans; hence, they would know what will be needed to fulfill the vision of the organization. Secondly, training needs assessment may involve conducting meeting with employees. The approach assumes that employees are the ones who are directly involved in the day to day operations of their activities so they should be encouraged to discuss the difficulties they may be facing during their daily routine and what type of training would make their job easier and more efficient.

Third is through conducting formal and informal surveys with employees. Fourth is by conducting focus group discussions with selected groups considered to be special expertise in the field. Focus group discussions may be conducted to facilitate group interaction; these discussions allow the assessors to discover details regarding their target audience. Fifth is by evaluating organizational strategies and objectives. The review offers the valuable information for training. A comparative analysis should be made of what employees are, what the company is currently doing and what will be expected of the employees as the company continues to grow and expand.

Miller and Osinski (2002) posits that the purpose of a training needs assessment is to identify performance requirements or needs within an organization in order to help direct resources to the areas of greatest need, those that closely relate to fulfilling the organizational goals and objectives, improving productivity and providing quality products and services. In this respect, it helps to improve performance. Therefore, needs assessment is the first step in the establishment of a training and development Program. It is used as the foundation for determining instructional objectives, the selection and design of instructional programs, the implementation of the programs and the evaluation of the training provided. These processes form a continuous cycle, which always begins with a needs assessment.

Jusoh, Ziyae, Asimiran and Kadir (2011) confirmed the need for training needs assessment before conducting entrepreneurship training. The study conducted on 30 entrepreneurs in Malaysia, to investigate the business competencies needed for success in business, demonstrated that entrepreneurs surveyed were moderately skilled, and they felt that they needed entrepreneurship skills training in areas such as creativity and innovation; the skills to make a business account; creating promotions and advertising skills; skills to set the right prices and selling skills. The study showed that through training needs assessment, critical issues regarding entrepreneurship training can be highlighted and emphasis given to areas that need to be trained on for business success. However, the sample was small.

A similar study in India by Rajani (2008) emphasized that intensified effort has to be taken to assess the social attitude, mentality, needs and abilities of various entrepreneurs so as to impart effective entrepreneurship training. The training needs assessment is key since different individual have different needs. Thus, flexible training programmes and interest based skill training are necessary to push different entrepreneurs towards specific entrepreneurial activities. The argument is that entrepreneurial talents and capabilities are different in all communities but their translation to innovative action depends on appropriate stimuli and environment.

These stimuli can be identified through training needs assessment which would enhance appropriate training programme. The study was limited in scope as it only focused on social attitude, mentality, needs and abilities. The relationship between training needs assessment and organizational performance has been demonstrated in literature. A study by Nadeem and Hafeez (2016) on significance of training needs assessment on employee training in corporate sector of Pakistan, established that training needs assessment plays an
important role in organization most importantly when giving training to employees. The study focused on the employees of the corporate sector. Further, entrepreneurial skills were not evaluated.

Another study by Huka, Mbugua and Njehia (2015) to determine the effects of business training needs analysis on competencies of trainees in Marsabit, Kenya established that lack of training needs assessment has a negative effect on acquiring business competencies. The study however focused only on youth and women groups in Marsabit County, Kenya. The reviewed empirical literature did not address training needs assessment in the SMEs in ICT sector in Kenya. This study established the relationship between training needs assessment and SMEs performance in the ICT sector in Nairobi City County. It established the gaps in training that are in the ICT sector and made recommendations on how they can be addressed through entrepreneurship training.

2.3 Research gaps
The conceptual and empirical reviews demonstrated a relationship between the training needs assessment, and SMEs performance. Further, the review highlighted that there is a relationship between training and SMEs performance. Despite this, the context of the reviewed literature was general on SMEs performance and did not explicitly refer to the ICT sector in Kenya. Performance was measured by financial and non-financial indicators. Sales figures and profit margins were used to measure financial indicator since they were more specific to measure and made the study remain objective. While number of new products introduced and customer satisfaction were used to measure the non-financial indicators.

3. METHODOLOGY
3.1 Research Design
The study adopted a mixed research design (Creswell, 2009). Both qualitative and quantitative data was used to describe the relationship between training needs assessment and SMEs performance in Nairobi, City County, Kenya.

3.2 Study Population
The target population for this study was 273 SMEs in the ICT sector in Nairobi County, Kenya that successfully received entrepreneurship training from Kenyan ICT Authority prior to 2012. Data was also collected from three trainings managers who implemented the trainings for ICT Authority. The study sampled those who were trained prior to 2012 to give the trainee enough time to implement the skills acquired.

