

Investigating Relationship of Innovation and Entrepreneurship Adoption Concept and University Competitive Advantage: A Field Study

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Abstract

This paper aims at investigating the relationship between the application of innovation and entrepreneurship system and the university competitive advantage in the Jordanian higher education sector.

To collect the required data, the number of some concerned individuals was surveyed through a carefully designed questionnaire that has become the main instrument to obtain the required data.

A random sample of university managerial staff was withdrawn from five private Jordanian universities. The collected data was audited, reviewed and statically analyzed using the most relevant statistical test. The results of the statistical analysis have clearly pointed out that university adoption of innovation and entrepreneurship system has a significant effect on its competitive advantage.

Keywords: competitive advantage, entrepreneurship, innovation, university

1. Introduction

Developing and improving the process of adopting and applying innovation and entrepreneurship system by educational institutions has become a very critical need and objective. Designing a new curriculum, that focus on a continuous improvement in the process of undertaking innovation and entrepreneurship system should become one of the main priorities of educational institutions in general and universities in particular.

Beyond its significant contribution to the process of initiating new businesses, the implementation of innovation and entrepreneur system can, reasonably, facilitate the goal of creating new jobs opportunities for the new generations. This will participate significantly in the efforts of utilizing the capacities of the youth generation nationally and regionally.

Therefore it might be pertinent to conclude that investing in implementing an innovation and entrepreneur system would provide a feasible return socially and economically. The results of many field studies of Innovation and entrepreneur and related literature has clearly indicate that students who were involved in an innovation and entrepreneurship programs during their educational stages are between 3-6 times more likely, able to create their own businesses later on in their life in comparison with that student who did not participate in such programs.

The increasing importance of the implementation of innovation and entrepreneurship system to the national economy and the whole society has encouraged researchers to pay additional attention to the implementation of this system by higher education institutions in order to build a new generation of young innovators and entrepreneurs. The application of an educational innovation and entrepreneurship system is the most suitable source to develop a necessary innovation and entrepreneurship culture, encouragement, knowledge and other essential skills that required by new generations to be able to launch a successful new business (Cho, 1998).

It might be necessary to know that educational innovation and entrepreneurship is not a universal concept, therefore it should be implemented in compliance with the main national culture context of each individual country (Lee & Peterson, 2000).

2. Literature Review

Quality nowadays is not only considered as a competitive weapon for business organizations but it also has

become the basic core offering, that expected by their customers. Managers have realized that traditional approaches and practices of management and marketing are inadequate means to maintain survival in a highly competitive market (Kandampully & Duddy, 1999).

There are many theoretical contexts and perspectives that attempt to explain competitive advantage. Such as, the classical industrial analysis approach that focuses on the importance of the structure of an industry structure and its position in the market (Porter, 1980). The new emerged concepts of firm's unique resources, core competencies, and dynamic capabilities are rapidly changing the global market environment (J.Barney, 1991; Prahalad & Hamel, 1990; Teece, Pisano, & Shuen, 1997). The time-honored theory of creative destruction has coerced researchers to reconsider the importance of innovation to be able to compete against time which, actually, means ignoring the old equilibrium theory and establishing a new convention to replace it (Schumpeter, 1934, 1950). The knowledge-based perspective indicates that developing a learning organization and creating a knowledge generation are the fundamental basis for competitive advantage in an increasingly information-based economic environment (Senge, 1990; Nonaka, 1991).

Competitive advantage can be defined as characteristics that differentiate a firm from its competitors and create better-added value to its customers.

Table 1 below portrays some of the most commonly used definitions of competitive advantage.

