

7

Impact of TVET Institutions as Drivers of Innovative Skills for Sustainable Development in Kenya

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Abstract

Technical and Vocational Education and Training (TVET) institutions have been identified as the channels through which youth can acquire innovative skills for adaptation, innovations as well as for either salaried or self employment. Consequently and in recognition of the role that TVET graduates are expected to play in achievement of the Kenya Vision 2030 among other achievements in the Kenyan economic development, the government has put in place interventions geared towards enhancing technical capabilities amongst the youth. These interventions include improvement of business environment through appropriate policy frameworks for the TVET graduate owned micro and small enterprises (MSEs) to thrive. This study aimed at determining innovative skills prevalent amongst TVET graduate businesses; investigating effect of innovative skills to TVET graduate business performance; and, discovering challenges faced by TVET graduate enterprises in applying innovative skills for sustainable development. The study focused on micro and small enterprises owned by TVET graduates in Embu District of Kenya. A descriptive research design was used to carry out the study. Stratified random sampling technique was employed to select the sample. A questionnaire and a focused group discussion were the main method applied for data collection. Quantitative data was electronically analyzed using the Excel computer software. From the study, it was found that despite a lot of relevant skills being imparted to the youth in TVET institutions, access to credit, technical support, and access to technology and information still remain the main impediments to growth and sustainability of TVET graduate enterprises. Among key recommendations from the study are that TVET graduate enterprises need to be provided with adequate finances, tools and equipment and frequent field visits to performing enterprises for benchmarking and to upgrade their business skills.

Key Words: Micro and Small Enterprises (MSEs), TVET Graduate Enterprises

Introduction

In recognition of the role that Technical, Vocational and Entrepreneurship Training (TVET) Institutions are expected to play in imparting skills for adaptation, innovations as well as for either salaried or self employment (GOK, 2012), the government has provided a lot of resources to enhance technical capabilities amongst their graduates (GOK, 2004, GOK, 2005). With the skills, it is assumed that youth will be able to make independent technological choices to adapt and improve upon chosen techniques and product and eventually to generate new technology, endogenously (Van Dijk, 2001). To enable the TVET graduates play a pivotal role in the achievement of the Kenyan Vision 2030, the government has also put in place interventions towards improving the business environment through appropriate policy frameworks (GOK, 2007; GOK, 2009).

Statement of the Problem

Despite the central role of MSEs in employment, industrial transformation and poverty reduction and the government's efforts of putting in place interventions geared towards improving the business environment through appropriate policy frameworks (GOK, 2007, GOK, 2009), it has been noted that the competitiveness and growth prospects of MSEs in Kenya fall below the levels required to meet challenges of increasing and changing basis for competition, shifting patterns of legislation and regulations, tumbling trade barriers and fragmentation of markets (Moyi and Njiraini, 2005). Specifically, the baseline survey of 1999 estimated that 80% of the MSEs fail within their first three years after start-up due to problems related to appropriate technology (GOK, 2001). This study aimed at finding reasons for this so as to bridge the research gap. It was to investigate the impact of TVET Institutions as drivers of innovative skills for sustainable development

Research Objectives

The specific objectives of this study were as follows:

1. Determining innovative skills prevalent amongst TVET graduates
2. Investigating the effects of innovative skills to performance of TVET graduate owned businesses
3. Assessing challenges faced by TVET graduate owned enterprises in applying entrepreneur's skills
4. Finding out interventions necessary to boost use of innovative skills for sustainable development amongst TVET graduate owned businesses

Significance of the Study

This study will be useful in many ways:

To donor agencies: The findings will be of great assistance to donors as they will be able to engage suitable business development agencies (BDS) to help MSEs improve their technological capabilities, become innovative to improve quality of their products to survive.

To the Business Owners: Information from this study will be useful to both potential and practicing entrepreneurs to realize their weaknesses/shortcomings and rectify them to maximize beneficial effects for their businesses.

To TVET Institutions: The findings from this study will help TVET institutions to design their teaching methodology in a way it will be most beneficial to their graduates

To the Government: The findings will be of great assistance to the government in its policy making process as it will improve those inhibitors to innovativeness amongst its MSEs.

