

The Effect of Market Orientation on Service Innovation: A Study on the Information and Communication Technology (Ict) Sector in Jordan

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Abstract

The main purpose of this study is to investigate the effect of market orientation on service innovation in Jordanian Information and Communication Technology (ICT) Sector. Customer orientation, competitor orientation, inter-functional coordination, intelligence generation, intelligence dissemination, and intelligence responsiveness were the components of market orientation in this study. The population of this study was defined as all Intaj members that are included within Information and Communication Technology (ICT) Sector in Jordan which are 184 companies till February 2011. Primary data were collected from 50 companies by disseminating 300 questionnaires to the key respondents who were the employees within marketing and sales departments in that fifty companies. Multiple regression analysis was used to fulfill the research objective. The findings indicated that there is a high level of implementation of (1) market orientation and (2) service innovation within selected companies, and that there is a statistically significant effect of market orientation on service innovation, as well as all market orientation components have statistically significant positive effect on service innovation except for intelligence generation, and the most important (influential) independent variable within market orientation construct to influence service innovation was competitor orientation.

According to the findings of this study, a number of recommendations were presented to enhance service innovation processes in ICT sector, Such as: (1) Jordanian ICT companies must be careful about the actions and activities of their current competitors without neglecting the threat of potential competitors, (2) Jordanian ICT companies should direct more of their capabilities toward benefiting their customers as much as possible, in addition to broaden the area of customer participation, (3) modifying the organizational structure of Jordanian ICT companies to facilitate inter-functional coordination activities, in addition to institute organized databases to perform this task smoothly, (4) to be careful about the quality of collected information and appreciate its value before intelligence dissemination, (5) as well as maximizing the importance of communication between all functional departments and then translate that culture into behaviors, (6) and then develop a deliberate response system on timely basis.

Introduction

Nowadays, the environment is dynamic, changeable, and essential, as soon as the competition is intensive. These circumstances and many others compel the organizations to adopt certain business concepts, policies, and practices in order to attain their goals and to get prominent results. Among those business concepts is market orientation. Market orientation is a construct to generate new ideas and motivation in order to react to the environment and enhance innovativeness (Hurley and Hult, 1998). Kohli and Jaworski (1990) distinguished between marketing concept as a business philosophy, and market orientation as the actual implementation and application of the marketing concept. That was a starting point for market orientation (customer is the primary focus of market orientation).

The cultural perspective (Narver and Slater, 1990) and the behavioral perspective (Kohli and Jaworski, 1990) are the most widely discussed views in the field of market orientation. Research directly designed to compare and contrast market orientation concepts in service firms with that in manufacturing firms are scarce.

Even though, this result does not mean that market orientation in manufacturing firms should receive more attention than in service firms (Kirca et al., 2005). Though there has been less investigation about market orientation construct within service sectors, Kumar et al. (1998) concluded that there is a direct relationship within large service firms, especially within the health care sector.

A change is pervasive, and innovation facilitates the process of adapting too many of these changes. Innovation is anything which might be an idea, practice, activity, or object that is perceived as new to an individual, organization, or any other unit of adoption (Fruhling and Siau , 2007; Hsu ,2006) .Recent studies indicated that product innovation, service innovation, process innovation, marketing innovation and administrative innovation are the most widely studied innovation capabilities (Lin et al., 2010). Among that classification is service innovation, which is the process of developing new services that will be perceived as new (never seen before), as well as are useful and gainful to specific central customer (Flint et al., 2005; Grant, 1991).

Jaworski and Kohli (1996) concluded that the consequences of market orientation are categorized into four outcomes: organizational performance, customer consequences, innovation consequences, and employee consequences. The concentration here is upon innovation, or more particularly service innovation. Despite the fact that several studies approved that the link between market orientation and innovation seems more complex (Martin and Grbac, 2003; Slater and Narver, 2000).

The purpose of this study is to measure the levels of (1) market orientation and (2) service innovation, in addition to investigate the effect of market orientation on service innovation within Information and Communication Technology (ICT) sector in Jordan. Multi-dimensions of market orientation from the literature will be used to investigate the effect of it on service innovation.

Research Problem

Organizations are living in a dynamic environment in which they experience an accelerated changes, intensive competition and powerful external and internal forces. In such circumstances, survival is conditioned upon knowledge, experience, technology, creativity, qualified human resources, innovation, and many other capabilities (Laforet and Tann, 2006). Innovation, specifically, is one of the major factors that may enhance organizations position, since significant innovations permit firms to have a dominant competitive positions, and grants new entrants a unique opportunity to gain an edge in the market place. The idea is how to reinforce innovation? One of the proposed components to backup innovation is market orientation.

Market orientation is a construct to generate new ideas and motivation in order to respond to the environment and promote innovativeness (Hurley and Hult, 1998). Consequently, this research is directed to study the effect of market orientation on service innovation, specifically within Information and Communication Technology (ICT) sector in Jordan as it is an "innovation-driven market growth". To do so, the researchers seek to answer the following questions:

- 1- To what extent does the Information and Communication Technology (ICT) Sector in Jordan implement (1) market orientation and (2) service innovation?
- 2- What is the effect of market orientation on service innovation within Information and Communication Technology (ICT) Sector in Jordan?
- 3- What is (are) the most influential element(s) of market orientation elements which might affect on service innovation within Information and Communication Technology (ICT) sector in Jordan?

Research Importance

The importance of this study stems form the following features:

- 1- This study is concerned about studying basically the effect of market orientation on service innovation.
- 2- The tendency nowadays is to explore the relationships between market orientation and many other factors like motivation, completing organizations mission, and customer satisfaction rather than traditional studies which focus on performance and profitability.
- 3- The theoretical contribution through combining two views of market orientation which are most widely discussed and used , that are the cultural perspective (Narver and Slater 1990) and the behavioral perspective (Kohli and Jaworski 1990) , in order to measure the level of market orientation and its effect on service innovation within ICT sector in Jordan.

- 4- There is an increasing interest toward ICT sector from all levels here in Jordan because of its increasing contributions like many other emerging industries, so ICT sector needs to maximize its utilities and exploit each opportunity that can enhance its position in this unsteady environment (Intaj.net).

Thus, the researchers will introduce market orientation models to this sector because of its paramount advantages and especially there effects on service innovation, since service providers have to respond frequently and effectively to customers needs and to react positively to changing customers requests.

Research Objectives

The main goal of this research is to investigate the effect of market orientation on service innovation within Information and Communication Technology (ICT) sector in Jordan. To achieve this goal, the following objectives are performed:

- 1- Measuring the levels of (1) market orientation and (2) service innovation within Information and Communication Technology (ICT) sector in Jordan.
- 2- Investigating the effect of market orientation on service innovation in the Information and Communication Technology (ICT) sector in Jordan.
- 3- Identifying the most influential elements of the market orientation elements on service innovation within Information and Communication Technology (ICT) sector in Jordan.

Market Orientation: Historical View and Definitions

Market orientation becomes an eminent topic in the marketing literature, its significance basically comes from the idea that market orientation focuses on defined, detailed, deep understanding and shared knowledge about people who are beneficiaries of an organization (Govan, 2006). The origins of some elements about modern business and marketing practices are referring back to the ancient Greeks, the Phoenicians and the Venetian traders. Adam Smith in 1700s clears up the "marketing concept" in its earliest literatures, he as a distinguished economist focused on the idea that customer is the core element within business and its target. Referring back to the 1950s, marketing concept came to be the philosophical foundation for those who were interested in marketing field (Heiens, 2000), and then advocates of the marketing concept emphasized heavily on the principle that creating a satisfied customer must be the main purpose of business (Drucker 1954, Keith 1960, Levit 1960).

