

Impact of Innovation on Realizing Competitive Advantage in Banking Sector in Jordan*

¹Azzam Azmi Abou-Moghli, ²Ghaith Mustafa Al Abdallah,
³Ayed Al Muala

¹ Applied Science Private University, Amman, Jordan
a_aboumoghli@yahoo.com

² Applied Science Private University, Amman, Jordan
ghaith.abdallah@yahoo.com

³ Applied Science Private University, Amman, Jordan
Aied_muala@yahoo.com

Abstract. With the increasing competition in a dynamic environment, competitive advantage can be very important to achieve better performance and better results eventually. The traditional four dimensions of competitive advantage are: Cost, Time, Quality, and Flexibility. The main objective of this study is to investigate the impact of innovation on realizing the competitive advantage in the banking sector in Jordan. The impact of innovation on each of the competitive advantage's dimensions is tested through the statistical package for social science (SPSS). Reliability analysis, descriptive statistics, and regression analyses were performed. The results illustrated that innovation has a direct positive impact on competitive advantage through its dimensions (time, quality, cost, and flexibility) and that banks should support innovation in all aspects of business and operations. Conclusion, recommendation, and future research avenues were provided.

Keywords: Innovation, Competitive Advantage, Banking Sector, Jordan.

1 INTRODUCTION

In an environment of high velocity change, short products life cycle, mass customization, and narrowing customer niches, the successful integration of technology and marketing capabilities for a given product conveys little long term strategic advantage to firms.(Fowler et al., 2000). Competitive advantage has a wide definition range, in this article; the dimensions of competitive advantages were derived from Clark, Hayes, & Wheelwright model. As they suggested that firms compete in the marketplace by virtue of one or more of the following competitive priorities. Time, quality, and cost are, along with flexibility, the basic measurements for assessing all business activities.(Clark et al., 1988). Innovation may not be within the original dimensions of Clark, Hayes, & Wheelwright definition, however, Innovation is known as a critical factor for firms to create value and sustain competitive advantage in today's highly complex and dynamic environment (Ranjit, 2004). That being said, not many empirical studies fully explored the relationship between innovation and competitive advantage can be found especially in the banking sector.

Banking industry is one of the major components of the Jordanian economy, with the total number of 25 banks: 9 international banks and 16 national Jordanian banks: 3 of which are Islamic Banks. Twenty five Banks with more than 666 branches and 81 offices around the country, and 155 branches internationally. The majority of the branches are located in the capital city (Amman), more than 414 branches out of 666 are located in Amman. (Association of Banks in Jordan, 2011). This indicates clearly the importance and significance of this sector in Jordan is increasing, so does the competition among the banks, therefore these banks

have to look for creative methods to compete, innovation: is one of the most important bases for achieving competitive advantage.

Despite the extent of studies that have looked at innovation there are still clear gaps in the literature. Most notable is the need for greater understanding of the actual impact of innovation on realizing competitive advantage. Additionally, most other studies are largely focused on the experiences of developed countries. There is a paucity of research regarding innovation and competitive advantage in developing countries (including Jordan) and particularly in the banking sector. So the examination and exploration of innovation impact and competitive became the driving force behind this study.

2 LITERATURE REVIEW

2.1 Innovation

Innovation is defined as a mental process that leads to the creation of a new phenomenon; this phenomenon may be a new material or spiritual product, (the new service or new techniques). In fact, innovation is analysis or combination of some concepts and creating new thinking and concept that was not previously available (John Kao, 2001). Innovation is known as a critical factor for firms to create value and sustain competitive advantage in today's highly complex and dynamic environment (Ranjit, 2004). Firms with accepting the innovation, in response to environmental changes and develop new capabilities that will help them to achieve higher performance will be more successful (Montes et al., 2004).

Innovation is a topic of interest for many academics and managers as it is found that it could powerfully add to realizing competitive advantage (Tellis et al., 2009). Peters and Waterman (1982) in their study of successful firms concluded that these firms had just a few basic beliefs where one of those beliefs is that most members of the firms should be innovators. In general terms there are two types of innovation: product innovation, or changes in the product a firm makes or the service it offers; and process innovation, a change in the way a product is made or the service offered (Tushman & Nadler, 1986). The term innovation is often mistaken only for technical innovations, but technical innovations are just one type of innovation. Every innovation has a strong impact to all aspects of firm life. Organizations can achieve competitive advantage only by managing for today effectively while creating innovation for tomorrow simultaneously. It is argued that it is significant for firms to have innovation as a part of building their competitive advantage.

