

ROLE OF FOREIGN DIRECT INVESTMENT IN FACILITATING ENTREPRENEURIAL INTENTIONS THROUGH TECHNOLOGY TRANSFER IN KENYA

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ABSTRACT

Technology transfer is a key benefit of Foreign Direct Investments (FDIs) in the developing countries. It is closely related to the process of human capital formation. Transfer can happen through engagements such as the FDIs subcontracting local firms and suppliers, training programs of employees, raising standards in workplace environment and other spin-off benefits. There is a strong believe that FDIs have superior production technology and management techniques, some of which are transferred or diffuse to local firms when the FDIs locate in a particular economy. Kenya has attracted a large number of FDIs from various parts of the world over the years. However, no extensive research has been undertaken on the contribution of FDIs to entrepreneurship growth in Kenya. This paper analyses the contribution of FDIs in influencing entrepreneurial intentions among the Kenyan employees through technology transfer. It is based on a study carried out in Kenya to identify the role of foreign direct investment in promoting entrepreneurship growth through entrepreneurial intentions among local employees. The study adopted a descriptive research design and targeted FDIs located within Nairobi County. A multistage sampling technique was used with the first step sampling the FDIs, 30 firms were selected. The second step involved sampling of employees within the firms and a sample of 256 was selected. A questionnaire was used for data collection. To verify its validity a pilot study was carried out and the Cronbach alpha reliability index of 0.70 was used. For data analysis there was use of the Statistical Package for Social Sciences (SPSS), t- tests and the Analysis of Variance (ANOVA). The findings revealed that foreign investors enhanced entrepreneurial intentions among the local employees through technology transfer.

Key Words: *Entrepreneurship, Entrepreneurial intention, Foreign Direct Investment (FDI), Human capital and technology transfer*

Introduction

Foreign Direct Investment is considered as a key factor or necessity for the growth of developing countries in view of its multiple impacts. Foreign capital inflows are expected to enhance skills and know-how, improve efficiency in the use of resources, and enhance trade (UNIDO, 2003). The role of FDI as a source of technology has grown over time, with the increase in technological change. Multinational enterprises (MNEs) continue to dominate the creation of technology. Their importance has increased with the rising costs and risks of innovation. The country that gets foreign direct investment from another country can also develop the human capital resources by getting their employees to receive training on the operations of a particular business (OECD, 2001).

The impact of FDIs on the process of economic development has been a topic of discussion since 1960s. Among the many benefits observed, one important one is that FDIs allow the transfer of technology. They are a powerful and effective means to disseminate technology from developed to developing countries, and are often the only source of new and innovative technologies that are usually not available through the market (OECD, 2001). Technology disseminated through FDIs generally includes the 'entire package' which may include experts (who could be the employers), skills (which could be acquired through training) and the financial resources to exploit the technology appropriately.

Studies show that technology is important for entrepreneurship growth and that technology and entrepreneurship are tightly related. Successful entrepreneurs view technology as a means to an end, and not an end of itself. They leverage technology in order to help them achieve their goals quickly as technology accelerates ideas towards success (Collins, 2001). Technology means having the knowledge of both tools/machines and the methods/procedures of production. To overcome the various challenges that entrepreneurs encounter, today's entrepreneurs develop innovative products, efficient production techniques and effective technology management (Wani & Satyendra, 2008).

From a psychological standpoint, the intention to become an entrepreneur has been described as the single best predictor of actual behavior (Ajzen, 1991; Kolvereid, 1996). Entrepreneurial intentions are one of the most relevant elements within the individual's cognitive process leading to start up a venture (Krueger, Reilly & Casrud, 2000). These intentions influence the individual's behavior by capturing the motivational factors. Katz and Gartner (1988) define entrepreneurial intention as the search for information that can be used to help fulfill the goal of venture creation. On the other hand, Hisrich et al (2008) define it as the motivational factors that influence individuals to pursue entrepreneurial outcomes while Bird (1988) stated that intention is a state of mind that directs a person's attention, experience, and behavior towards a specific objective or method of behaving.

Intentions act as a permanent or constant filter for understanding the complex relationships, resources and exchanges necessary for venture creation. Entrepreneurial intentions describe the degree of commitment directed towards the performance of the entrepreneurial endeavor of putting up a business (Krueger & Carsrud, 1993; Drennan, Kennedy & Renfrow, 2005; Souitaris et al., 2007). Therefore, intentions can be used to measure the effort planned by an individual to perform the behavior of firm creation.