Recently, marketing academics and practitioners started to constitute a body of research on the concept of market orientation, with a strong relation to marketing concept antecedents and performance consequences (Deshpande and Webster 1989, Jaworski and Kohli 1993, Narver and Slater 1990). Kohli and Jaworski (1990) distinguished between marketing concept as a business philosophy, and market orientation as the actual implementation and application of the marketing concept. That was a starting point (customer is the primary focus of market orientation), then subsequent researchers included exogenous factors that influence customer needs to expand the concept, some of these factors are competitors and government regulations (Kohli and Jaworski 1990, Lusch and Lazniak 1987, Slater and Narver 1994).

Researchers in marketing concluded that market orientation is a foundation for marketing decisions (Shapiro, 1988); a group of distinctive behaviors, activities, and practices (Kohli and Jaworski, 1990), a set of beliefs (Deshpande et al., 1993), superior skills (Day, 1994), a resource (Hunt and Morgan, 1995), a feature of organizational culture (Slater and Narver, 1995), a set of behaviors and processes (Deshpande and Farely, 1998). The subsequent researchers also emphasized on the basic idea that market orientation is focusing on and assessing customer needs. So you find that:

"Market orientation is the set of cross-functional processes and activities directed at creating and satisfying customers through continuous needs-assessment". (Deshpande and Farley, 1998, p 213).

According to Green and Inman (2006) market orientation combined two broad dimensions, which are customer focus and needs assessment. Based on Kohli and Jaworski (1990) market orientation includes market intelligence generation which relates to customers current and future needs, dissemination of market intelligence across departments and finally organization responsiveness. It is important to note that they do not consider market orientation as an aspect of organizational culture.

On the other hand, Slater and Narver (1995,p.67) defined market orientation as " the culture that (1) places the highest priority on the profitable creation of superior customer value while considering the interests of other stakeholders; and (2) provides norms for behavior regarding the organizational development and responsiveness to market information".

Days (1994, p.43) view is that " a market driven culture supports the value of thorough market intelligence and the necessity of functionally coordinated action directed at gaining a competitive advantage", this identification is consistent with Slater and Narver, since this definition considers market orientation as an aspect of organizational culture and indicates that market orientation and learning organizations together will reinforce performance (Hurely and Hult, 1998).

The antecedents of market orientation can be classified into three categories: top management factors, interdepartmental factors, and organizational systems (Jaworski and Kohli, 1993).Formulating values and orientation of an organization is the responsibility of top managers (Webster, 1988), e.g. as soon as top managers focus on market orientation we can expect a positive impact upon the level of application of market orientation (Day 1994; Narver and Slater, 1990). Both interdepartmental connectedness and conflict represent interdepartmental factors, in which interdepartmental connectedness reflects the level of formal and informal communications among employees and across departments such these practices will enhance market orientation because of more information using and sharing (Kennedy,et al., 2003).

On the other hand, interdepartmental conflicts which represent the level of strain between various departments that comes from conflicting goals, and poor effective responses to market needs which is the core for market orientation concept (Jaworski and Kohli, 1993). The final element of antecedents is organizational systems, which composed of two dimensions: formalization and centralization, and two employee related systems, market-based rewards systems and market-oriented training (Jaworski and Kohli, 1993).

The consequences of market orientation can be classified into four broad categories, which are: organizational performance, customer consequences, innovation consequences, and employee consequences (Jaworski and Kohli, 1996).Organizational performance represents both cost-based performance measures, and revenue-based performance measures (Jaworski and Kohli, 1993). Customer consequences include the perceived quality of products, customer loyalty and customer satisfaction with the firm's products and services (Jaworski and Kohli, 1993, 1996).

Innovation consequences include firms innovativeness; which reflect their ability to find and implement new ideas, products, and processes (Hult and Ketchen 2001); and new product performance techniques (Im and Workman 2004). Market orientation approach should play the role of reinforcement and the motivator toward organizations innovativeness, since it will lead to progress and proactive disposition to satisfy customer needs and wants and it stresses on more information sharing and using (Atuahene-Gima, 1996; Han, et al., 1998). The fourth element of market orientation consequences is employee consequences which encompasses creating the feelings and emotions of pride, friendship, and esteem among employees (Jaworski and Kohli, 1993).

Market Orientation Measurement

"While there are at least five views on market orientation in the literature " (Iafferty and Hult,2001,p.94), the first two views are the most widely discussed and used, which are the cultural perspective (Narver and Slater 1990) and the behavioral perspective (Kohli and Jaworski 1990). Some of researchers (Day, 1994; Dickson, 1996; Jaworski and Kohli, 1996) involved within a contention about: if market orientation would be considered as an organizational culture or as behaviors, actions, or processes. That debate might be resolved partially by Slater and Narver (1995, p.67) contribution in which they distinguished between organizational culture and climate, while they considered culture as "the deeply rooted set of values and beliefs that provide norms for behavior within the organization", they defined climate as "how the organization operationalises its culture, structures, and processes". Though they concluded that their distinction is vague to some extent, they stressed at the same time that both culture and climate should enhance each other. Nevertheless, identifying organizational climate as "a set of processes" is consistent with market orientation definitions in terms of processes and activities; also it is parallel with the perspective that market orientation can be considered as an organizational climate variable.

This finding is harmonious with Avlonitis and Gounaris (1999) who concluded that a real market orientation is a synthesis of attitudes and activities, and both of them are related to each other.

As a result of considering market orientation as an organizational climate variable, this has an effect upon the contribution of innovation to performance (Matear et al., 2002). So that market orientation can be viewed as a contextual factor (Oliver, 1997) which can reinforce strategic assets like innovation capacity.

Table (1) Alternative Conceptions of Market Orientation
(Components of Market Orientation)

Components of market orientation	Authors
Generation of market intelligence, Dissemination of market intelligence ,Entire organizations capacity to respond	Kohli and Jaworski (1990)
Customer oriented , Competitor oriented , Inter – functional coordination	Narver and Slater (1990)
Customer oriented , Competitor oriented , Inter – functional coordination , Profit oriented	Deng and Dart(1994)
Information gathering and analysis on :Final customers, distributors, competitors, environment, and inter – functional coordination strategic actions on: final customers, distributors, competitors and environment.	Lambian(1996) Lado, Maydeu-Olivares and Rivera(1998)

Source: Lado and Maydeu-Olivares, 2001.

When the culture is absent the behavior also will be absent because of lack of reinforcement (Narver and Slater 1990; Lafferty and Hult 2001; Matsuno, et al., 2005). The question here is which one comes before the other? Behavior or culture, there seems to be little to choose from these two models, though the isolation is acknowledged many times, considerable researchers present the two models in tandem to reflect market orientation as a concept (Bennett 1998; Sui and Wilson 1998; Homburg and Pflesser 2000; Gonzalez, et al., 2002, Vazquez, et al., 2002; Matsuno et al., 2005; Mavondo, et al., 2005), others synthesize both of them to present a new model (Ruekert 1992; Lafferty and Hult 2001) as well as some researchers defend the use of a combined model for their studies (Gonzalez et al., 2002; Vazquez et al., 2002).

Recently, researchers emphasized that dealing with market orientation as a group of behaviors, activities and practices rather than as a feature of organizational culture may benefit the organization though both view points are precious (Hurley and Hult, 1998). According to Jaworski and Kohli (1996) study which discussed the differences between two perspectives, they find out that both of them have merit.