Table 1. Competitive advantage

Author	Definition	Year & publisher
Porter	Competitive advantage is an important element of a company's general performance in a competitive environment. Competitive advantage is the reduction of costs, differentiation of products, or an effective focus strategy. It is the core of a firm's performance in competitive markets	The Free Press 1980
Peteraf	Competitive advantage can be defined as "sustained above normal returns".	Strategic Management Journal, 14, pp. 179–191. 1993
Barney	A firm achieves competitive advantages when its actions in create economic value and when few of its competitors are engaging in similar actions.	Addison-Wesley 2002
Ghemawat and Rivkin	A firm that earns superior financial returns within its sector (or its strategic group) is said to enjoy a competitive advantage over its rivals.	Addison-Wesley, Reading, PA. 1999
Besanko, Dranove, and Shanley	When a firm earns a higher rate of economic profit than the average rate of other firms competing within the same market, the firm has a competitive advantage in that market.	John Wiley & Sons, New York. 2000
Saloner, Shepard, and Podolny	Most forms of a competitive advantage either, mean a firm can provide some service or product to its customers which are of greater value than those provided by competitors or it means offering services or/and products at low prices than competitors do. Competitive advantage is not obtainable from freely tradeable assets. If the intended market position of a privileged product is met or maintained throw the deployment of scarce assets, it will be necessary to take into account the opportunity cost of those assets, in product markets. However, the deployment of such assets does not require a sustainable competitive advantage, due to the fact that they are freely tradeable.	John Wiley & Sons, New York. 2001
Dierickx and Cool		Management Science, 35, pp. 1504-11 1989
Brandenberger and Stuart	"To be a positive added value system a firm need to be quite 'different' from its market competitors.	Journal of Economics and Management Strategy, 5, pp. 5-24. 1996
Hao Ma	Competitive advantage can be defined as the similarities or differences in any firm characteristics or merits that allow a firm to better serve the customers than others, and hence create better customer value and achieve superior performance.	Management Decision, Vol. 37 Iss 3 pp. 259 – 267 1999

Description: Some of the most commonly used definitions of competitive advantage.

The above-mentioned definitions are diversified. They have clearly suggested that there are many different ways

for the business organization to achieve competitive advantages.

A firm can obtain its competitive advantage through one or more of the following methods:

- 1) The ownership or possession of certain valuable assets or characteristics, such as strong market position (Porter, 1980).
- 2) Unique resource endowment (J.Barney, 1991).
- 3) Good reputation (Hall, 1992).
- 4) The opportunity or rights to have distinguished access to inputs and/or markets.(Lieberman & Montgomery, 1988)
- 5) Building an exclusive relationship with the supplier and/or distribution channels.
- 6) Having a superior knowledge, competencies, or capabilities in conducting and managing business processes. (Nonaka, 1991; Prahalad & Hamel, 1990; Teece et al., 1997).
- 7) Producing quality products at lower costs and delivering the right products and/or service to customers in the right place at a relevant price and time through the right channels (Ma, 1999).

This paper focuses on the influence of innovation and entrepreneurship system on Jordanian private universities competitive advantages and tries to determine the type of relationship between innovation and entrepreneurship system and university competitive advantages.

Societies, nowadays, appear to be fascinated by entrepreneurs who start up small businesses and contribute considerably to the growth and development of the national economy and society prosperity. Entrepreneurs and innovators are commonly seen as the self-made business individuals. They are not inheriting their own wealth but they are actually creating it throughout their individual efforts. Some widely deployed press media, and many distinguished academic and business publications, frequently published articles describing some cases of exceptionally successful entrepreneur's experiences, such as those of Bill Gates (Microsoft), Mark Zuckerberg (Facebook) and Larry Page and Sergey Brin (Google). These examples are usually referred to as the most common models that attracting business graduates. Furthermore, the act of innovation and entrepreneurship is usually considered as an economic necessity and top priority for any modern economy. It is an effective mean for promoting the balancing of economic structural, the creation of employment new opportunities, the intentional level of economic growth and acting as a regulator to the irrational and irrelevant use of corporate power (G.Beaver, 2002; Beaver and Prince, 2004).

Minoja et al. (2010) have linked the role of innovation with a process of developing and maintaining competitive advantages of business organizations (Minoja et al., 2010; O'Shaughnessy, 1996; Beaver & Prince, 2002).

Kandampully and Duddy (1999) argue that business organizations have no fear from changing process, but they are actually failed to anticipate the required change and its subsequences. They are actually failing to recognize the critical momentum for responding to the market's demands. It has become increasingly necessary for today firms to develop their innovation and flexibility competencies procedures to be the base for their performance measurement and evaluation system (Peters, 1987).

Prahalad, (1993) argues that in order to leverage an organization's potential resources a proactive framework should be developing to facilitate the planning and managing its innovation (Kandampully & Duddy, 1999; Prahalad, 1993).

In a global competitive arena, a firm's competitive advantage is rapidly imitated by competitors (Dickson, 1992; P.Ghemawat, 1986). This considered as an issue, particularly, related to service firms due to their inability to patent their innovations. Hence, it can be argued that a sustainable competitive advantage is reached if a firms is capable of developing new merits and characteristics that are difficult to be replicated. Kandampully and Duddy (1999) have argued that market leadership can contribute significantly to firm's ability of think beyond the present time (anticipation), to develop new innovation to serve its customer.