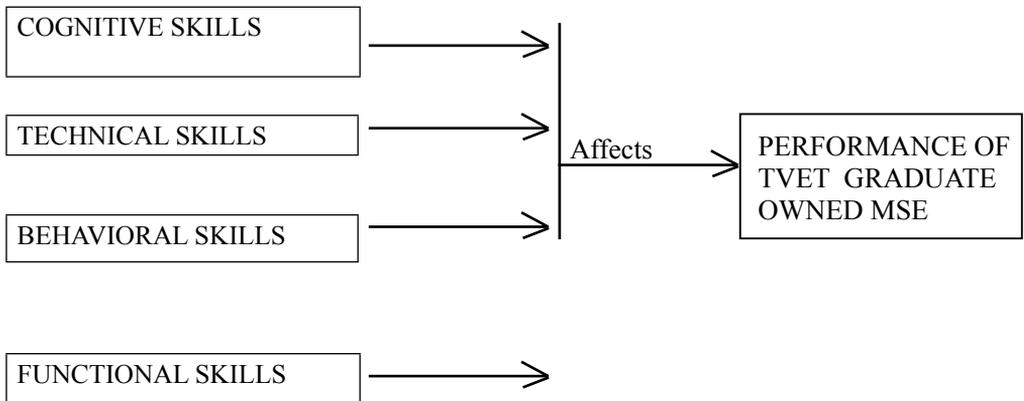
To Future Researchers and Scholars: The scholars, researchers and students of entrepreneurship development will be given support information by this study to pursue further studies in the same area or elsewhere.

Definition of Terms

Micro and Small Enterprises (MSEs): A micro or small enterprise is an undertaking, which employs between 1 and 20 employees, with capital investment of not more than kshs 30 million. Operational and administrative management lies in the hands of one to three persons who usually make major decisions (Kithae et al., 2012).

Theoretical Background and Literature Review

This chapter reviews literature with special focus on the extent to which TVET graduates have utilized innovative skills acquired to improve quality of their products for the growth and sustainability of their businesses. The paper conceptualized that the various ingredients of innovative skills affect performance of TVET graduate owned MSEs as shown in figure 2.1



Independent Variables

Dependent Variable

Fig 1: Conceptual Frame Work

The variables in the conceptual framework can be explained as follows:

Functional Skills

Functional skills help an individual to know his or her strengths. They are competencies that are transferable to many in different work settings. To students of TVET institutions, these skills are imparted in the classroom setting. The Kenyan government has enhanced acquisition of these skills through provision of funds for textbooks and other learning materials in the subsidized tertiary education fund (GOK, 2004; GOK, 2005). These skills include communication skills which help an individual to exchange, convey, and express knowledge and ideas, write, edit, summarize, verbal communication, listen, facilitate discussion, consult, teach, train, sell, promote, use languages, interview, ask questions, make presentations, negotiate, think on one's feet, conversational ability, entertain, perform, host, deal with public, public speaking and teamwork; information management skills; organization management skills; design and planning skills; research and investigation skills; human service skills and physical skills.

Behavioral Skills

According to Arnold P. Goldstein, behavioral skills help an individual to deal with commonly occurring issues like answering a complaint; avoiding trouble with others, concentrating on a task, convincing others, dealing with accusations, dealing with embarrassment, dealing with fear, dealing with group pressure, dealing with someone else's anger, getting ready for a difficult conversation and having a conversation (Goldstein, 2012). Behavioral skills are best acquired in sports and games as well as in other social events that TVET institute youth are exposed to. To promote these skills, the Kenyan government has provided resources in form of sports and games vote head of the subsidized tertiary institute education fund, and ministry of youth affairs and sports development fund among others (GOK, 2006).