Service Innovation: Definition and Importance

Innovation is anything which might be an idea , practice , activity ,or object that is perceived as new to an individual , organization , or any other unit of adoption (Fruhling and siau,2007;Hsu,2006). Weerawardena (2003) recognized that innovation is the adjustment of product, service, process, organizational systems, and marketing systems so as creating and enhancing customer relationships through upgrading customer value. Green et al. (1995) also considered innovation as a multi-dimensional concept where producers concentrating their efforts on product, process, and service to apply gradual adjustment, minor modifications and product lines expansions.

Even though, innovation analysis in service sector is a difficult task for two view points. The first one: the analysis of technological innovation in manufacturing activities was the basis upon which the innovation theory has been constructed. The second point is that: the unique service activities characteristics, specifically the fuzzy nature of their output, make it more difficult to be measured according to the well known, familiar economic methods and to realize improvements or changes, specifically on the qualitative level (Gallouj and Weinstein, 1997). There are two major aspects of innovation which are: the degree of innovation and scope of innovation. The degree of innovation is categorized into: radical and incremental innovation .Radical innovation is the creation of a totally new product, new service, new market, or new technology (Green et al., 1995). Within the incremental innovation the general structure of the system still the same, but it changed through the addition or substitution of characteristics to improve the systems performance.

The area of innovation capability composed of technical innovation and administrative innovation (Damanpour, 1991).

Technical innovation contains products, services, marketing as well as technology used to create products or render services which are directly related to the organizations core processes (Damanpour and Evan, 1984; Daft, 1982). On the other hand administrative innovation related to the administrative activities and organizational structure which are indirectly connected to the core tasks within the organization (Damanpour and Evan, 1984).

Laforet and Tann (2006) recognized that innovating new products is the main reason behind surviving and thriving of many small British and medium – size firms. Thus, that conclusion is consistent with the argument that small firms which innovate successfully will maximize their opportunities of prosperity and survival (De Jong et al., 2004). Though, the task of developing a successful innovation for those firms is complex or challenging when they do not have the mentality and knowledge about how to invest in research and development or cannot frequently transfer the research and development findings into successful innovations (Avermaete et al., 2003).

A successful business must be innovative in its nature for the following reasons: (1) to learn more and pursue customers needs and wants, (2) to conduct successfully the process of developing new products or services that address those needs and wants and (3) to help in executing internal activities and processes that enhance product development process and customers needs understanding (Narver, et al., 2004)

De Jong and Vermeulen (2003) suggested that service innovation is not only about newness or singularity but also includes another dimensions like after sales services, delivering systems and the relationships between clients and sellers. That suggestion is consistent with Verma et al. (2008) who concluded that service innovation can be explained through the newness in the service concept, processes, customer knowledge and experience, technology, business model, employee experiences and business procedures.

Service Innovation Measurement

It is well known that services have been viewed differently from goods. Intangibility, inseparability, heterogeneity and perishability are the major service characteristics which cause the differences in search properties, credence, measurement and experience (Zeithaml et al., 2006). Researchers have adopted several approaches to operationalize the service innovation concept, some of these are:

Table (2) Operationalizing Service Innovation Concept

Approach	Authors
Reactive – proactive continuum	Hunt and Morgan (1996)
Product- process dichotomy	Damanpour (1988)
Novelty- meaningfulness	Sheth (1981)
Incremental- radical	Garcia and Calantone(2002)
New service development processes	Johne andStorey(19998);Matthing(2004)

Source: Paswan et al. 2009.

Basically, there are two approaches to examine the service innovation construct. The first one approached service innovation from the point of view of those who are in the firm (internally) and the second one approached service innovation from the point of view for those who are outside the firm (externally) (Paswan et al.,2009).

Table (3) Approaches to Examine Service Innovation Construct

First approach (internally)such as:	Authors
New service development teams satisfaction	Avlonitis et al.(2001); Blazevic and Lievens(2002); Van Der Vegt and Jonssen(2003)
Internal evolutions of consumer attitudes	Sethi et al.(2001)
Other variables representing the firms perspectives	More(1982); Rothwell and Gardiner(1988); Cooper and De Brentani(1991); Garcia and Calantone(2002)
Second approach (externally)	Price and Brodie(2001); Matthing et al.(2004)

Source: Paswan el al., 2009.

Recent researches endorsed that incorporating both internal (firm) and external customer perspectives for these new service development projects is the most favorable approach (Alam and Perry, 2002).

Market Orientation and Service Innovation:

According to Matear et al. (2002) the relationship between market orientation and innovation has recently received particular attention. Compared with the increasingly body of work about the relationship between market orientation and service firm performance, studies about the relationship between market orientation and innovation is predominantly product oriented, with a prominent exception which has done by Han et al.(1998) and later by Lado and Maydeu- Olivares (2001). In addition to both contributions of Gatignon and Xuereb (1997) and Atuahene- Gima (1996) in which they examined mixed product and service firm samples.

Being disentangled the terms of market orientation and innovation, researchers discuss the extent to which market orientation contributes to innovation (Matear et al., 2002). Considerable findings (Atuahene- Gima, 1996; Gatignon and Xuereb, 1997; Lukas and Ferrel, 2000) support the positive relationship between market orientation and innovation. A huge part of this research is consistent with Gatignon and Xuereb (1997) point of view which implies that the relationship between market orientation and innovation is recursive, so that market orientation does not make a contribution directly to firms performance and its contribution to innovation is adequate to be valuable. On the other hand, most of this research did not inspect if market orientation makes a contribution to firm performance, as soon as to its contribution to innovation (Matear et al., 2002).

Market orientation as an antecedent to innovation referring back to Jaworski and Kohli (1993,p.56)they suggested that , since " a market orientation essentially involves doing something new or different in response to market conditions , it may be viewed as a form of innovative behavior ". Jaworski and Kohli in their elementary research do not recognize innovation frankly in their models, then they deemed that market orientation is an antecedent to innovation after that , though they considered innovation as an outcome of market orientation, they did not think that innovation is a special feature of a groups culture (Jaworki and Kohli,1996).on the other hand, Kohli and Jaworski (1990) suggested that a greater degree of market orientation will lead to a greater level of superior performance based on innovation, as a result of periodic reviewing of customer preferences and competitors activities, disseminating that information within organization and responding to it. This finding is consistent with Kandampully and Duddy (1999) who suggested that market oriented firms have the capabilities to anticipate new preferences or Lukas and Ferrell (2000) are aware of competitors activities before the others, also can imitate their recent innovation or develop new service offerings if imitating competitors becomes clear and easy to do.

The question here, since market orientation depends on innovation, why that dimension is absent in current market orientation models? Recent studies suggested that it is inappropriate to ignore the innovation speed in the models of market orientation. According to Slater (1997, p.165)" successful innovation is the product of a market oriented culture coupled with entrepreneurial values". And Jaworski and Kohli (1996) suggested in their recent studies that it is unacceptable to deem innovation is absent in models of market orientation.

Previous Relevant Studies

One of the prominent attempts to investigate the relationship between market orientation and innovation is the empirical study of Hurley and Hult (1998) in which they presented a conceptual framework to incorporate constructs that pertain to innovation in market orientation research. Researchers tested crucial relationships in that conceptual framework upon a sample which composed of 9648 employees from 56 organizations within a large agency of the U.S federal government. The results clarified that there is a high positive correlation levels between the levels of innovativeness in firms culture and capacity for adaptation and innovation measured by the number of successful innovations, also they concluded that higher levels of innovativeness are usually accompanied with cultures which emphasize learning, development, and dual decision making processes. In addition to, the results indicated that innovation is important for understanding market orientation and organizational learning, and that relationship should be examined in the context of culture. Finally, they suggested that it is beneficial to incorporate innovation constructs more directly into market orientation researches.