2.2 Competitive Advantage

Kotler defined competitive advantage as an organizational capability to perform in one or many ways that competitors find difficult to imitate now and in the future (Kotler, 2000). Competitive advantage can be described as a management concept that has been so popular in the contemporary literature of management nowadays. The reasons behind such popularity include the rapid change that firms face today, the complexity of the business environment, the impacts of globalization and unstructured markets, the ever changing consumer needs, competition, the revolution of information technology and communications, and the liberation of global trade (Al-Rousan & Qawasmeh, 2009).

Michal Porter (1985) considered that competitive advantage grows out of value a firm is able to create for its buyers that exceeds the firm's cost of creating it. Value is what buyers are willing to pay, and superior value stems from offering lower prices than competitors for equivalent benefits or providing unique benefits that more than offset a higher price. Porter recognized competitive advantage as a strategic goal; that is a dependent variable and the

reason behind this is that the good performance is related to achieving a competitive advantage (Reed & Defillippi, 1990).

Clark, Hayes, and Wheelwright suggested that firms compete in the marketplace by virtue of one or more of the following competitive priorities. Time, quality, and cost are, along with flexibility. (Clark et al., 1988). Several academics and practitioners have taken these four indicators, modified or not, over the past years. Many authors and practitioners have added to and adapted this list over the years. Foo and Friedman (1992) for example proposed a set of six competitive priorities, adding service and manufacturing technology to the above while expanding time into: time to market and lead times. Others have added innovation and dependability. The researchers found that the original concept of competitive priorities suggested by Clark, Hayes, and Wheelwright fits to analyze the impact of innovation on competitive advantage, since whether innovation was a part of the competitive advantage dimensions or not, the numerous studies, and different business and marketing schools agree on the importance of innovation to the competitive advantage of the firms. Below is a brief description of competitive advantage dimensions analyzed in this study.

2.2.1 Competitive Advantage Dimensions

2.2.1.1 Time

The original term lead-time used by Hayes and Wheelwright (1984) is rephrased as time in this article. It is seen as the total time an activity requires to be executed, from the very beginning to the very end. Firms can consider the time factor to compete among each other. Delivery time can be a source of competitive advantage when firms try to reduce the period of time between receiving and accepting customer orders and provisions of products or services to customers (Stonebrake & Leong, 1994). It is also a measure of the firms' adherence to delivery schedules agreed upon with customers. The speed of product development also refers to the time factor; that is the time period between product idea generation till achieving the final design or production (Evans, 1993).

2.2.1.2 Quality

Crosby (1995) defined quality in his concepts of the Four Absolutes of Quality and the Cost of Poor Quality as conformity to certain specifications. Juran (2004) described quality as "Fitness for use" where fitness is defined by the customer. Weinberg (1993) defines fitness more holistically as "value to some person." Quality can be achieved by adding unique attributes to products to enhance their competitive attractiveness so as to benefit customers in the final stage (Best, 1997: cited by Al-Rousan and Qawasmeh, 2009). Also, quality can be achieved through a couple of dimensions such as the quality of design which means to adapt product design to its function (Adam & Ebert, 1996), and the quality of conformity which stands for the organizational capability to transform inputs to conformable outputs (Hill, 1993) or outputs in accordance to the specific design characteristics, and the focus on quality will be reflected in competitive advantage and profitability of the organization.

2.2.1.3 Cost

Costs can be direct or indirect, fixed or variable, and short or long-term. Additionally, cost can also be expressed according to its intention. Further, cost of quality can be subdivided into failure, appraisal, and prevention costs (Juran, 2004). Firms must make some kind of compromise between the cost and the characteristics of their products and services. In general, most organizations choose to cut total cost by stripping fixed costs and applying

continuous control on raw materials, reducing employee compensation rates, and by achieving higher levels of productivity (Dilworth, 1992).

2.2.1.4 Flexibility

Knoll and Jarvenpaa (1994) described flexibility as an essential property for the maintenance of fit between Business Processes and their supporting systems in changing environments. Florian Forster defined flexibility as the ability to react to changes. (Forster, 2006). Flexibility can be viewed as the ability of the processes to switch from one product to another or from one customer to another at the least cost or impact. Flexibility also can be defined as the ability to adapt the production capacity to changes in the environment or market demands (Evans, 1993). Flexibility also encompasses product flexibility in the first place which is defined as the ability of the organization to trace changes in consumers' needs, tastes and expectations so as to carry out changes in product designs. The second flexibility has to do with volume which stands for the organization's capability to respond to changes in consumer demand. It is believed that such flexibility can yield benefits such as introducing new products along with product variety, and controlling volume and delivery time (Stake et al., 1998).