3. Methodology

Methodology formulation is an essential step for conducting a field study and obtaining the relevant data that has to be used for a group of diversified analysis. A general review of the related literature is a mandatory step and a questionnaire has become one of the most commonly used mean for data collection especially in conducting a field study. Therefore these instruments were employed for the purpose of data collection for this study.

A literature review was conducted to identify the related concepts and to develop a theoretical framework for the study. Different types of statistical tests were undertaken such as (Cronbach's Alpha, Regression analysis, ANOVA

analysis, and correlation Coefficient) to define the relationship between both variables.

3.1 The Questionnaire

Based on the review of related literature a questionnaire was carefully designed. It comprises four parts measuring the sample general characteristics, independent variables, and dependent variable. It was reviewed by 5 academics referees before it was finalized and distributed. To ensure internal reliability and consistency of the questionnaire and its statements Cronbach's Alpha test was carried out and the results of this test are shown in the table (2). These results clearly indicate that the questionnaire statements are consistent and it is a reliable tool for collecting the data required for the statistical analysis.

3.2 The Sample of the Study

A random sample of 200 managerial at different levels of the organizational hierarchy was withdrawn from five private Jordanian universities (40 employees per university). Thus 200 questionnaires were distributed and 149 were completed and returned with a response rate of 74.5%. Table (3) illustrates the rate of questionnaire distribution and return. The main Characteristics of the study sample are presented in Table (4).

Table 2. The Cronbach's Alpha Coefficient

The Variables	Cronbach's Alpha
1st Independent variable (X1) Innovation and Entrepreneurship support policy.	0.839
2nd Independent variable (X2) The general environment of Innovation and Entrepreneurship.	0.895
1st Dependent variable(Y) University Competitive Advantage.	0.847

Table 3. Questionnaire distribution

University	Questionnaire Distributed	Questionnaire completed and return
Al Zaytoonah	40	31
Jadara	40	29
Petra	40	27
Israa	40	33
Jerash	40	29
Total	200	149

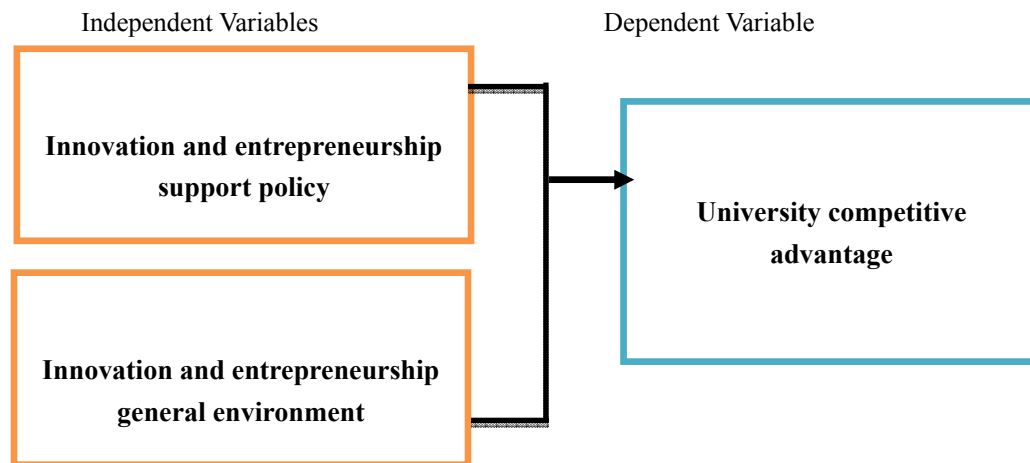
Table 4. Sample characteristic

Description	Category	Frequency	Percentage %
Sex	Male	106	%71
	Female	43	%39
	Total	149	%100
Material status	Married	125	%84
	Single	24	%16
	Total	149	%100
Age	20-39 years	64	%43
	40 years and over	85	%57
	Total	149	%100
Entrepreneurship system experience	With (ESE)	113	%76
	Without (ESE)	36	%24
	Total	149	%100
Education	Bachelor	109	%73
	Master	25	%17
	Ph.D.	15	%10
	Total	149	%100
Period of employment	1-5 years	31	%21
	6-10 years	61	%41
	over 11 years	57	%38
	Total	149	%100

3.3 The Model of the Study

The model of this study is illustrated in figure 1. It is clearly summarized the aim of this paper which implies the exploration of the impact of the two independent variables (Innovation and entrepreneurship support policy & Innovation and entrepreneurship general environment) on the dependent variable (University competitive advantage).

