

***AN INVESTIGATION INTO THE IMPACT OF E-CUSTOMS ON  
STRETCHING STRATEGIC THINKING (CASE STUDY: ISLAMIC  
REPUBLIC OF IRAN CUSTOMS ADMINISTRATION (IRICA))***

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### **Abstracts**

Challenges facing the customs organization continuously change its management system in different countries and customs managers face a large number of challenges. Globalization tendencies, increased technological developments, customer-orientation, decreased product life cycle, change in product nature, regionalism and competition diversity demand a new form of leadership. The managers, therefore, need to be prepared for administrating changes in dynamic environments. On the other hand, the organizations should also take the necessary actions in order to change and improve the current procedures; otherwise, they will jeopardize their existence and perpetuity because today the existence of organizations is threatened more than ever before. Considering the difficulties and bottlenecks of strategic planning, strategic thinking is used today as an important instrument assisting managers to solve problems and promote competitiveness and dynamics. The aim of this study is to investigate the impact of establishing e-customs on stretching strategic thinking. It is a survey study in terms of method where the statistical population is composed of all technical experts of IRICA in 2015, i.e. a total number of 650 cases 234 of which were selected through simple-random sampling using Krejcie and Morgan method. Data was collected using a researcher-made questionnaire. Its validity was confirmed through formal validation and its reliability was calculated using Cronbach's alpha (0.726). All data was analyzed in SPSS 19. According to data analysis results, e-customs affects strategic thinking dimensions with a different influence on every dimension. The results showed that the impact of establishing e-customs on systems thinking, creativity, conceptual thinking, intelligent opportunism, and foresight was 15%, 17%, 17%, 13%, and 22%, respectively. Hence, it is proposed that managers pay special attention to foresight and then to creativity and conceptual thinking in organizations.

### **Research paper**

**Keywords:** *E-customs, conceptual thinking, creativity, intelligent opportunism, strategic thinking, systems thinking*

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## **Introduction**

As the complexity and problems of organizations increase, the need for providing better solutions and adopting more powerful instruments of strategic planning becomes more apparent because strategic thinking enables managers to deliver more effective performance thanks to a better understanding of the strategic plan. It can be argued that as a supplementary element to strategic planning, strategic thinking is considered a proper organizational “leadership” approach that can contribute to systematically coping with problems, understanding opportunities, allocating scarce resources optimally, and finally achieving the intended outcomes (Monavvarian, Aghazadeh, Shahamatnezhad, 2012). Strategic thinking can be assumed as the foretaste of the future design of an organization (Pellegrino, Kimberly C, Carbo and Jerry, 2001). According to the results of a study on the identification of required managerial skills for managers of Asian countries, all responders identified strategic thinking as the first or the second skill required for improving managers’ performance (Wakabayeshi, Mitsuru, Kondo, Mari & Zhiguang, Chen, 2001).

As the first and the most important authority of foreign trade regulations concerning international business including banking, insurance, and transportation, the customs organization is influenced by the conditions governing the international trade chain. The customs organization is responsible for controlling and confirming information received from different sources. The more accurate and timely the reception of the information, the better the performance of the customs. Today, the use of e-customs has an ever-increasing trend across the world with the southeastern Asian countries as the pioneers of e-customs in a way that such countries as Malaysia and

China, with a great export and import share in the world, use this system to accelerate and facilitate their trade. The use of e-customs in other Asian countries including Singapore, Taiwan, Japan, etc. is growing (Boyd, Habbs et al, 2003). E-customs minimizes the use of paper documents, reduces filing activities and errors, facilitates access to permits and reduces operational costs. Therefore, one can argue that it has facilitated international trade (Wong, 2006).

The huge bulk of commercial interactions and increased speed of commercial deals cause the customs organization to change as their customers expect to clear goods from the customs as fast as they purchase and carry them. Moreover, the trade society expects transparent, predictable procedures and faster clearance due to the emergence of e-commerce. To meet these expectations, IRICA has reviewed and modernized procedures and processes of the most important administrative customs of Iran using ICT and e-commerce to support customs operations. Considering the above issues, this study investigates the impact of establishing e-customs on stretching strategic thinking. The major question of the research is this: “To what extent does establishing e-customs impact stretching strategic thinking?”