Panesar and Markeset (2008) study used a collection of information from both literature and the Norwegian oil and gas industry. A study based on a survey and guided interviews.

They concluded that finding innovative solutions to complex organizational and technological difficulties is a necessity as a result of accelerated changes and developments.

The results indicated that market needs and customer initiatives are the most important service innovation process drivers, and the most important activity to support service innovation is customer's feedback. In addition to that, service innovation (either creating new services or improving the existing services) is a result of interaction, this finding is consistent with Kuusisto and Meyer (2003); Gronroos (2000), who conclude that the key points for service innovation and performance enhancement are the dual generation of knowledge and joint problem solving practices. Finally, service innovation process is complex because it depends heavily upon management and coordination for a large number of interorganizational activities and interactions between different managerial levels, as well as service innovation process depends heavily on deliberated planning and detailed understanding of customers' needs, wants, and preferences.

Kandampully (2002) stressed that customer- focused firms are capable to create new and better ways to serve their customers. The results indicate that technology, knowledge and networks constitute a crucial group of variables which energize innovation in service firms, since the combined influence of technology, knowledge and networks renders the organization the capability to concentrate its resources on the future (expected or unexpressed customer needs). Though the fact that service innovation results in increasing customer expectation, and then establish a self created challenge. The most important point is that service innovation results only when organization is capable to concentrate all its capabilities to think in behalf of their customers.

Ordanini and Maglio (2009) used a qualitative comparative analysis technique to address their study question that was: which sets of alternatives among the three decision nodes- customer and market orientation, internal process organization and external networks- are more amenable to maximize the success of new service development (NSD) processes, the researchers constituted their research upon Menor and Roth (2007,p.826) definition of new service development which is "an offering not previously available to the firms customers that results from either an addition to the current mix of the services or from changes made to the service delivery process".

The researchers applied their new service development framework in the context of hospitality services, they concluded that there are two sets of crucial conditions to create a successful new service development constructs within service firms which are: (1) the availability of a proactive market orientation and a formal top- down innovation process, with the absence of responsive market orientation and (2) the availability of both proactive and responsive market orientation, in addition to open innovation model. They stressed that despite the result which stated that proactive market orientation is a significant condition, there is no single factor can be considered as a sufficient condition to have a success new service development construct.

Atuahene-Gima (1996) performed an empirical study which reported upon a cross- sectional survey of a sample of 600 firms (300 services and 300 manufacturing), research sample composed of independent firms and business units of huge multisided firms in Australia. The hypothesis were examined using path analysis according to a series of regression for the total sample and for both product and service innovation samples. Study findings are consistent with the prior idea that market orientation influence is pervasive and it is not limited to a certain organizational processes or activities. They concluded that there is a strong direct impact of market orientation on the performance of innovation, though that influence is insignificant on market success when mediated by innovation characteristics. They found that market orientation is not a panacea for ineffectiveness in the innovation process, that notion does not indicate that market orientation is unimportant construct for service-product innovation but it stressed that it is a necessity to integrate more factors before testing the impact of market orientation on service- product performance or organizations performance.

The surprising conclusion for the researcher was a little support of his prior prediction that market orientation will make a stronger contribution to the performance of service innovation than product innovation. Junarsin (2010) presented another paper which discusses key issues to be considered in the service innovation construct. He concluded that innovation in service sector is crucial and can reinforce the company's competitive position. He concentrated upon six critical issues which must be taken into account in the service innovation process that are: (1) intangibility of services, (2) inhomogeneity, (3) perishability, (4) multifaceted nature, (5) variations in customer contact, (6) gaps within service quality.

Consequently, increasing customer inputs to the overall processes – starting point of market orientation construct- is one of the paramount strategies that can be adopted to enhance service innovation management.

Research Theoretical Framework

Based on the literature which discuss the main variables (market orientation and service innovation), the researcher concluded that the cultural perspective which includes primarily: customer orientation, competitor orientation, and inter-functional coordination(Narver and Slater, 1990) and the behavioral perspective which includes primarily: intelligence generation, intelligence dissemination, and intelligence responsiveness(Kohli and Jaworski, 1990) are the two views on market orientation which are most widely discussed and used. Accordingly the researcher combined both of them to measures the level of market orientation and its effect on service innovation within Information and Communication Technology (ICT) sector in Jordan.

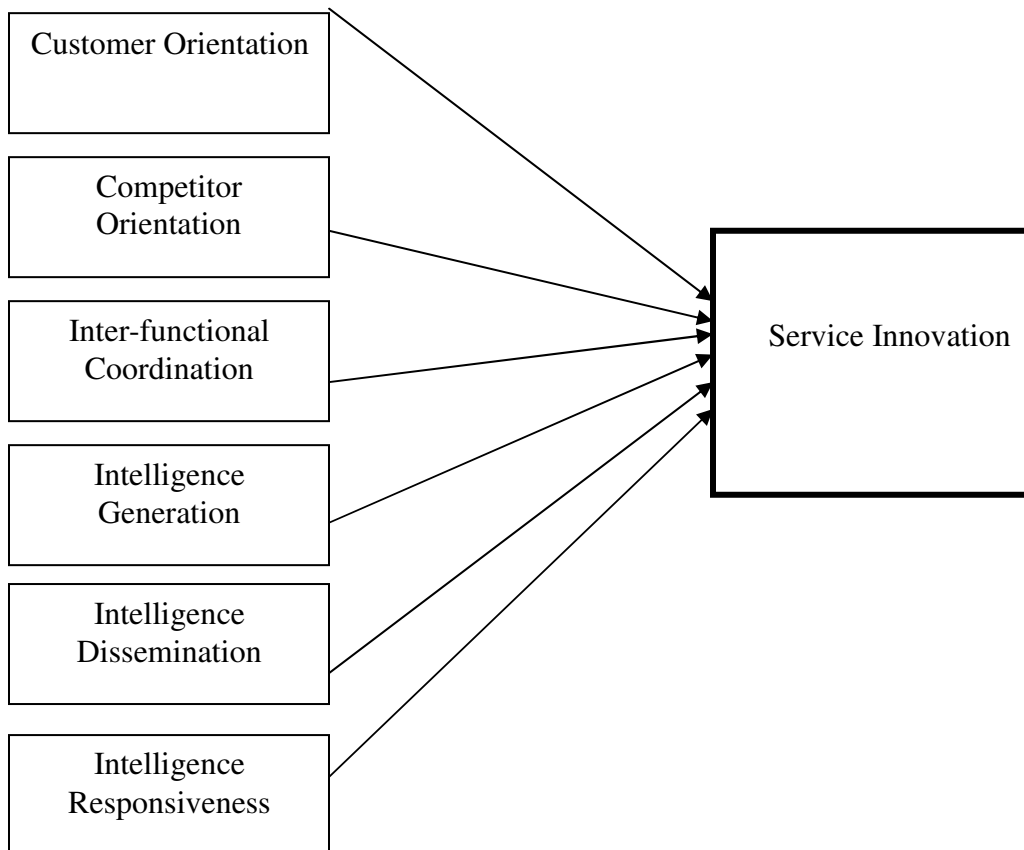
Despite the fact that considerable findings (Atuahene-Gima, 1996; Gatignon and Xuereb, 1997; Lukas and Ferrel, 2000) support the positive relationship between market orientation and innovation, still there are gaps: is innovation directly related with market orientation or is it just an intermediary variable, and what about relationships between market orientation and many types of innovation, such as service innovation which has been discussed from a conceptual perspective though it has received little empirical study (Grawe et al., 2009).