Cognitive Skills

Cognition is a group of mental processes that includes attention, memory, producing and understanding language, solving problems, and making decisions (Goldstein, 2012). Cognitive skills are imparted in various disciplines such as psychology, philosophy, linguistics, science and computer science. The term's usage varies in different disciplines; In psychology, cognition apply to processes such as memory, association, concept formation, pattern recognition, language, attention, perception, action, problem solving and mental imagery(<http://en.wikipedia.org/wiki/cognition>" note downloaded on 13th august 2012). Cognition skills are mainly learnt by (TVET) institute candidates while designing technical projects for science congress or for final technical examinations. The government has been promoting acquisition of these skills through provision of instructional and training materials for project vote head of the subsidized tertiary institute education fund (GOK, 2004, GOK, 2005).

Technical Skills

In an ever more complex, technology-driven society, it is imperative that one has the necessary skills to succeed in life. Technical skills refer to a whole range of skills, from the very specific technical skills required of life and one's work to the subtle, yet critical interpersonal and psychological skills demanded by life. The most fundamental type of skills that one must have to achieve in life are technical skills and include those required of life in general such as cleaning, cooking, grooming, organizing and planning among others. Technical skills building is an on-going, never-ending process and consist of the very basic technical skills required of your specific job.

Research has shown that people who often succeed the greatest in their careers are people who have unique skills in a particular area, causing them to stand out among the crowd (Kithae et al.2013). As a skill gets performed over and over, it becomes almost second nature (it becomes a habit). As the skill becomes more integrated into your being, it moves from your conscious awareness of performing the act involved in the skill down into a subconscious level where it operates on an almost "automatic pilot" of execution. It is done without any great effort and is done with a sense of calm and joy. The government has been promoting acquisition of these skills through provision of instructional and training materials to tertiary institutes (GOK, 2004, GOK, 2005).

Research Methodology

The study focused on micro and small enterprises owned by TVET graduates in Embu District of Kenya. A descriptive research design was used to carry out the study as Gall and Borg (1989) noted that descriptive studies by nature emphasize interpretation. Stratified random sampling technique was employed to select the sample. This sampling technique gives all target population within a stratum an equal chance of being selected. It is objective and the results can be representative and generalized. The technique also makes it probable that the sample is approximately the same as the population on the variables to be studied (Borg & Gall, 1988 and Kothari, 1999). The study area was divided into five business locations and entrepreneurs from each location were brought together to fill a self administered questionnaire, being assisted by the researcher. Thereafter; the same group members discussed (in form of a focused group discussion) major issues affecting their businesses as they clarified some of the responses in the questionnaires.

From the focused group discussions, issues like skills most prevalent; how these skills serve business needs; challenges faced in applying the skills as well as interventions necessary to enhance use of the skills were extensively discussed. Qualitative data was manually analyzed using the researcher's insight and research skills and the emerging issues were then operationalized for content analysis and to make meanings and importance of the study. Quantitative data collected through questionnaires were also analyzed using excel computer package to reveal relationship between the dependent and the independent variables. Table 3.I below shows how the target population's trade area was stratified.

Table 1: Sample Sizes According to Sub Sectors

Trade Area	No. Of Registered Businesses (N)	Sample Size (N)
Wood work technology	87	25
Metal work technology	55	15
Automotive engineering	10	4
Building technology	3	1
Total	155	45

Research Findings and Discussion

This section examines the research objectives formulated in relation to the findings obtained. Conclusions and recommendations were subsequently given being based on information generated from the analysis of the questionnaire.

Summary of the Findings

The study revealed that 45% of all respondents applied technical skills, 28% applied

behavioral, 17% applied cognitive skills, 14% applied functional skills while 1% applied others. These findings tend to reflect situations on the ground where trainees’ major essence of being in a technical institution is to acquire technical skills in the form of Wood work technology, Metal work technology, Automotive engineering and building technology among others. Figure 4.1 below shows this relationship.

How Innovative Skills Serve Business Needs

When asked to state the extent to which use of innovative skills addresses their business performance, 42% indicated very much; 35% fairly well; 14.6% said not much and 8.7% stated not at all. These results corroborates with Biggs et al.(1995) as he states that high technology firms which have invested in research and development have higher productivity than firms which have not. He proceeds to say that investment in technology add about 25% to value (Biggs, 1995). According to Gichira (1999), technology in form of human capital helps MSEs achieve effectiveness of financial assistance and strengthens communication channels. Buainainn (2002) on the other hand states that appropriate technology help SMES to operate in low-skill spheres with local materials and resources. This implies that through innovative skills, MSEs perceive that they are able to enhance their business performance.