3 RESEARCH MODEL AND HYPOTHESES

3.1 Research Model

In this study the researchers propose a model Figure (1) that measures the impact of innovation as independent variable on the competitive advantage as dependent variable.

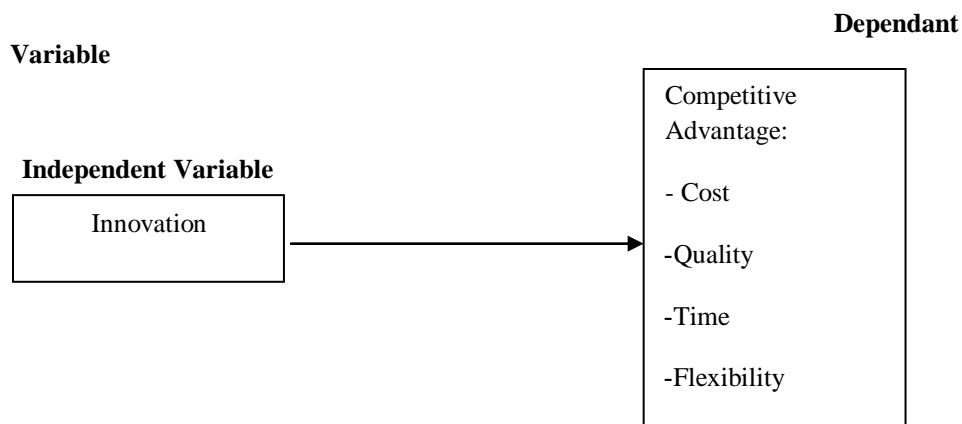


Figure 1: Research Model

3.2 Hypothesis

The study consists of the following main hypothesis:

H0. Innovation is not positively related to realizing Competitive Advantage. This main hypothesis is tested through the following sub-hypotheses:

H0.1: Innovation is not positively related to Time.

H0.2: Innovation is not positively related to Quality.

H0.3: Innovation is not positively related to Cost.

H0.4: Innovation is not positively related to Flexibility.

4 METHODOLOGY

The study used a quantitative descriptive approach to determine whether or not innovation (the independent variables), can impact realizing competitive (the dependent variables), of banking sector in Jordan. The population of the study consisted of 25 Banks with more than 666 branches and 81 offices around the country as indicated in the most recent available data provided by Association of Banks in Jordan report in (2011). The study utilized a random sample size of 21% of the population which is considered representative and acceptable sample size for the purposes of statistical analysis. A close ended questionnaire was developed for primary data collection, based on the related literature, and the available former studies. The questionnaire contained the following parts: First part was a covering letter which aimed to encourage respondents to participate in answering the questions with an explanation of the response method and reassurance to them that the provided information is used for scientific research purposes only. The second part included questions regarding the personal characteristics; the questions in this part were primarily of a classification nature and aimed at providing a proper background of the respondents. The third part raised questions regarding innovation. Lastly, the fourth part contained questions about competitive advantage dimensions (time, quality, cost, and flexibility). The study utilized Lickert five-point scale, as it is one of the best and most frequently used scales to measure opinions, due to its ease and balance (Zikmund, 2000).

Table (1) below states the number of questionnaires distributed. Out of 140 questionnaires only 120 were usable as 13 copies were unreturned, and 7 copies were eliminated either because failing to pass the criteria, or for being incomplete.

Table 1: Summary of Response Rates

140	Questionnaires administrated
13	Unreturned
7	Incomplete / rejected
120	No. of responses
(120/140) 85.7 %	Response rate

5 RESULTS

For the purpose of identifying some facts and data concerning the study sample, a number of personal and occupational variables were chosen. The variables included: gender, age, educational degree, years of experience, and the current job position. Frequencies and percentages of the demographic characteristics of the sample were analyzed, and results are presented in table (2).

Table 2: Demographic Profile of the Respondents (n=120)

Variable	Category	Frequency	Percent
Gender	Male	100	83.3%
	Female	20	16.7 %
Age	Less than 30 years	66	55.0%
	30-39 years	20	16.7%
	40 – 49 years	28	23.3%

	50 Years and older	6	5.0%
Educational Level	High School or Less	2	1.7%
	Diploma	6	5.0%
	Bachelor	102	85%
	Graduate Studies	10	8.3%
Years of Experience	1-5 Years	46	53.3%
	6- 10 Years	18	15.0%
	11-15 Years	16	13.3%
	More than 15 Years	22	18.3%
Present Job Position	Customer service	28	23.3%
	Branch Manager	61	50.8%
	Credit Officer	24	20%
	Other	7	5.8%
Total		120	100%

5.1 Reliability Analysis

The Cronbach's alpha was computed to assess the items score of the independent variable (innovation) and the dependent variable (competitive advantage). Each construct shows Cronbach's alpha readings of acceptable values above 60% (Hair et al., 2006). Reliability values for all constructs range from 0.714 to 0.886. This implies that the items form a scale with internal consistent reliability. Table (3) gives detailed explanation of the reliability of each variable.