3.3 Sampling and Sampling Frame
A list of all the 273 SMEs ICT who had received entrepreneurship training from ICT Authority prior to 2012 formed the sample frame. The study used systematic random sampling to get a representative sample from the list of trained SMEs ICT from the ICT Authority. The use of systematic random sampling was preferred because it is simple, convenient, unbiased and helps in random selection. From the list of the trained SMEs ICT starting from a randomly selected point, every other fourth organization was selected to participate in the study. This gave a sample size of 73 (26.7%). Mugenda (2008) indicates that a sample size of 10% - 40% of target population is large enough so as to allow for reliable data analysis and allows testing for significance of differences between estimates. Secondary data was obtained from the ICT Authority and SMEs ICT database (document analysis, brochures, curriculum analysis) as well as SMEs ICT financial reports.

3.4 Data Collection
A survey questionnaire was used to collect primary data while document analysis guide was used to collect secondary data from the respondents. Secondary data included records of sales volumes and profit margins from the SMEs ICT. Secondary data also included brochures and training curricula from ICT Authority. Kiess and Bloomquist (1985) observed that questionnaires offer considerable advantage in administration; presents an even stimulus potentiality to large numbers of people simultaneously and provides the investigation with an easy accumulation of data. Gay (1992) maintains that questionnaires give respondents freedom to express their views or opinion and make suggestions.

3.5 Data Analysis
The study generated both qualitative and quantitative data. Quantitative data was coded and entered into Statistical Packages for Social Sciences (SPSS Version 24.0) for analysis. Qualitative data was analyzed based on the content matter of the responses. Responses with common themes or patterns were grouped together into coherent categories. Descriptive statistics involved use of absolute and relative percentages, frequencies, measures of central tendency and dispersion (mean and standard deviation respectively). Regression analysis was used as the inferential statistics to establish the nature and magnitude of the relationships between the variables and to test the hypothesized relationships.
4. FINDINGS AND DISCUSSIONS

4.1 Response rate

The study achieved response rate of 69.9% (51 responses) meaning that the data was collected from more than half of the targeted participants. This response rate was above the 50% mark, which according to Mugenda and Mugenda (2008) should be met to ensure data adequacy for analysis and reporting.

4.2 Descriptive Findings

The training needs assessment was evaluated by use of the questionnaire and document analysis. The questionnaire was inform of a five Likert scale, where 5=very large extent; 4=large extent; 3=some extent; 2=little extent; and 1=very little extent.

<table>
<thead>
<tr>
<th>Table 1: Descriptive Statistics for Training Needs Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td>Individual focus (Trainee’s interpersonal skills)</td>
</tr>
<tr>
<td>Task focus (Trainee’s Technical skills)</td>
</tr>
<tr>
<td>Organizational focus (Trainee’s management skills)</td>
</tr>
<tr>
<td>Aggregate score for training needs assessment</td>
</tr>
</tbody>
</table>

Source: Survey Data (2016)

Table 1 shows that the respondents indicated that the training organizations focused mostly on trainee’s technical skills (M=4.20; SD=0.85) followed by trainee’s management skills (M=3.92; SD=0.77) and trainee’s interpersonal skills (M=3.65; SD=0.70). ICT is technical area and one needs to understand the basics before engaging in management issues. This is in line Firdousi (2013) assertion that the basic purpose of training needs assessment is to identify knowledge and skill that people must possess to perform effectively on the specific tasks.

The document analysis revealed that all the trainers conduct training needs assessment before engaging the trainees. This is in line with the Kaufman and English (1979) training needs assessment theory, which proposed that for a solution to be effective, the actual need to be addressed must be identified before selection of an intervention. Applying this in entrepreneurship training involves a systematic process of assessing the training needs of trainees in line with the organizational objectives before choosing and implementing training programmes, which facilitate enhancing of the organizational performance.

The document analysis revealed that training needs assessments focused on individual focus, task focus and organizational focus on highlighting entrepreneurial competences, technical capabilities and managerial capabilities of the trainees. This was in line with the content of training offered to the trainees. Training needs assessment had a positive influence on the business performance. The document analysis also revealed that the ICT firms vary as they offer various products and services such as computer software development, mobile devices, software development, hardware assembly, web based technologies among others. Hence, addressing the specific needs for each category is not easy for the trainers, which results to some of the needs of the trainees not being adequately addressed. This is supported by Watkins and Kaufman (2002) who posit that needs assessment requires ascertaining what the circumstances are at a point in time, what is to be desired in the future, and a comparison of the two.