Consequently, this study seeks to minimize that gap by investigating the effect of market orientation on service innovation, and to fulfill the research objectives the researcher developed the following theoretical framework.

Figure (1): Research Theoretical Framework

Independent Variables

Dependent Variable



Operational Definitions

The current study used different scales to measure the main variables (independent variables and dependent variable), scales used to measure the research constructs were drawn from the available literature, and are outlined in the following table:

Table (3): Supported Literature for Measurement Scales

Variables	Supported literature	Variables measurement
Independent variables :		
Customer orientation	Adopted from Narver and Slater, 1990.	Measured by questions 1-6 in the questionnaire.
Competitor orientation	Adopted from Narver and Slater, 1990; Olson et al., 2005; Porter, 1980.	Measured by questions 7-11 in the questionnaire.
Inter-functional coordination	Adopted from Narver and Slater, 1990.	Measured by questions 12-16 in the questionnaire.
Intelligence generation	Adopted from Jaworski and Kohli, 1993.	Measured by questions 17-23 in the questionnaire.
Intelligence dissemination	Adopted from Jaworski and Kohli, 1993.	Measured by questions 24-29 in the questionnaire.
Intelligence responsiveness	Adopted from Jaworski and Kohli, 1993.	Measured by questions 30-40 in the questionnaire.
Dependent variable:		
Service innovation	Adopted from Grawe et al., 2009. (Service innovation capabilities)	Measured by questions 41-45 in the questionnaire.

Independent Variables

The independent variables for this research which used to measure market orientation are:

- **Customer orientation:** an organizational culture that encouraging better identification and communication with targeted customers which will lead to enduring creation of customer value (Narver and Slater, 1990). Customer oriented – firms generate intelligence related to the current and future customers needs then distributing that knowledge throughout the firm. As a result of understanding their customers' needs, they can share information with other parties to ensure the quick response to current needs and anticipate future needs. A crucial element of customer orientation is the concentration upon supply chain opportunities and obstacles from customer's point of view. (Denshpande et al., 1993; Narver and Slater, 1990) .Questions 1-6 were used to measure customer orientation.
- **Competitor orientation:** an organizational culture that emphasizes the full understanding of short term strengths and weaknesses and long term capabilities , abilities and strategies for both current and potential competitors (Denshpande et al ., 1993 ; Narver and Slater , 1990) . Questions 7-11 were used to measure competitor orientation.
- **Inter-functional coordination:** Coordinated utilization of company's resources in order to create and exploit the learning, and then ultimately creating superior value to customers. That coordinated integration of resources is closely related to the customer and competitor orientations since they are distributing customers experiences among departments (Narver and Slater, 1990).Questions 12-16 were used to measure inter-functional coordination.
- **Intelligence generation:** This is the starting point of market orientation. It is the extent to which a firm gathers primary and secondary data from every obtainable source, mainly from the organizations stakeholders such as customers, competitors, suppliers, and intermediaries in addition to market forces like social, cultural, economical, political, legal, technological and many other forces (Matsuno et al., 2000). Intelligence generation relates to both current and future needs, and that generation depends not only on customer survey, but also on a group of complementary mechanisms. Also, intelligence generation is not the exclusive responsibility of marketing department (Kohli and Jaworski, 1990) .Questions 17-23 were used to measure intelligence generation.

- **Intelligence dissemination:** The extent, to which information is communicated, distributed, shared, and discussed among marketing department and other departments through formal and informal tools (Moorman, 1995; Akgun et al., 2002). Slater and Narver (1995) suggested that firms which collect more and more information from their customers and competitors have the ability to enhance their speed and effectiveness in responding to opportunities and threats, it is also equally important to disseminate that intelligence to the interested parties in a timely manner. Questions 24-29 were used to measure intelligence dissemination.
- **Intelligence responsiveness:** is the behaviors and activities taken as a reaction to generated and disseminated intelligence, there are two phases: - response design and response implementation. Importantly, all departments participate in responding to current and future needs and wants in a market- orientated firms (Kohli and Jaworski, 1990). Questions 30-40 were used to measure intelligence responsiveness.

Dependent Variable

Service innovation: is the process of developing new services that will be perceived as new (never seen before), and are useful and gainful to a specific central customers (Flint et al., 2005; Grant, 1991). Also, service innovation can be considered as an organizational value, which includes both of innovation in organization for existing service products as customer requests or to fulfill organizations goals, and innovation in processes (Gadrey et al., 1995).

Hypotheses:

Based upon literature review, and the study framework, it proposes the following hypotheses:

H_{0.1}: There is no statistically significant effect of **market orientation** on **service innovation**.

Based upon the components of marketing orientation, the main hypothesis can be divided into the following sub-hypotheses:

H_{0.1.1}: There is no statistically significant effect of **customer orientation** on **service innovation**.

H_{0.1.2}: There is no statistically significant effect of **competitor orientation** on **service innovation**.

H_{0.1.3}: There is no statistically significant effect of **inter-functional coordination** on **service innovation**.

H_{0.1.4}: There is no statistically significant effect of **intelligence generation** on **service innovation**.

H_{0.1.5}: There is no statistically significant effect of **intelligence dissemination** on **service innovation**.

H_{0.1.6}: There is no statistically significant effect of **intelligence responsiveness** on **service innovation**.

Research Type and Scale

The research focuses on testing the effect of market orientation on service innovation. It is a hypothetico-deductive and correlated study depending mainly on cause and effect relationship, in which relationships and influence (cause and effect) between variables measured by using a multifaceted scale adopted from various prior researches. For each variable, a set of questions were adopted from another researchers to operationalize the study construct. The five point likert scale used in this research, where (1) represents "does not apply", (2) represents "applies to a small extent", (3) represents "applies to a medium extent", (4) represents "applies to a large extent", and (5) represents "applies totally".

Research Population

The population of this study is defined as all Intaj members that are included within Information and Communication Technology (ICT) sector in Jordan, which are 184 companies till February 2011. (int@j) is the Information Technology Association of Jordan which was founded in the year 2000 as an industry-support association for Jordan's ICT sector. Building on the nation's core asset of highly educated and skilled human resources. int@j envisages for Jordan's ICT sector to establish the position of a leading regional ICT hub and an internationally recognized exporter of ICT products and services. int@j's mission is to advance and promote the constituents it represents in both, the local and global markets. The association realizes its mission through positively influencing policy and legislation, offering capacities building programs, carrying out local and regional marketing activities, and providing members with value-added services that help them grow and prosper (intaj.net). Table (7) shows the research population. (Table (7) was attached in the appendix). The Information and Communication Technology (ICT) sector is appropriate to study market orientation and its effect on service innovation, since that field is characterized by dynamism, because of accelerated changes and many new firms entering that area.

As well as innovation is the main reason behind surviving and new products thriving of many small, medium- size firms (Laforet and Tann, 2006) and on the other hand a considerable findings (Atuahene- Gima, 1996; Gatignon and Xuereb, 1997; Lukas and Ferrel, 2000) support the positive relationship between market orientation and innovation as a whole. The ICT field is an area that is seen as an opportunity in which Jordan can increase its competitive advantage over other countries in the region. Consequently, Jordan has taken very serious steps in order to launch its major ICT initiatives aiming at developing the ICT sector (Intaj.net).