### **Study Objective**

- To investigate the impact of establishing e-customs on stretching strategic thinking

### **Subsidiary Objectives**

- To investigate the impact of establishing e-customs on systems thinking
- To investigate the impact of establishing e-customs on creativity

- To investigate the impact of establishing e-customs on conceptual thinking
- To investigate the impact of establishing e-customs on intelligent opportunism
- To investigate the impact of establishing e-customs on foresight

## **Definition of Main Variables**

### **Strategic Thinking**

Strategic thinking is a continuous process with the aim of clarifying ambiguities and giving sense to a complex environment. This process involves position analysis and creatively integrates analysis results within a successful strategic plan (Bonn, 2005).

### **E-Customs**

E-customs is the use of e-business in customs aimed at meeting administrative and service needs in order to better fulfill the demands of different stakeholders contributing to international trade and transportation and to increase trade competition through accelerated clearance of goods, increased revenue, as well as border security and protection. The customs organization should concentrate on two targets in parallel in performing its routine tasks. The first one is to provide international trade facilities and the second one is to apply rules and regulations. Achieving both targets in a simultaneous, balanced manner is an important challenge for the customs organization. Utilizing IT can aid the customs organization to achieve the above targets. IT can considerably change customs and customs services practically removing most previous restrictions and replacing traditional procedures with

modern ones in order to put the aforementioned targets into practice. E-customs involves modern technologies, especially IT, in conducting customs formalities and shipments. The implementation of e-customs requires the provision of software, systemic, and human force infrastructures (Elahi and Hasanzadeh, 2007).

## **Literature Review**

### **The Strategic Thinking Concept**

The term strategic thinking is used mistakenly in many instances to hint concepts such as strategic planning or strategic management (Liedtka, 1998). It is necessary, therefore, to investigate these concepts separately in order to highlight the differences.

Strategic thinking is a creative, divergent process (Heracleous, 1998) associated with the perspective designed by the leaders of an organization. Strategic thinking requires managers to think beyond routine procedures in order to concentrate on the intended long-term strategic purpose considered for the business. It includes several activities such as gathering information and discussing and analyzing the governing conditions of the organization (Early, 2006; Radovic Markovic et al., 2012). In companies with diverse activities, however, it deals with responding the main questions concerning the organization portfolio (Nadler, 2004).

Other authors concentrated on the strategic management process. They either express that a good strategic planning will aid strategic thinking (Porter, 1990) or imply that a well-designed strategic management system

will facilitate strategic thinking in an organization (Thompson, Strickland, 1999).

Mintzberg apparently differentiates between strategic thinking and strategic planning concepts and says: “Strategic planning is not strategic thinking.” He believes that strategic planning concentrates on analysis and deals with interpretation, expansion of details, and configuration of current strategies. On the other hand, strategic thinking emphasizes combination and use of intuition and creativity to imagine a coherent image of an organization. He argues that strategic planning is a process that should ensue strategic thinking (Mintzberg, Lampel, 1999). Liedtka (1998) developed Mintzberg’s theories on strategic thinking in the framework of a conceptual pattern. This pattern clearly presents the main elements of strategic thinking. She suggested five main pillars for strategic thinking (Fred, 1999):

- 1- Systems perspective
- 2- Strategic intent
- 3- Hypothesis drive
- 4- Intelligent opportunism
- 5- Thinking in time

She believes that understanding these elements and identifying their interrelations are the prerequisites of strategic thinking. Such an understanding enables an organization to:

- create more values for customers compared with the competitors;
- employ innovative (non-imitable) methods;
- adapt with environmental changes and development.

The first element, i.e. the *system perspective*, implies that a person as a strategic thinker should have a comprehensive model of value chain from

the beginning to the end of the chain and should understand the mutual dependencies and interrelations of members and their interactions in the internal and external systems. The second element is *strategic intent* implying a consistent will for achieving targets and visions that demands concentrating on orienting and strengthening defined strategies. The third element is *hypothesis drive* the aim of which is to increase creative hypothesizing power and managerial examination of the hypotheses. The fourth element is intelligent opportunism that includes environmental intelligence and demands attention to business changes and the resulting opportunities. The fifth element is thinking in time. Considering the past and current time and generalizing it to future, one should always adopt timely thinking (Monavvarian, Aghazadeh, Shahamatnezhad, 2013).

### **Elements of Strategic Thinking**

According to the above discussions, strategic thinking plays a vital role in strategic management. Therefore, it is important to enlist the dominant characteristics of strategic thinkers (Talkur and Calingo, 1992). This section, thus, reviews the characteristics referred to in the literature. Dozens of scholars have discussed the dimensions of strategic thinking. Talkur and Calingo, for example, argued that several characteristics contribute to strategic thinking such as being active, bearing risk, centralized control, and power relations (Farhangi and Dehghannaiieri, 2010; Kawamorita Kesim et al., 2013; Zanjani et al., 2013). Through a conceptual literature, Liedtka expressed the elements of strategic thinking as system vision, thinking over time, hypothesis orientation, intentionality, and optimism. She argued that these elements together empower the organization to be flexible against

changes that in turn will yield good outcomes to the organization (Liedtka, 1998).