Figure 1: the model of the study



3.4 The Variables of the Study Are

3.4.1 The Independent Variables

- 1- The first independent variable (X1) is: Innovation and Entrepreneurship support Policies.
- 2- The second independent variable (X2) is: The general environment of Innovation and Entrepreneurship.

3.4.2 The Dependent Variable

- 1- The dependent variable (Y) is University Competitive Advantages.

3.5 The Study Hypotheses

Relying upon the research model the main hypotheses of the study were formulating as follows:

- 1- H01: There is no statistically significant impact of innovation and Entrepreneurship supports policy on university competitive advantages.
- 2- H02: There is no statistically significant impact of the general environment of Innovation and entrepreneurship on the university Competitive Advantage.

Evaluating the reliability of the study variables is based on Cronbach's alpha coefficient results which are shown in Table 2. The calculated coefficient values are ranged between 0.839 and 0.895. These results allow stating that the questionnaire is sufficiently reliable for statistical analysis as the statically accepted Cronbach's coefficient value is no less than 0.7.

4. Analysis and Discussion

To determine the impact, if any, of the two independent variables (X1 and X2) on the dependent variable (Y), SPSS statistics were used and regression analysis was carried out because it considers as the most relevant type of statistical test for investigating variables causal relationships. The statistical analysis results portray by tables (5 - 7). These results clearly indicate that there are positively significant impacts of the two independent variables (Innovation and Entrepreneurship support policy and Innovation and Entrepreneurship general environment) on the dependent variable (University Competitive Advantage).

Table 5. Regression analysis/1

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.937	3	2.646	42.292	.000 ^a
	Residual	2.627	42	0.063		
	Total	10.564	45			

a. Predictors (X1): (Constant), Innovation and Entrepreneurship support policy.

b. Dependent Variable(Y): University Competitive Advantage.

Table 6. ANOVA analysis

Model	Standardized				
	Unstandardized Coefficients		Coefficients		
	B	Std. Error	Beta	t	Sig.
-* (Constant)	0.459	0.316		1.450	0.154
* Innovation and Entrepreneurship support Policy	0.472	0.125	0.658	3.781	0.000
* The general environment of Innovation and Entrepreneurship	0.739	0.251	0.783	2.949	0.005

a. Predictors (X1): (Constant), Innovation and Entrepreneurship support policy.

b. Predictors (X2): (Constant): The general environment of Innovation and Entrepreneurship.

Table 7. Regression analysis / 2

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	2.989	1	2.989	16.083	.000 ^a
Residual	5.762	31	0.186		
Total	8.751	32			

a. Predictors: (Constant): The general environment of Innovation and Entrepreneurship

b. Dependent Variable (Y): University Competitive Advantage.

5. Hypotheses Testing

The standardized regression coefficient (Beta) is a measure of how strongly each predictor variable (Independent) influences the criterion variable (Dependent). The results of the statistical analysis portray by tables (5 to 7) clearly indicate that Innovation and Entrepreneurship support policy and the general environment of Innovation and Entrepreneurship have positive impacts (individually and collectively) on the university competitive advantage as Beta (standardized coefficient) value is (0.658) and (0.783) respectively. The significant levels for all the statistical results are above 0.005. The above results provide enough evidence to infer that the null hypotheses should be rejected and the alternate hypotheses should be accepted.

6. Conclusion and Recommendation

Entrepreneurship is a very common aspect in the business world and in management literature nowadays, but this is not the case for the education sector. In contrast, educational institutions in general and universities, in particular, are, in fact, the main originators of entrepreneurs in our societies. This is a beneficial and highly demanded output that the national education system must provide our societies to maintain the necessary economic growth under the current very rapidly changing and highly competitive environment. Investing in the implementation of an entrepreneurship system is a rational decision that will yield propitious outcome for individuals, educational institutions, national economy and the whole society. The results illustrate in the previous Tables (5 to 7) plainly indicate that the two independent variables (X1, and X2) collectively and individually have a positive impact on the university competitive advantage. This conclusion, obviously, would encourage universities and other educational institutions to start implementing innovation and entrepreneurship concept in their curriculum if they are not implementing the concept yet. Educational institutions which have been already implementing the concept, they need to broaden their implementation to cover new areas of their curriculum. This task would be a rational practice that would yield a beneficial outcome and feasible return for all concerned parties.

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