Research Sample and Unit of Analysis

Some of intaj members directory were excluded from the beginning before specifying the final research population since they are not specialized in ICT services rather they are beneficiaries from intaj services and facilities as a result of their memberships like: 4PS Integrated Marketing Communications, Abu Ghazaleh & Co., Akhtaboot, Aramex International Curier, Foursan Group, Khalifeh & Partners, LEMS Jordan, Nugul Group, Oasis 500, Pixels Media, Pinnacle Business and Marketing Consulting, Riyada for Business Development, Sanad Law Group, Sight and Sound, and Sukhtian Group. Other companies were excluded from the final research sample for other different reasons. After that only 50 companies from the remaining companies were fully cooperative to fulfill the research objectives successfully on timely basis.

Validity and Reliability of Scales

The researchers disseminated the research questionnaire in Arabic and English languages attached with the research problem, objectives, theoretical framework, hypothesis, and operational definitions upon a number of academic people who have a knowledge about the research topic to assess the ability of the questionnaire to measure what it is supposed to measure, that is, to ascertain the validity of the study instrument, then that group of academic people presented their feedback which resulted in a minor modifications.

(1) Pilot Study: Pilot study is a mini version of a full- scale study (feasibility of study), in addition to that it is a pre-testing of a research instrument like questionnaire. It is important to note that performing a pilot study does not secure study success, but it increases the probability (Teijlingen and Hundley, 2001). he researchers performed a pilot study with 15 employees within four companies from the research sample. The researchers met the employees according to a predetermined appointment. At the beginning the researcher presented herself and her research topic within 15 minutes, then disseminating the research questionnaire to discuss all its items with employees and asking them to give their feedback after fulfilling questionnaires to identify unnecessary, difficult or ambiguous questions.

(2) Reliability of Scales: Reliability is the extent to which a research measures are free from error and yield consistent results (Peter, 1979). Cronbach's alpha is a measure of internal consistency, which indicates how closely related a set of items or as a group. It is used to estimate the proportion of variance that is systematic or consistent in a set of test scores. Cronbach's alpha is not a statistical test; rather it is a coefficient of reliability or consistency. Cronbach's alpha reliability coefficient normally ranges between 0 and 1. The closer Cronbach's alpha coefficient is to 1 the greater the internal consistency of the items in the scale. Table (4) showed Cronbach's Alpha values, all values are greater than (0.60) which is good because it is greater than the accepted percent (0.60).These results mean that the internal consistency reliability was good and acceptable and can be considered to be reliable to achieve the research objectives.

Table (4) Reliability statistics

Study Scales	Cronbach's Alpha Values
Customer orientation	0.646
Competitor orientation	0.699
Inter-functional coordination	0.604
Intelligence generation	0.751
Intelligence dissemination	0.658
Intelligence responsiveness	0.744
Service innovation	0.672
For all items	0.931

Descriptive Analysis

The descriptive analysis allocated to investigate the levels of (1) market orientation and (2) service innovation within ICT companies in Jordan.

1. Marketing Orientation

The results showed in Table (5) that the level of implementation of market orientation concept is high, since the means for all variables (individual or combined) were higher than 3 and their standard deviations were lower than 1. The cultural perspective has a lower mean of 3.86 and a higher standard deviation of .632 compared with the behavioral perspective which has a mean of 3.91 and a standard deviation of .588. Though the differences were minor and the level of implementation is still high. Consequently, the general level of implementation for the market orientation concept (combined both cultural and behavioral perspectives) is high with a mean of 3.89 and a standard deviation of .610. This means that these companies have a high level of implementation for the market orientation concept.

Among the cultural perspective variables, Customer orientation variable has occupied the highest mean of 3.87 and the lowest standard deviation of .615, followed by the competitor orientation variable with a mean of 3.86 and a standard deviation of .657. While among the behavioral perspective variables, intelligence dissemination variable has the highest mean of 3.96 with a standard deviation of .583 (and it has the highest mean among all market orientation variables). Because intelligence generation equals nothing unless it is disseminated effectively and there is no efficient response without effective dissemination.

Table (5) Means, Standard Deviations and Levels of Implementation for Market Orientation Construct

Independent variables	Means	Std. deviations	Levels of implementation
Cultural perspective (Narver and Slater, 1990)			
Customer orientation	3.87	.615	High
Competitor orientation	3.86	.657	High
Inter-functional coordination	3.85	.624	High
For all variables (cultural perspective)	3.86	.632	High
Behavioral perspective (Kohli and Jaworski, 1990)			
Intelligence generation	3.91	.602	High
Intelligence dissemination	3.96	.583	High
Intelligence responsiveness	3.86	.578	High
For all variables (behavioral perspective)	3.91	.588	High
For all variables (cultural and behavioral perspectives)	3.89	.610	High

Note: The researchers considered (3) as the mean of the scale (1+2+3+4+5/5), which means that 3 represents a medium level,

2. Service Innovation

Table (6) Means, Standard Deviations and Levels of Implementation for Service Innovation Items

Variables	Items	Means	Std. deviations	Levels
1	Innovation is readily accepted in our program / project management.	4.08	.513	High
2	Our company's top management gives special emphasis to service innovation.	3.94	.683	High
3	Our company constantly seeks new ways to better service our customers.	3.79	.656	High
4	Our company is able to change (modify) our current service approaches to meet special requirements of customers.	3.83	.699	High
5	Compared to our competitors, our company is come up with new service offerings.	3.80	.612	High
6	Total service innovation	3.89	.633	High

The results in table (6) showed that service innovation mean was 3.89 with a standard deviation of .633. The results were considered high. The results showed that the highest mean was 4.08 with the lowest standard deviation of .513 for item number (41), which demonstrates that innovation (as a whole) is extensively adopted within selected companies, as one of their core values or as a strategic element within companies cultures. While the lowest mean 3.79 with a standard deviation of .656 was for item number (43).

Testing Hypotheses

This part is concerned about answering the second question of the research problem which is " What is the effect of market orientation on service innovation within Information and Communication Technology (ICT) sector in Jordan?" and the third question which is " What is (are) the most influential element(s) of market orientation elements which might affect on service innovation within Information and Communication Technology (ICT) sector in Jordan?". Multiple linear regression analysis was used to test the research main and sub- hypotheses of this study. Multiple regression enables researcher to examine the effect of many different factors (independent variables) on certain outcome (dependent variable) at the same time. The general goals behind using the multiple regression method were to learn more about the relationship between several independent variables and a dependent variable, also to investigate the functional relationships between independent and dependent variables, in order to understand what might be causing the variation in the dependent variable.

The Main Hypothesis

H_{0,1}: There is no statistically significant effect of market orientation on service innovation.

Table (7) Model summary

Model	R	R square	Adjusted R square	Std. Error of the estimate
1	.860	.740	.734	.21514

a: predictors: (constant), customer, competitor, coordination, generation, dissemination, responsiveness.