Goldsmith attributes several properties to a strategic thinker like an inventor, a divergent thinker, a motivated person, empowered in managing the right hemisphere, and pioneer in adopting changes. Commitment and sensitivity to new ideas are other needs of a strategic thinker in his view (Goldsmith, 1996).

According to Abraham, there are several factors affecting the promotion of strategic thinking including entrepreneurship attempts, finding new opportunities, futurism, cooperation, and being different in the meaning of doing organizational routine works in a different way (Abraham, 2005).

Acur and Englyst define strategic thinking in their studies using a number of elements such as awareness of the status of industry and competitors, self-criticism, awareness of the major problems of the company and learning from previous experiences (learned lessons) (Acur. Nuran and Englyst. Linda. 2006).

All of the aforementioned researchers studied strategic thinking and its elements at the individual level. However, another group of researchers considered the organizational environment in addition to the elements of the individual level. Of course, the latter group concentrated, again, on the elements of the individual level. Liedtka, for example, stated five factors as the characteristics of strategic thinking: systems thinking, perspective, strategic intent, intelligent opportunism, thinking in time, and hypothesis-driven thinking.

She also pointed out that although strategic thinking originates from individuals, the individuals need to benefit from an organizational infra-



structure supporting strategic thinking and strategic dialogue in an organizational atmosphere (Liedtka, 1998).

The strategic thinking organizational model of Rahmanseresht and Kafche (2008) is the only model that has surveyed strategic thinking at the organizational level in Iran and is used as the basis of this study. This model divides strategic factors into content factors and process factors. The content factors include creativity, vision, and systems thinking while the process factors include strategic relations, and strategic analysis. The factors will be discussed as follows.

**Creativity:** Creativity is a strategy for creating ideas and developing replacement solutions aimed at creating competitive advantage. Strategic thinkers should predict new ways and solutions to better perform tasks. Various researchers took creativity into account (e.g. Amabil, 1993, 1998, De-razin et al., 1999, Oldham and Kamminggz, 1996, Woodhamen et al., 1993; Bonn, 2001; Markovic and Salamzadeh, 2012; Deshpande et al., 2014). In order to be a creative person, one needs to have the ability of challenging current concepts. Another condition is the ability of establishing relations between subjects that seem unrelated to each other. De Bouteu (1996) clarifies that: “Without creativity we cannot completely use available information and experiences that have been locked within traditional structures, patterns, concepts, and perceptions” (Bonn, 2005).

**Vision:** Vision is one of the important characteristics greatly emphasized by most researchers. Helen Keller argues that: “The poorest man in the world is a seeing man who lacks an idealistic vision” (5). A real vision determines

orientations and paves the ground for concentrating on the internal activities of an organization. It is spread throughout the organization and develops commitments and commonality feeling throughout it. Such a vision inspires employees' minds and builds an environment enabling individuals to use their talents and expertise to the largest possible extent (Ilies, R. Nahrgaus and Morgeson, 2007). Kalins and Poras confirmed the importance of a clear vision. According to their studies, there is a significant difference in the efficiency of activities between companies with a clear vision and companies without a clear vision (Nazemi, Mortazavi, Jafariyani, 2010).

**Systems thinking:** According to Coffman (1991), systems thinking is to change the view to the organization from considering the organization as a combination of different unlinked, unrelated units (employees) competing on organizational resources to considering the organization as an overall system in which the relation of every unit with the entire organization is defined in an integrated manner. This view causes employees to distance themselves from the routine procedures and to think how different issues and problems are related to each other, how they affect each other, and how a solution in a department affects other departments (Bonn, 2005).

**Strategic relations:** This factor is among the emphasized characteristic (Rahmanseresht and Kafche, 2008). Bonn (2001) believed that organizations should provide senior managers with a time and space in which they can participate regularly in making discussions on strategic issues, visions, and ideas. If strategic discussions are performed in a constructive manner, they will result in synergy as a set of minds complementing each other will

bring more awareness and insight as compared to a single mind (Bonn, 2001).