Table 3: Summary of Reliability Test (n=120)

Variable Name	Item Number	Cranach's Alpha
Innovation	5	0.872
Time	4	0.866
Quality	4	0.886
Cost	4	0.704
Flexibility	4	0.857
Overall Reliability	21	0.837

5.2 Hypotheses Results

The hypotheses were tested as per the rule of thumb to accept the hypothesis if its calculated (F) value was higher than its tabulated value. Results of analysis for testing the hypothesis are shown in table (4).

Table 4 Regression Analysis

Component	R ²	F	Sig(F)	β Coefficient	Null Hypothesis decision
Time	0.782	208.468	0.000	0.884	Reject
Quality	0.709	141.464	0.000	0.842	Reject
Cost	0.444	46.409	0.000	0.667	Reject
Flexibility	0.613	29.038	0.000	0.783	Reject

Competitive Advantage	0.844	74.534	0.000	0.000	Reject
-----------------------	-------	--------	-------	-------	--------

Critical f at 0.05 level = 3.89 (degree of freedom 1&251)

Table (4) demonstrates the liner regression of the independent variable (Innovation) on the dependent variable (Competitive Advantage). The determination coefficient (R²) signified that the rate of the interpreted difference (0.844) indicated that 84.4% of the overall differences in realizing competitive advantage is determined by innovation. Meanwhile, the computed F value (74.534) is higher than the tabulated F value at significant level of 0.05; this led to rejecting of the null hypothesis and accepting the alternative one. Tracking the partial regression coefficient (β) of each dimension of competitive advantage indicated that Time is the most important dimension in terms of interrupted contribution in realizing competitive advantage, followed by Quality, then Flexibility and finally Cost. As the influence value were (0.884, 0.842, 0.783, and 0.667) respectively.

6 CONCLUSIONS

As mentioned earlier, this study attempts to examine the impact of innovation on realizing competitive advantage, the four dimensions of competitive advantage (cost, quality, time and flexibility) were tested directly.

The results show that innovation has positive impact on time, as a matter of fact time turned to be the most impacted dimension; this means that the use of innovation in banks improves the lead time, and the time needed to develop new or modify current products and services. The time needed to serve customer is also improved by innovation. As discussed previously, innovation could have two types, product innovation and process innovation; time is improved in both types of innovation.

Additionally, innovation has positive impact on quality, adopting innovation lead to new products and services and new ideas as well. Improving the quality in general allows banks to compete in the markets based on the characteristics and the specifications of its products and services; also innovation provides better quality and utilizes production methods efficiently. Innovation is as well has positive impact on cost, innovation reduces cost of both products and process, allowing banks to offer quality products and services with lower cost, and reduce the overall cost of operation. Which in term allow offer products and services at better prices. However, the results confirms that cost was the least important dimension of realizing competitive advantage, which indicates that banks in Jordan are not fully adopting innovation as a management concept.

lastly, innovation has positive impact on flexibility, adopting innovative methods in products and process allow banks to customize products and services based on customer requirements, it also allow banks to offer product and service in response to competition, flexibility has a better rank compared to cost but it is still less than time and quality. To conclude innovation has a positive impact on competitive advantage; the four dimensions of competitive advantage combined together show better result under the impact of innovation, indicating that the use of innovation in all competitive advantage dimensions will create eventually much better performance for the banks.

7 RECOMMENDATIONS

Based on the results of the study, and its conclusions, it is possible to provide a number of recommendations as follows:

7.1 Recommendations for Jordanian Banks

Clearly the banking sector in Jordan is aware with the value and importance of innovation, the result of this study is very promising, however, compared to other studies in developed countries, the use of innovation could lead to much better results, banks can utilize innovation to better reduce cost and to improve the flexibility as well. Training on using innovation could help bridge the gap. NGOs advices and consultation may be needed. Governmental and Central bank regulations could facilitate the adoption of innovation in the working environment. Further, the mangers of the banks should place additional emphasis on innovation as it is an important driver for realizing competitive advantage. Improved innovation depends highly on the degree of its implementation as well.