Table (8) Analysis of Variance (ANOVA)

Model	Sum of squares	Df	Mean square	F	Sig.	Result
Regression	32.086	6	5.348	115.537	.000	Reject the main null hypothesis
Residual	11.247	243	.046			
Total	43.334	249				

a: predictors: (constant), customer, competitor, coordination, generation, dissemination, responsiveness. b: dependent variable: innovation

The correlation coefficient R is a statistical technique which shows whether and how strongly pairs of variables are related to each other, here the correlation coefficient $R = .860$ which means that there is a strong positive relationship between market orientation (as a whole) and service innovation. On the other hand, coefficient of determination (R square) presents the proportion of the variation in the dependent variable explained by the regression model. Here in this study, $R^2 = .740$ which means that 74% of the variability of service innovation has been explained by the market orientation dimensions, it indicates to the goodness of fit of the study model since increasing the level of implementation of market orientation will increase the level of implementation of service innovation. Adjusted R square value of this study equals .734 which is very similar to R square value = .740, since adjusted R square values always less than or equal R square, it means that if the model has been fitted when the whole population participates rather than those who responded in the study, there will be .006 (.740 - .734) less variance in the model outcome. Adjusted R square is generally considered to be more accurate goodness-of-fit measure than R square

It is clear that F-value for the collected primary data was 115.537 which is significant at the level of $p < 0.05$ (sig. = .000). Consequently, the main null hypothesis is rejected and the main alternative hypothesis is accepted which means that there is a statistically significant effect of market orientation on service innovation.

Table (9) : The Results of sub-hypotheses

Model	Standardized coefficients	Un -standardized coefficients		t	Sig.	Result
		B	Std. Error			
(constant)		.176	.214	.823	.411	
Customer	.433	.485	.083	5.846	.000	Reject the null hypothesis
Competitor	.555	.493	.065	7.646	.000	Reject the null hypothesis
Coordination	.353	.405	.067	6.036	.000	Reject the null hypothesis
Generation	.165	.177	.091	1.948	.53	Accept the null hypothesis
Dissemination	.311	.361	.082	4.386	.000	Reject the null hypothesis
Responsiveness	.097	.132	.061	2.143	.033	Reject the null hypothesis

Table (9) started with an estimation of beta for each independent variable of this study. It gives a measure of the contribution of each variable to the model. A large value indicates that a unit change in this predictor variable has a large effect on the criterion variable. Competitor orientation, customer orientation and inter-functional coordination (cultural perspective) represented the highest beta values which were .555, .433, .353 respectively. The intelligence responsiveness, intelligence generation and intelligence dissemination (behavioral perspective) represented the lowest beta values which were .097, .165, .311 respectively while competitor orientation, customer orientation, and inter-functional coordination have the highest contributions in the research model. The second part of table (9) demonstrated t and sig. values, which give a rough indication of the impact of each predictor variable. A big absolute (t) value and a small (p) value indicate that a predictor variable is having a large effect on the criterion variable.

Table (9) also showed that all the sub-hypotheses which were derived from the main hypothesis were rejected except only one sub-hypothesis which is related to the intelligence generation component. This means that each component of marketing orientation is significantly affect on service innovation except intelligence generation component

Research Findings & Discussion: The hypotheses testing have arrived to the following results and conclusions that compare with the previous general findings or observations:

1. The Extent of the Implementation of Market Orientation and Service Innovation :

Descriptive analysis indicated that there is a strong positive tendency towards market orientation, since its mean was 3.89 with a standard deviation of (.610) which represented a high range of application. To be more specific, the cultural perspective of market orientation has a lower mean 3.86 with a standard deviation of .632 than the behavioral perspective of market orientation with a mean of 3.91 and a standard deviation of .588. This finding confirmed the notion that the cultural perspective and the behavioral perspective are the most widely used and discussed for market orientation. Also, it is consistent with the conclusion that: researchers emphasized that dealing with market orientation as a group of behaviors, activities and practices rather than as a feature of organizational culture may benefit the organization though both view points are precious (Hurley and Hult, 1998).

After examining the results, it is clear that the highest degree of implementation was for customer orientation with a mean of 3.87, because creating value and keeping the satisfied customers are the major goals for market oriented firms (Day, 1994), followed by competitor orientation with a mean of 3.86. Several researchers considered customer orientation and competitor orientation as crucial strategic orientations (Sorensen, 2009), consistent with Hunt and Lambe (2000) who suggested that market orientation is the marketing's contribution to business strategy, and the lowest degree of implementation was for inter-functional coordination (according to the cultural perspective).

Furthermore, the results showed a high level of implementation of service innovation construct, as its mean was 3.89 with a standard deviation of .633, it might be explained partially by the conclusion that new small firms are frequently entering markets with new ideas, activities, processes, products and services (De Jong and Marsili, 2006) as well as Jordanian small and medium size companies in the IT sector are now maximizing their expenditures on IT services (www.jordaninvestment.com).

The researchers proposed that the surrounding affects positively and reinforces Information and Communication Technology companies to maximize the level of implementation of market orientation and service innovation, as ICT sector has a direct support from the government, in addition to supportive structures which are mainly intaj, Ministry of Information and Communication Technology and Telecommunications Regulatory Commission. More specifically, Jordan was the first country in the Arab world to has a fully liberalized telecommunication market, as well as Jordan modernized 75% of ICT related laws to be a market oriented regulations, enhancing the business environment for local and international investors, as well as Jordan has led the area by instituting the first independent telecommunications regulatory body to find a competitive, fair, peace, attractive and pure business environment, also Jordan has a higher percentage of university graduates in IT specializations (www.jordaninvestment.com).

2. The Effect of Market Orientation on Service Innovation.

The results showed the presence of a statistical significant positive relationship between applying market orientation concept and service innovation $R = .860$, this result is in line with the findings of Atuahene-Gima, 1996; Gatignon and Xuereb, 1997; Lukas and Ferrell, 2000 who supported the positive relationship between market orientation and innovation. To be more specific it is consistent with Kandampully and Duddy (1999) who suggested that market oriented firms have the capabilities to anticipate new preference or Lukas and Ferrell (2000) are aware of competitors activities before the others, also can imitate their recent innovation or develop new service offerings if imitating competitors becomes clear and easy to do, as well as Jaworski and Kohli (1996) suggested in their recent studies that it is unacceptable to deem that innovation is absent in the model of market orientation (This study is consistent with what have been demonstrated in the previous relevant studies, according to: (Hurley and Hult, 1998; Panesar and Markeset, 2008; Kuusisto and Meyer, 2003; Gronroos, 2000; Kandampully, 2002, Ordanini and Maglio, 2009; Atuahene-Gima, 1996; Junarsin, 2010).

This study concluded that competitor orientation has the highest degree of impact on service innovation (Beta= .555) since the existence or commination of current or potential competitors works as a motivator to find innovative service offerings (Dickson, 1992), followed by customer orientation (Beta= .433) marketing researchers have concentrated their efforts upon two orientations which are customer orientation and competitor orientation (Gatignon and Xuereb, 1997; Menguc and Auh, 2005; Narver and Slater, 1990). Inter-functional coordination has a beta of .353.

On the other hand, intelligence responsiveness (Beta= .097), intelligence generation (Beta= .165) and then intelligence dissemination (Beta= .311) have the lowest beta values (table 28).

Multiple regression analysis indicated that there is a statistically significant effect of customer orientation on service innovation, the same result obtained after testing the second sub- null hypothesis which means that there is a statistical significant effect of competitor orientation on service innovation, that result was harmonic with Han et al.(1998) notion that combining customer orientation and competitor orientation will reinforce and motivate organizations overall innovativeness, also it is consistent with Grawe et al.(2009) finding which assured the positive relationship between customer orientation and competitor orientation with service innovation capability.

This study concluded that employees within marketing and sales departments of the selected companies appreciate the significance of inter-functional coordination and its crucial influence upon service innovation. While both customer orientation and competitor orientation are external, inter-functional coordination is internal, it is concerned about utilizing the resources which were generated by several means and that thing requires a cooperative business environment in which every one is responsible a bout the whole business, in addition to having an efficient firm (like efficient market in finance) where all information is available to all concerned parties without ignoring the importance of organizational structure since its design affects upon the communication process.