Studies show that exogenous factors significantly influence attitudes towards entrepreneurship which, in turn, influence entrepreneurial intentions. These studies assert that exogenous factors such as skills, experience, technology transfer, role models, knowledge, and personality traits influence attitudes (Learned, 1992). This study applied Ajzen's theory of planned behavior to verify if FDI offers the exogenous factors that enhance entrepreneurial intentions among their local employees. It is one of the best-supported social psychological theories with respect to predicting human behavior (Sommer, 2011). This theory has been adapted to study the intention to start a business venture (Krueger, 1993; Krueger et al., 2000; Kolvereid, 1996; Fayolle & Gailly, 2004). This study sought to verify if FDI offers technology transfer as an exogenous factor that enhances entrepreneurial intentions among the Kenyan employees.

Literature Review

Technology is an abstract term, with three main characteristics which can be identified (Bassant & Chandra, 1999). Technology can be characterized by the knowledge that is embodied in products, processes and practices. Products comprise the knowledge of how things work, their design, and their interface with other products. Processes comprise knowledge on how a product can be produced or changed. And practices consist of the routines necessary to manage the product-process combination and the knowledge re-generation process.

Technology transfer is a key benefit of FDI activity in developing countries and is closely related to the process of human capital formation, and increases the absorptive capacity of the host country workforce. Transfer can happen through many channels such as subcontracting to local firms and suppliers, training programs of employees, raising standards in workplace environment and other spin-off benefits. There is a strong belief that multinational enterprises possess superior production technology and management techniques, some of which are captured by local firms when multinationals locate in a particular economy (Davies, 1977; Teece, 1977).

Multinational firms are among the most important players in the world responsible for creating and controlling technology. FDI involves the transfer of not only capital but also technology and knowledge from home to host countries. Using better technologies offers possibilities to increase productivity and hence economic growth and development. Hence it is not surprising that many countries view investments by those MNEs as one of the most important means to acquire technology and knowledge to upgrade their own production base (OECD, 2001).

Foreign Direct Investment can also be a source of technology transfer to domestic firms when the presence of a foreign firm generates productivity or efficiency benefits for the host country's local non-affiliated firms. Liu (2008) distinguishes between the level and rate effects of spillovers on the productivity of domestic firms which can go in opposite direction. One of the main findings is that FDI indeed is a vehicle for technology transfer. There is evidence that FDI affects productivity of domestic firms through technology spillovers (Dimelis & Louri 2004; Suyanto et al. 2009; Takii 2009; Kuo & Yang, 2008; Liu, 2008; Driffield et al. 2010; Bekes et al, 2009). However, few studies find that FDI restrains technology spillovers (Zeng et al. 2009; Lin et al. 2009).

FDI can contribute directly to technology transfer by using processes and knowledge from the firm's headquarters in foreign subsidiaries. Besides the technology, FDI brings the needed complementary resources such as management experience and entrepreneurial abilities, which can be transferred by training programs and learning by doing (Baldwin et al, 1999). FDI is the most important means of transferring technology to developing countries. Furthermore FDI is only one of the various means available for a firm to transfer technology outside its home country, or that a host country can use to acquire technology.

Research Methodology

This study used a descriptive research design. The target group under study was Kenyan nationals employed in foreign owned organizations located within Nairobi Kenya. The total population of approved and registered foreign direct investments in Kenya from year 2000 is 821 with a total of 74,299 local employees. The sampling frame consisted of 770 local employees working in the 66 foreign investments located within Nairobi County. A sample size of 235 local employees was selected from a sample of 30 foreign firms.

Questionnaires were used for data collection. Out of the 235 questionnaires distributed 201 were returned. This was an 85% response rate. It is an acceptable response rate. According to Babbie (2000), in a descriptive research, a response rate of above 50% is adequate for analysis. Mugenda and Mugenda (2003), observe that a response rate of 50% is adequate, and 60% is good while 70% and above is rated as being very good. Descriptive and inferential statistical techniques were used to organize data while the SPSS a statistical software package was used to analyze the data. The ANOVA was used to analyze the degree of relationship among the variables.