Liedtka (1998) believed that strategic dialogues are interactions by which strategic selections are made, built, and examined and their fundamental logic is developed. Aizenhard (1997) stated that such dialogues cause managers to develop effective, clear arguments and transfer them to others (Bonn, 2001).

### **Strategic Thinking at the Organizational Level**

According to Bonn (2005), to have a proper framework for strategic thinking we need to consolidate the concentration of micro level on individuals and groups with the concentration of macro level on the organization and organizational context. In other words, this demands the validation of the influence of individuals' unique characteristics and actions on organizational context and the influence of organizational context on individuals and their thoughts. Apparently, the characteristics of a strategic thinker will be reinforced and will become valuable provided that structure and processes are supported at the group and organizational levels. Bonn believed that strategic thinking is not limited to senior managers and lower managerial levels play a role in this process and engage in it (Bonn, 2005). Referring to previous studies on strategic thinking, Goldman stated in his study that the ability of strategic thinking has been defined for a long time as a requirement of senior managers. However, this ability is necessary in lower organizational levels due to the increased complexity of the social environment (Zahra, O'Neill, 1998).

Strategic thinking is a way by which the employees of an organization think, evaluate, observe, and create the future for themselves and others (Bonn, 2005). Morisi suggested that at the organization level strategic thinking is defined as the coordination of creative ideas within a common vision that enables the organization to approach towards developing a method that makes all stakeholders happy in future (Zavala, 2007).

In their studies, the researchers mentioned a number of characteristics that play a vital role in inducing strategic thinking at the organizational level including organizational culture, organizational structure, compensation system, technology, and information system (Ohmae, 2009).

### **E-Customs**

Customs is traditionally responsible for controlling the entrance and exit of goods and people to and from the geographical borders of countries. This control is generally exercised to enforce the sociocultural policies of governments. Historically, providing obstacles against heavy tariffs or providing a tariff-free condition was practiced by countries to maintain and develop their economic condition. The great changes of the production field like advanced technologies were used to the diversification of the production process and manufacturing companies thanks to the creation of multinational companies and international consolidations. On the other hand, the world faced the development of international communications like the emergence of worldwide network and the development of powerful communication devices. However, there was the globalization of economy and other changes that bear to be minds the concept of global village. All these factors have

caused the customs of countries to identify their new role and adopt them with the changes.

Customs is responsible for controlling and validating information from different sources. The more accurate and timely the reception of the information, the better the performance of the customs. According to a new definition, customs is as an organization that provides services to the economy of societies through providing services to the trade society and facilitating their works and collecting customs' tariffs and duties and providing the governments with accurate economic information and statistics. Therefore, IT can aid customs to meet these requirements and at the same time maintain previous missions. Utilizing e-customs is growing in the world with the countries of southeastern Asia as the pioneers of e-customs, in a way that a group of countries like Malaysia and China, with a great export and import share in the world, have adopted e-customs to facilitate and accelerate their trade. The use of e-customs in other countries like Singapore, Taiwan, Japan, etc. has an increasing trend (Boyd and Habbs et al, 2003). Today, customs emphasize the accelerated clearance of shipments in a paperless environment or through a minimized use of such paper documents. E-customs has facilitated international commerce thanks to the minimized use of paper documents, decreased filing works, decreased errors, more accessible permits, and decreased operational costs. The following figure compares manual and electronic clearance systems (Wong, 2006).



**Figure 1.** Manual and electronic clearance systems (Wong, 2006)

## E-Custom Requirements

The Kyoto Convention is the fundamental basis of customs procedures across the world. IRICA Act of Customs Affairs submitted to the cabinet and approved by the Islamic Parliament has been developed in accordance with this convention. According to this convention and the World Customs Organization (WCO) recommendations to 161 countries of the world, we are moving toward e-customs establishment. Therefore, the necessity of implementing and continuing this plan is apparent for us. The main task of e-customs is to collect the customs' duties and tax and the government share of import and to safeguard the economic existence of a society through controlling traffic and travelers in borders. To perform these tasks in the present era, the customs needs to review regulations and instructions and define the infrastructures of e-commerce, considering other commercial and travelling regulations, in order to overcome the hurdles of executive and legal differ-

ences and inferences and to endeavor to simplify these procedures as much as possible. In line with this definition, the customs needs to pay attention to the work condition influencing the customs of developing countries (Beamon, 2011).