Further, Needs assessment also includes making judgments with regard to needs and putting them into prioritized order to guide decisions about what to do next. This might not be easy with entrepreneurship trainings as the firms are not similar and have varying objectives. The variations are also enhanced by the level of education of those operating ICT firms. The study showed that highest education level of the owner/managers of the SME ICT varies ranging from diploma certificates to master’s degree. This means that addressing the specific needs at a specific training when all the levels are combined, would be challenging to the trainer and some of the trainees would be lost in the training process.

4.3 Inferential findings

The study sought to establish the relationship between the training needs assessment and firm performance. This was guided by the following null hypothesis:

Ho, Training needs assessment does not influence performance of the Small and Micro ICT enterprises.

The regression model summary in Table 2 shows as a positive influence of the independent variable (training needs assessment) on the dependent variable (firm performance). The $R^2$ of 0.219 indicates that training needs assessment explains 21.9% variability in the dependent variable (firm performance). Hence training needs assessment has a positive influence on firm performance.
Table 2: Model Summary for Training Needs Assessment

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.468</td>
<td>.219</td>
<td>.203</td>
<td>.809</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), TNA

The F-ratio in Table 2 shows that the independent variable (training needs assessment) statistically significantly predict the dependent variable, $F(1, 47) = 13.188$, $p < .05$. Hence training needs assessment has a positive significant influence on firm performance.

Table 3: ANOVA for Training Needs Assessment

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>1</td>
<td>8.626</td>
<td>8.626</td>
<td>13.188</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>47</td>
<td>.654</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>48</td>
<td>39.365</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Performance
b. Predictors: (Constant), TNA

The general form of the equation to predict Performance from training needs assessment:

\[
\text{Predicted Performance} = 1.997 + 0.497 \times \text{Training Needs Assessment}
\]

This means that every unit increase in training needs assessment factor leads to 0.497 increase in the performance factor.

Table 4: Coefficients for Training Needs Assessment

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>1.997</td>
<td>.542</td>
<td>3.684</td>
</tr>
<tr>
<td></td>
<td>TNA</td>
<td>.497</td>
<td>.137</td>
<td>3.632</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Performance

In summary, a linear regression was run to predict performance from training needs assessment. The null hypothesis was that there is no significant relationship between training needs assessment and firm performance. At 95% confidence level, the regression showed a p-value < 0.05, thus we reject the null hypothesis that, there is no relationship. Hence, we conclude that training needs assessment has a statistically significant relationship with firm performance. That is, the independent variable (training needs assessment) statistically significantly predict performance, $F(1, 47) = 13.188$, $p < .05$, $R^2 = .219$. The finding revealed that increase in training needs assessment factor leads to an increase in firm performance.

This is in line with findings by Firdousi (2013) that the basic purpose of a training needs assessment is to identify the knowledge and skills that people must possess in order to perform effectively on the job. Hence, focusing on the identified need and meeting the need through training improves performance of the organization.

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The study sought to assess the extent to which training needs assessment influences the performance of Small and Micro enterprises in ICT sector in Nairobi City County, Kenya. Regression results indicated that training needs assessments had a positive statistically significantly influence on performance of SME ICT in Nairobi City County, Kenya. However, the specific needs of individual firms vary. Therefore, addressing the specific need for each category and each firm is not easy for the trainers, which results to some of the needs of the trainees not being adequately addressed. The study also revealed that training needs assessment focused on highlighting entrepreneurial competences, technical capabilities and managerial capabilities of the trainees. However, trainers focused mostly on trainees’ technical skills, followed by management skills and interpersonal skills.

5.2 Conclusions

Training needs assessments positively influence business performance of Small and Micro Enterprises in ICT sector, Nairobi City County Kenya. This implies that the more trainers conduct training needs assessment, the more they will tend to understand better the needs of the trainees, hence the needs will be addressed during the training. Therefore, trainers should strive to conduct training needs assessments before conducting entrepreneurship trainings. This will enable them know the specific needs of the trainees so as to adequately address the identified needs.

5.3 Recommendations

The study highlighted that training needs assessment positively influence performance of SMEs in ICT sector in
Nairobi City County Kenya. Thus, trainings should be organized according to trainees’ needs, which vary based on demographics and specific business activities. Further, trainers need to take into account these variations and cluster trainees where need be to ensure effectiveness of the trainings. The Ministry of trade should guide through policy on the importance of conducting training needs assessment to address a specific needs of the trainings.

REFERENCES