Research Results

In order to establish if the respondents acquired new technology which is an exogenous factor that enhances entrepreneurial intention, the researcher found out that 41% strongly agreed that they had acquired new technology. 53.2% agreed, while 4.5% disagreed. Utilization of technology is also determined on the knowledge one has on it. The researcher also found that 96% of the respondents had acquired the relevant knowledge and 4% had not. Individual skills and abilities accumulated by the employees are some predictors of entrepreneurial activities

(Wiklund & Shepherd, 2003) thus triggering entrepreneurial intentions. Knowledge, as Shane (1999) defines it is the stock of information generated through one's prior experiences and it influences entrepreneurial intentions.

Hypothesis Testing

Using the Pearson Correlation (table 1), the results indicated that there is a positive correlation between entrepreneurial intention and technology transfer. This means that as employees are exposed to the foreign technology used in the FDIs, the higher their entrepreneurial intention get.

The researcher also used the two tailed significance to determine if there is a statistically significant correlation between the two variables. The sig. (2-tailed) value was 0.000 with α being 0.05. This implies that there is a statistically significant correlation between entrepreneurial intention and technology transfer. Therefore, the more technology is transferred to employees in the FDIs, the more their entrepreneurial intention grows thus the higher the chance of entrepreneurship growth.

Table 1: Pearson's Correlations

		Entrepreneurial intention	Technology Transfer
Entrepreneurial intention	Pearson Correlation	1	.561**
	Sig. (2-tailed)		.000
	N	201	201
Technology Transfer	Pearson Correlation	.561**	1
	Sig. (2-tailed)	.000	
	N	201	201

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

Although there is evidence of a relationship between the two variables, a test was carried out to test if this relationship was statistically significant. This was done by use of the null and alternative hypothesis, $H_0: b_1 = 0$ and $H_1: b_1 \neq 0$ respectively.

As indicated on table 2, $t\text{-calc} = 9.565$, while $t\text{-critical} = 1.972$ (with 0.05 as alpha level of significance and 199 as the degree of freedom). Hence $t\text{-calc} 9.565 > t\text{-critical} 1.972$, so the null hypothesis ($H_0: b_1 = 0$) was rejected and the alternative ($H_1: b_1 \neq 0$) was accepted meaning that there is a statistically significant linear relationship between entrepreneurial intention and technology transfer. There is statistical evidence that technology transfer is useful for predicting entrepreneurial intention which leads to entrepreneurship growth.

Table 2: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.391	1.099		1.266	.207
	Technology Transfer	.769	.080	.561	9.565	.000

The researcher used the F-Statistic to test the overall significance of the regression model (table 3). To do this, the hypothesis $H_0: b_1 = 0$ and $H_1: b_1 \neq 0$ were used. The null hypothesis (H_0) was rejected ($F_{\text{calculated}} > F_{\text{critical}}$) and the alternative was picked. This implied that the model $Y = b_0 + b_1X_1 + e$ used is fit and can be used to make predictions.

Table 3: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	517.406	1	517.406	91.481	.000 ^a
	Residual	1125.523	199	5.656		
	Total	1642.929	200			

Discussion

The study established that a significant relationship exists between transfer of technology and entrepreneurial intention. This indicated that Kenyan employees working in the FDI's had acquired new technology. This was acquired either through training, copying or just as a slip-over effect from their employers. The findings further revealed or demonstrated that the technology acquired was simple in utilization (91%), meaning that they could easily transfer the technology elsewhere, and in particular would apply it in their own businesses. 57.5% would confidently apply the technology in their own businesses. The acquired technology made them more innovative and enhanced their desire to try out something new.

The indicators used to verify if there was a relationship between transfer of technology and entrepreneurial intention were human capital (knowledge) and employee's work related background. This is in line with other studies that have included human capital as an economic factor in the study of entrepreneurial intention. Ajzen's theory of planned behavior (Ajzen, 2001) uses behavioral attributes as a domain to study entrepreneurial intention. The more one believes that they can transfer the technology acquired, the more confidence they gain and the higher their entrepreneurial intention.

Conclusions

The main objective of this study was to establish the role of foreign direct investors in enhancing entrepreneurial intentions among their Kenyan employees through technology transfer. From the research findings the researcher can conclude that by exposing their employees to new and appropriate technology, they enhance their entrepreneurial intention.

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