7.2 Recommendations for Future Researches

The limitation of this study has provided its implication for future research. Future research could investigate the model in different Commercial and industrial sectors. Additionally, similar study could be conducted in different countries especially in the Arab world to provide comparable results.

Acknowledgments

*The authors are grateful to the Applied Science Private University, Amman, Jordan, for the full financial support granted to this research project (Grant No. DRGS-2012-2011-61).

REFERENCES

- Adam, E. & Ebert, R. (1996). *Productions and Operations Management: Concept, Models, and Behavior* (5th ed). Eaglewood Cliffs, N.J.: Prentice Hall
- Al-Rousan, Mahmoud., and Qawasmeh, Farid. (2009). The Impact of SWOT Analysis on Achieving a Competitive Advantage: Evidence from Jordanian Banking Industry. *International Bulletin of Business Administration*. 6, 82-92.
- Association of Banks in Jordan. (2011). Annual Report. www.abj.org.jo
- Clark K. B., Hayes R. H., and Wheelwright S. C., (1988). *Dynamic Manufacturing*. New York, NY: The Free Press.
- Crosby, P. B. (1995). *Philip Crosby's Reflections on Quality: 295 Inspirations from the World's Foremost Quality Guru*. New York: McGraw-Hill.
- Dilworth, James B. (1992). *Operations Management: Design, Planning and control for manufacturing and services*. NY: McGraw-Hill.
- Evans, James R. (1993). *Applied Production and Operations management*. West Publishing Co. USA.
- Foo, G., and Friedman, D.J., (1992). Variability and Capability: The Foundation of Competitive Operations Performance. *AT&T; Technical Journal*, 71(4), 2-9.
- Forster, Florian. (2006). The Idea behind Business Process Improvement: Towards a Business Process Improvement Pattern Framework. *BPTrends*. <http://www.bptrends.com>.
- Fowler, S. W., A. W. King, S.J. Marsh and B. Victor. (2000). Beyond products: new strategies imperatives for developing competencies in dynamic environments. *Journal of Engineering and Technology Management*, 17, 357-377.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis* (6th ed.). Prentice Hall.
- Hayes, R. H., & Wheelwright, S. C. (1984). *Restoring Our Competitive Edge: Competing Through Manufacturing*. New York, NY: John Wiley and Sons.

- Hill, Terry. (1993). *The Essence of Operations Management*. Prentice-Hall, UK.
- Juran, J. M. (2004). *Architect of Quality*. New York: McGraw-Hill.
- Kao, J. (2001). *Management Innovation*. Harvard University.
- Knoll, K., & Jarvenpaa, S., L. (1994). Information Technology Alignment or "Fit" in Highly Turbulent Environments: the Concept of Flexibility. Paper presented at the Computer Personnel Research Conference on Reinventing. Alexandria, Virginia, USA.
- Kotler, P. (2000). *Marketing Management (10th Edition)*. New York, Prentice Hall.
- Peters, T., and Waterman, R. H. Jr. (1982). *In Search of Excellence*. Profile Books.
- Porter, M.E. (1985). *Competitive Advantage*. New York, NY: Free Press.
- Ranjit, B. (2004). Knowledge Management Metrics. *Industrial Management & Data Systems*, 104(6), 457-68.
- Montes, F. J., Moreno, A. R., Fernandez, L. M. (2004). Assessing the Organizational Climate and Contractual Relationship for Perceptions of Support for Innovation. *International Journal Manpower*, 25(2), 167-80.
- Reed, R., & Defillippi, R. J. (1990). Causal ambiguity, barriers to imitation, and sustainable competitive advantage. *The academy of Management Review*, 15 (1), 88-102.
- Stake, R. (1998). *Case Studies In Strategies of Qualitative Inquiry*. Sage, California.
- Stonebrake, Peter W., and Leong, G. Keony. (1994). *Operations Strategy: Focusing on Competitive Excellence*. Boston, MA: Allyn and Bacon.
- Tellis, G.J., Prabhu, J.C. and Chandy, R.K. (2009). Radical innovation across nations: the preeminence of corporate culture. *Journal of Marketing*, 73(1), 3-23
- Tushman, M., Nadler, D. (1986). Organizing for innovation. *California Management Review*, 28(3), 74-93.
- Weinberg, G. M. (1993). *Quality Systems Management*. New York: Dorset House.
- Zikmund, William, G. (2000). *Business Research Methodology (6th ed)*. Harcourt College Publisher, USA.