- 1- Commercial interactions between international and multinational companies
- 2- Security requirements that change and expand momentarily
- 3- Ever-increasing growth of goods and consignments
- 4- The need of e-commerce for optimal use of ICT
- 5- Building relations and networks between the customs and other organizations related to trading affairs

In addition to the mentioned conditions and requirements, the unique characteristics of e-commerce create a commercial network and a virtual borderless market across the world by itself. This market provides the necessary instruments for applying essential and forward changes in commercial activities (Cachon, Fisher, 2009). Apparently, time is the crucial element of commerce. Trade and its main executive, i.e. the private sector, expect states, and consequently the customs, to adopt e-management systems in order to quickly clear commercial consignments from customs without wasting time through a coordinated and uniform function that is a prerequisite for establishing and running an open network. Since electronic methods are being expanded in commercial activities, the main challenge of the customs is to pass a stage in which all commercial activists are seriously interested in adopting electronic methods. To pass this stage, the customs needs to become more active and efficient than before.

To do so, the customs should use emerging opportunities and e-instruments to modify traditional procedures and develop modern mechanisms for consignment of goods. To this end, ASYCUDA is used. If the customs continues its forward movement at this stage to become more coordinated, this will assure the achievement of changes and efficient commercial methods in present and future. To achieve these targets, the customs needs to be equipped with different kinds of electronic services. In addition to paving the ground for communicating with other customs, these services should be simple services that are easily put to use (Hau L, Lee, 2012).

### **E-Customs and National and International Competition**

The customs is not a mere inspector and supervisor system. If it fails to provide suitable services to facilitate customs functions, markets will be lost. If an exporter, for example, fails to access a foreign market at the same speed and at the same time as those of its competitors, presence in that market will be irrelevant. This means that the competitors will gain more time to capture that market (Min. H, Zhou, 2012; JamehBozorgi & Dashtaki, 2014).

### **Research Background**

Amini et al. (2013) measured the extent of systems thinking among the senior staff managers of Tehran University of Medical Sciences using the Goldman model. Their findings revealed that systems thinking has an acceptable condition near most staff managers of the university. This study revealed that the senior staff managers of this university are committed to systems thinking at a desirable level. The promotion and reinforcement of



this type of thinking between the staff managers of the university, especially the holistic and multifinality vision, is recommended (Amini et al, 2013).

Elahi and Hasanzadeh (2007) studied the role of e-customs in facilitating export activities. According to the results, establishing e-customs clarifies the activities of customs concerning the export due to performing the routine procedures electronically, e-documentation of customs activities associated with export using a common structure, and establishing an online relation between supervisor departments and customs activities associated with export. These, in turn, facilitate the export of services and goods (Elahi and Hasanzadeh, 2007).

Saei and Nakhaei (2009) studied the role of the customs in increasing the productivity of international supply chain through information sharing mechanisms. According to their studies, information sharing in supply chain is of a high importance in supply chain management discussions in a way that paying attention to it will alter supply chain. In the process of integration, especially in multinational supply chains where every element of the chain is located in a different country, it is necessary to share the available information of the chain and, in other words, to integrate the chain virtually.

The supply chain of a commodity sometimes crosses several countries. This results in a new process in the chain called the customs. This process is sometimes time consuming while in today's world, where exchange rates are increasing quickly, short procedures in the customs have a remarkable effect on the improvement and simplification of international trade.

The customs, in fact, is the last loop of the export chain at the exporter country whereas it is the first loop of the import chain at the importer

country. Generally, all stages of the customs deal with controlling and validating information received from different sources. The more accurate and timely the reception of the information, the better the performance of the customs. The use of e-customs makes it possible for all components of the international supply chain to access all information related to the goods and their manufacturers at every instant. This, in turn, promotes the efficiency of the supply chain (Saei and Nakhaei, 2009).

The study of Goldman et al. (2009) indicated that female managers establish low organizational relations, while male managers accept more challenges as compared to females. As a career experience, this can help male managers to develop strategic thinking (Goldman et al., 2009).

Goldman and Casey (2010) expressed that special job experience and organizational culture can help managers to develop their abilities in employing strategic thinking. Therefore, as the founder of the organizational culture, the leaders helps the maintenance of maximized relations between organizational culture, learning process, and implementation of strategic thinking (Goldman and Casey, 2010).

Goldman (2010) introduced in his last study the frequency of those leadership activities of organizations that can strengthen the culture of strategic thinking in the organization. Discussions with 400 executive managers of health care organizations in the U.S. revealed that those managers who used leadership activities more frequently have put long term plans, investing in human resource development, and job learning in the top line of their field in order to become empowered in strategic thinking. He concluded that the organizational culture affects managers' strategic thinking (Goldman, 2013).