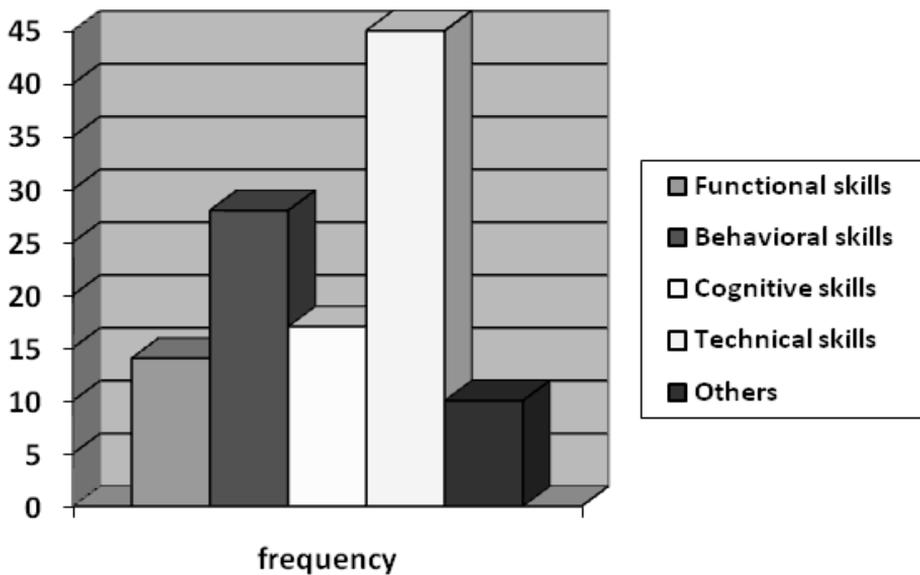


Fig. 2: Respondent’s Views on Innovative Skills Prevalent amongst TVET Graduate Owned Enterprises

Relationship between Innovative Skills and Increased Output

When respondents’ views on use of innovative skills are plotted on a scatter diagram against its effect on increased output, the results show a positive correlation between use of innovative skills and performance of MSE (increased output). However, this relationship is very weak. This concurs well with (UNIDO, 2004) that MSES lack capabilities to produce efficiently, meet deadlines, upgrade product quality and evolve

new product design. This view is also shared by Tyler Biggs, Manju Shah and Pradeep Srivastava that where firms are purported to have lower technological capabilities, where training resources are of lower quality and where markets exhibit many more distortions, one might expect to observe much smaller returns to these investments than in more advanced countries (Tyler et al. 1995). This implies that MSEs are not benefiting much from use of innovative skills; possibly due to lack of capabilities to use the skills.

Challenges faced in Applying Innovative Skills to Enhance Performance of MSEs

When asked the challenges they face in applying innovative skills in their enterprises their responses were as in figure 4.3. These results concur well with Moyi (2005) who observes that Kenya's productive and investment capability is constrained by factors such as high cost of equipment and machine components; Gichira (2002) who concludes that widening gap between the technological capabilities employed by African firms and those employed by firms in other parts of the world are caused by inadequate funds; and Biggs, Shah and Srivastova (1995) who asserts that studies in African countries reveal that Africa exhibits much more inter firm technological heterogeneity than other developing regions (due to lack of funds); and Patel (1986), Chambers (1967) and Albu (1997) who conclude that entrepreneurs need skills, knowledge as well as financial resources to be able to assimilate change and create technology. These discussions imply that the most important challenge in using innovative skills is insufficient funds as one require funds to be trained, to buy equipment with the right technology, to sub-contract and to sub lease, among others.