The surprising result is that there is no statistical significant effect of intelligence generation on service innovation, that contradiction with what has been expected might be attributed to the quality of collected data, organizations might be sticking to collect huge amounts of data, so that they are focusing on the quantity of data that they collect rather than the quality of it. Knowledge and information which they need to provide an innovative service offering must be obtainable to help in understanding and responding effectively to the external environment and market demands. Only some sorts of information enable the decision makers to specify the gaps in service offerings in order to exploit new opportunities, as Grawe et al. (2009) concluded that lack of marketplace intelligence may hinder the creation of service innovation capabilities and the researcher assumed that the intended shortage of marketplace intelligence pertain to information quality rather than information quantity. In addition to that, many researchers (Zirger and Hartley, 1996; Moorman, 1995; Barczak and Sultan, 2001; Park et al. 2009; Blazevic et al. 2003) concluded that a huge a mount of collected information may affect negatively on innovation speed.

According to the prior inferential statistics, there is a statistical significant effect of intelligence dissemination on service innovation, since intelligence dissemination activities expand the extent to which firms employees participate understanding and believing of their marketing strategy design and implementation (Sinkula, 1994) which in turn enhance their capabilities to present innovative service offerings.

The final sub-null hypothesis is rejected which means that there is a statistical significant effect of intelligence responsiveness on service innovation which is consistent with Moorman (1995) notion is that there is a positive relationship between information exploitation (intelligence responsiveness) and effective decision making processes and implementation which result in higher level of new product performance.

The following Figure (2) illustrates the modified research theoretical framework according to the independent variables beta values. Each independent variable within market orientation construct is listed in a descending order to reflect its significance in implementing service innovation.

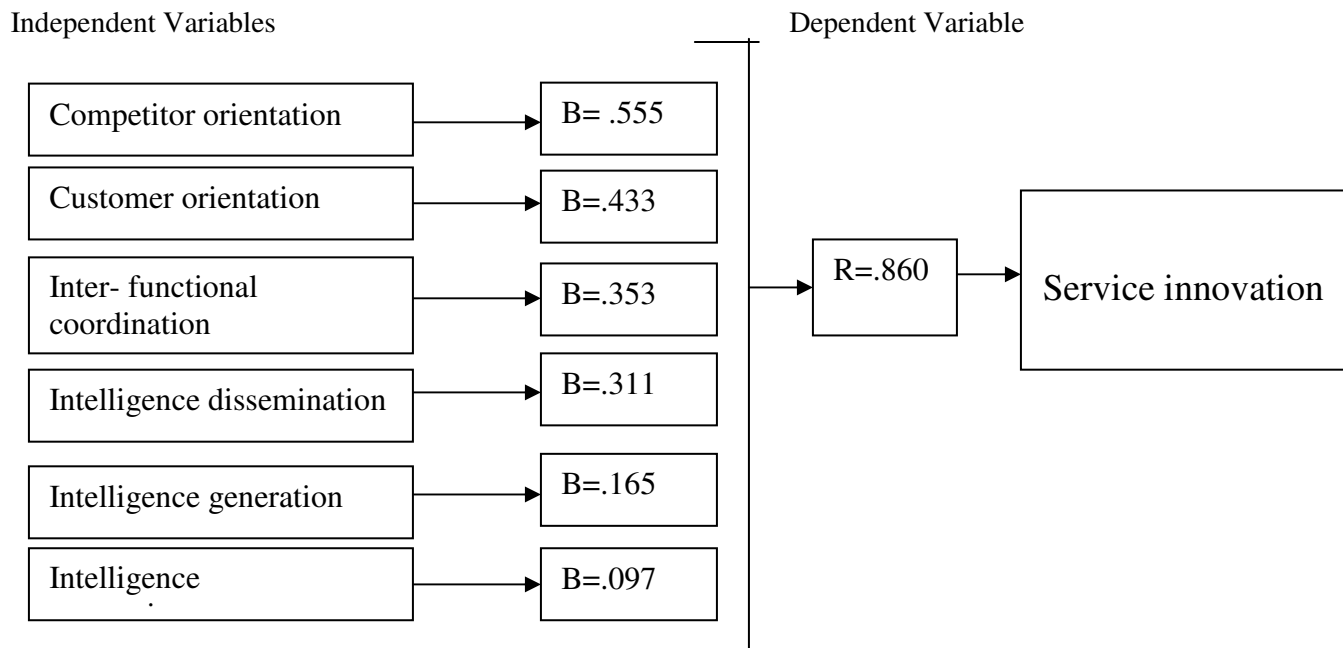


Figure (2) Modified Research Theoretical Framework

Recommendations and Implications

According to the previously presented results and analysis, the researchers can recommend the following:

- 1- The correlation between market orientation and service innovation was reasonably high and positive $R=.860$. From a managerial perspective, it suggests that organizations should adopt market orientation constructs to increase the levels of service innovation.
- 2- Among the six components of market orientation, competitor orientation has the greatest effect on service innovation. So that, Jordanian ICT companies must be careful about the actions and activities of their current competitors without neglecting the threat of potential competitors and that process (tracking competitors) must be frequent, periodic, effective, efficient and on timely basis through marketing intelligence and many other formal – informal tools.
- 3- Jordanian ICT companies should direct more of their capabilities toward benefiting their customers as much as possible, in addition to broaden the area of customer participation to express their needs and wants through several techniques such as: focus groups, efficient websites, activate customer service techniques, in depth interviews, having managerial styles which enhance and facilitate customers contact with decision makers, responding effectively to customers complaint, improving after sales services, maintain long term relationships with customers, encouraging customer to state his- her opinions, suggestions or ideas and many other techniques.
- 4- It might be helpful to modify the organizational structure of Jordanian ICT companies in order to facilitate inter-functional coordination activities (by enhancing the type and speed of communication), in addition to institute organized databases to perform this task smoothly, in which relevant information is accessible to related parties.
- 5- Jordanian ICT companies must be careful about the quality of information that they collect and appreciate its value before intelligence dissemination, since developing innovative service offerings requires unique sets of information.
- 6- This study concluded that intelligence dissemination affects service innovation. Therefore, the selected company's cultures have to maximize the importance of communication between all functional departments, and then translate that culture into behaviors through periodic interdepartmental meetings. In addition to, instituting comfortable systems or databases in which information exchange processes are clear and simple to accomplish that objective successfully.

- 7- This study revealed that intelligence responsiveness affects service innovation and that requires a deliberate response system on timely basis, several tools could be used to attain that objective such as hot communication lines to handle customers inquiries and transfer their requirements or complaints, tracking customers preferences frequently using e-mails, telephones, observations and many other tools of marketing intelligence, then modifying service offerings or create new service offerings which may solve customers problems, since customers expect firms to delight them with innovative service offerings, as well as handling customers complaints effectively.
- 8- Additional research is needed to enhance the validity and reliability of service innovation scale items and their ability to achieve the research objectives.
- 9- Applying the research model within other sectors (different research settings) to investigate the differences and their implications, in addition to evaluate and reinforce the generalizability of the results.
- 10- Including moderating variables such as organizations size, organizations age, organizational structure, competitive environment or employee satisfaction to investigate their influence upon service innovation.
- 11- There are several market orientation models with multiple components, consequently, future research can add or exclude other components of market orientation to test their impact on service innovation based on the research setting.

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