Wong (2006) suggested that e-customs can decrease the time of administrative functions from 20 minutes to 2 minutes on average through increasing capabilities and increased use of Internet infrastructures and utilizing ERP concepts (Wong, 2006).

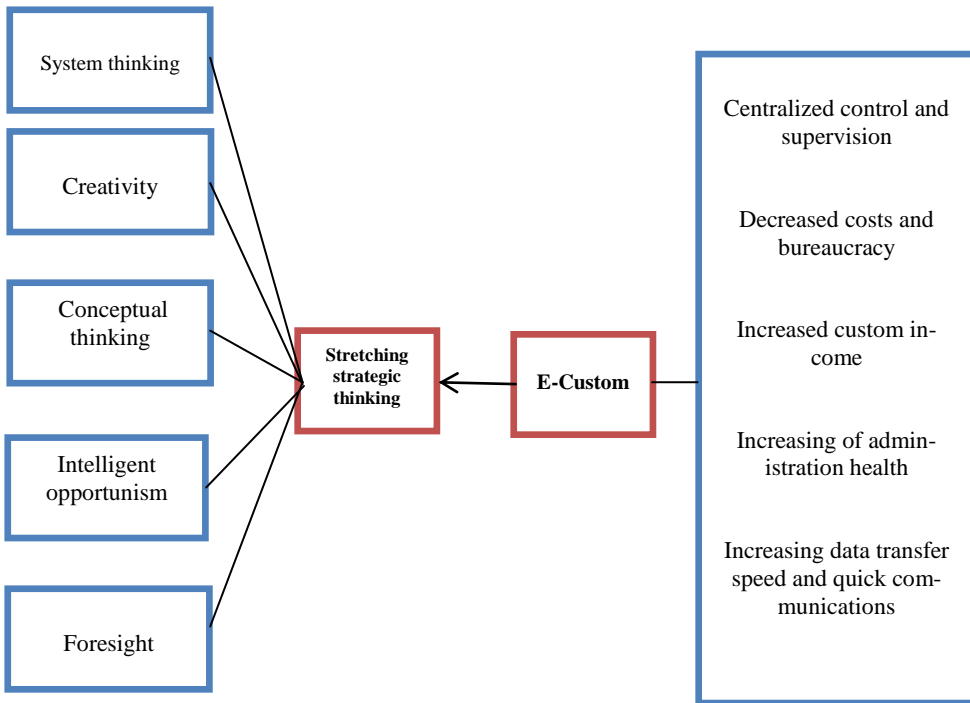
### **Conceptual Model**

E-commerce is a major part of e-government. The customs, naturally, plays a central role in the realization of e-government. The use of IT and ICT is an inevitable choice due to the increased work procedures and executive operations in different industries and occupations as well as the tight time window, in a way that without employing this technology the execution of different works will experience serious disruptions. To this end, the grounds for establishing electronic systems are paved in most countries of the world and accordingly in Iran. In accordance with global changes, IRICA makes actions to automate its activities, i.e. the automation of all customs operations and data that have been launched in Mehrabad Airport since 1997 and developed in three phases gradually. Although e-customs has been established in most countries and is active now, it is influenced by three factors. This study investigated the effect of strategic thinking on the realization of e-customs. In the modern approaches of strategic thinking, strategy is realized through the ability of creating, not predicting, the future. In this way, understanding opportunities and discovering new solutions by managers form a new perspective for the organization. In these approaches, the role of instruments and methodology becomes lower and, in contrast, human plays the main role as the main strategist (Morin, 2009). This clarifies the importance of concentrating on strategic thinking. Recent studies considered

strategic thinking as an important subject for management studies, in a way that it is considered as a major ability of managers and leaders who show desirable performance (Zahra and O'Neil, 1998, Calins, Lu and Arnet, 2001).

Pointing out to previous studies, Goldman notes that the ability of thinking in a strategic manner has been identified as a requirement for senior managers for a long time. However, this ability will be needed in lower levels of the organization due to the increased complexity of the social environment (Goldman, 2008). On the other hand, Bonn's study introduces the lack of strategic thinking as the major problem of organizations (Bonn, 2001). Considering the importance of strategic planning in organizational success as well as the relation between strategic thinking and strategic planning, there is a primary idea suggesting that successful managers who make their organizations successful think within the strategic thinking frameworks.