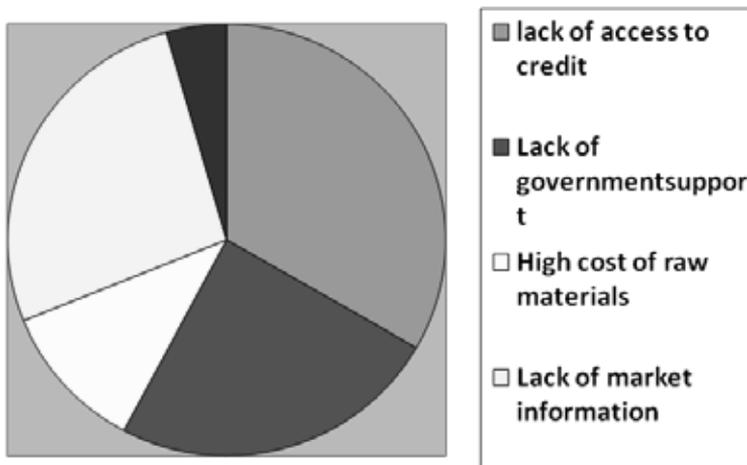


Fig. 3: Respondents' Views on Challenges Facing their Enterprise

Chambers (1967) also goes ahead to observe that the measure of survival and success-solvency, net income, growth in assets, employment creation and others are all measured in monetary terms and rests around the firm's financial management. (Chambers, 1967). Likewise, these findings concurs well with Gichira et al. (2002) who argued that a suitable legal and regulatory framework should be in place to enable MSEs to respond appropriately while concurrently protecting local enterprises and consumers from unfair and unsafe practices. According to Gichira et al, (2002) the rules that need to be adopted are laws on removal paper-based obstacles

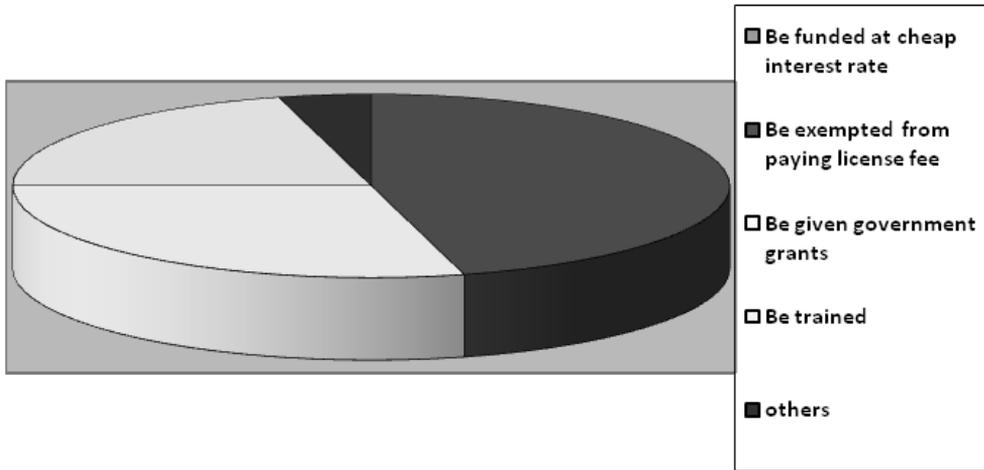


Fig. 4: Response on Interventions Necessary to Boost Use of Innovative Skills

Conclusions and Recommendations

In conclusion, there is a general consensus that a lot of relevant skills are being imparted to the youth in TVET institutions through the government's effort. It is also evident that all entrepreneurs are applying innovative skills in different ways to enhance performance of their enterprises. These skills have also impacted positively on MSEs growth. However, despite all these efforts, access to credit, technical support, and access to technology and market information still remain the main impediments to growth and sustainability of TVET Graduate enterprises.

To make TVET institute graduate owned MSEs be able to benefit more from innovative skills for sustained development, it is recommended that they be given the necessary assistance to enhance their capability to produce efficiently, meet deadlines, upgrade product quality and bring out new product designs. To this end, it is recommended that these enterprises be provided with adequate finances, relevant tools and equipment and frequent field visits to performing enterprises for benchmarking and to upgrade their business skills.

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