The conceptual model of this study based on theoretical foundations and previous studies is drawn as follows:



**Figure 2.** The conceptual model

- Establishing e-customs has a significant effect on systems thinking
- Establishing e-customs has a significant effect on creativity
- Establishing e-customs has a significant effect on conceptual thinking
- Establishing e-customs has a significant effect on intelligent opportunism
- Establishing e-customs has a significant effect on foresight

## **Methodology**

This section discusses the study method, statistical population, sampling method, sample size, study tool, validity and reliability of questionnaire, data collection, and data analysis.

This is a survey study in terms of implementation, a cross-sectional study in terms of time criteria, an applied, exploratory- descriptive study in terms of application, and an extensive study in terms of deepness criteria. The population is composed of all technical experts of IRICA in 2015 (total number=650) 234 of which were selected through simple random sampling method using Krejcie and Morgan method. A researcher-made questionnaire was used for data collection purposes. The researcher asked questions from the sample cases through conducting interviews. Formal validity was used to assess the validity of the questionnaire. To this end, the questionnaire was submitted to the supervising professor and necessary corrections were made based on his/her opinions.

To assess the reliability of the questionnaire, it was distributed among 10% of the population and completed. Then, Cronbach's alpha was calculated ( $\alpha=0.726$ ). Data was analyzed descriptively and inferentially using SPSS 19. At first, data was encoded and introduced to SPSS 19 and then proper statistics for variables, including mean and STD, were used to describe the variables. Regression analysis was used to investigate the effect of the independent variable on the dependent variable.

## **Findings**

When the questionnaire was completed by sample cases, it was encoded and introduced to SPSS 19. This section describes the studied cases in terms of demographic variables including sex, age, marital status, education, etc. Some descriptive results will be presented along with necessary statistics using descriptive tables and then bivariate analysis will be performed using required statistics.

### **Part 1: descriptive analysis**

Sex, age, education, marital status, career

Of 234 cases, 82 cases (35%) were female and 152 cases (65%) were male. Since the measurement level of this variable is nominal, the only allowable variable is model (the most frequent data). 35 cases (15%) aged <30, 28% aged 31-35, 35% aged 36-40 and 3.4% aged >46. Regarding education, 9.8% of cases were diploma, 4.3% were A.A, 62.8% were B.S, 14.1% were M.A and 9% were PhD. 15.8% of cases were single (not married at all) and 84.2% were married. Regarding career, 2.6% , 38.5%, 17.9%, 27.4% and 13.7% of cases had an employment record of <5 years, 6-10 years, 11-15 years, 16-20 years and >21 years, respectively.

### **Study Hypotheses**

This section investigates the effect of the main variable on the dependent variables using single variable regression for each hypothesis in order to show that whether or not the main variable has an effect.

**Hypothesis 1: Establishing e-customs has a significant effect on systems thinking**

**Table 1.** multiple correlation coefficients, coefficient of determination, adjusted coefficient and standard error of the estimate

| R     | R.square | Adjusted R.square | Std. Error of the Estimate | F     | Sig.  |
|-------|----------|-------------------|----------------------------|-------|-------|
| 0.240 | 0.157    | 0.153             | 0.325                      | 14.14 | 0.000 |

The correlation between the establishment of e-customs and system thinking is 0.240. However, the resulted coefficient of determination is 0.157. The adjusted coefficient of determination, in accordance with the introduced variable, is 0.153 or 15%. This means that this variable accounts for more than 15% of changes in system thinking variable. In other words, 85% of changes are related to other variables. The significance test of the coefficient of determination (F) suggests that whether or not the resulted coefficient is significant. In this study the value of F is 14.14 with a significance level of 0.000. This means that it is 99% significant that in turn implies that the resulted coefficient of determination is significant.

**The impact factor of the independent variable on the dependent variable**

**Table 2.** regression standardized and unstandardized coefficient of the effective variable on system thinking

| model           | Unstandardized coefficients |            | Standardized coefficients | t    | Sig.  |
|-----------------|-----------------------------|------------|---------------------------|------|-------|
|                 | B                           | Std. Error | Beta                      |      |       |
| constant        | 36.79                       | 4.503      |                           | 8.17 | 0.000 |
| e-customs value | 0.528                       | 0.140      | 0.240                     | 3.76 | 0.000 |



Regression line equation:  $R=A+B(x)$

System thinking= $28.52+1.244(\text{establishment of e-customs})$

Regression coefficient (b): according to results, the regression coefficient of establishing e-customs equals to 0.528 while the standardized coefficient is estimated 0.240. The estimated value as per t-test is 3.76 which is significant at a confidence level of 99% regarding its significance level that is 0.000. Therefore, hypothesis 1 is confirmed.

### **Hypothesis 2: Establishing e-customs has a significant effect on creativity**

**Table 3.** Correlation coefficients, coefficient of determination, adjusted coefficient and Std. Error of Estimate

| R     | R Square | Adjusted R Square | Std. Error of Estimate | F     | Sig.  |
|-------|----------|-------------------|------------------------|-------|-------|
| 0.270 | 0.173    | 0.169             | 4.24                   | 18.26 | 0.000 |

The correlation between the establishment of e-customs and creativity is 0.270. The resulted coefficient of determination is 0.173 and the adjusted coefficient of determination based on the analyzed variable in 0.169 or 17%. This means that this variable accounts for 17% of changes in the creativity and 83% of changes are related to other variables not seen and examined in this study and its hypotheses. The value of F is 18.26 with a sig. level of 0.000 implying that it is significant at a confidence level of 99%.

**Table 4.** Regression standardized and unstandardized coefficient of the effective variable on creativity

| model           | Unstandardized coefficients |            | Standardized coefficients | t    | Sig.  |
|-----------------|-----------------------------|------------|---------------------------|------|-------|
|                 | B                           | Std. Error | Beta                      |      |       |
| constant        | 28.52                       | 5.89       |                           | 4.84 | 0.000 |
| e-customs value | 1.244                       | 0.291      | 0.270                     | 4.27 | 0.000 |

Regression line equation:  $R=A+B(x)$

Creativity=28.52+1.244(establishment of e-customs)

Regression coefficient (b): According to results, the regression coefficient of establishing e-customs equals to 1.24 while the standardized coefficient is estimated 0.270. The estimated value as per t-test is 4.27 which is significant at a confidence level of 99% regarding its significance level that is 0.000. Therefore, hypothesis 2 is confirmed.

**Hypothesis 3: Establishing e-customs has a significant effect on conceptual thinking**

**Table 5.** correlation coefficients, coefficient of determination, adjusted coefficient and Std. Error of Estimate

| R     | R Square | Adjusted R Square | Std. Error of Estimate | F     | Sig.  |
|-------|----------|-------------------|------------------------|-------|-------|
| 0.230 | 0.192    | 0.178             | 9.60                   | 2.310 | 0.002 |

The correlation between the establishment of e-customs and conceptual thinking is 0.230. The resulted coefficient of determination is 0.192 and the adjusted coefficient of determination based on the analyzed variable is 0.178 or 17%. This means that this variable accounts for more than 17% of chang-

es in the conceptual thinking variable. The value of F is 2.310 with a sig. level of 0.000 implying that it is significant at a confidence level of 99%.

**Table 6.** regression standardized and unstandardized coefficient of the effective variable on conceptual thinking

| model           | Unstandardized coefficients |            | Standardized coefficients | t    | Sig.  |
|-----------------|-----------------------------|------------|---------------------------|------|-------|
|                 | B                           | Std. Error | Beta                      |      |       |
| constant        | 28.52                       | 5.89       |                           | 4.84 | 0.000 |
| e-customs value | 1.244                       | 0.291      | 0.270                     | 4.27 | 0.000 |

Regression line equation:  $R=A+B(x)$

Conceptual thinking=54.07+0.276(establishment of e-customs)

Regression coefficient (b): According to results, the regression coefficient of establishing e-customs equals to 0.276 while the standardized coefficient is estimated 0.221. The estimated value as per t-test is 4.9 which is significant at a confidence level of 99% regarding its significance level that is 0.000. Therefore, hypothesis 3 is confirmed.

**Hypothesis 4: Establishing e-customs has a significant effect on intelligent opportunism**

**Table 7.** correlation coefficients, coefficient of determination, adjusted coefficient and Std. Error of Estimate

| R     | R Square | Adjusted R Square | Std. Error of Estimate | F    | Sig.  |
|-------|----------|-------------------|------------------------|------|-------|
| 0.193 | 0.176    | 0.133             | 9.52                   | 4.14 | 0.041 |

The correlation between the establishment of e-customs and intelligent opportunism is 0.193. The resulted coefficient of determination is 0.176 and

the adjusted coefficient of determination based on the analyzed variable is 0.133 or 13%. This means that this variable accounts for 13% of changes in the intelligent opportunism variable. The value of F is 4.14 with a sig. level of 0.04 implying that it is significant at a confidence level of 95%. Therefore, the resulted adjusted coefficient of determination is significant.

**Table 8.** regression standardized and unstandardized coefficient of the effective variable on conceptual thinking

| model           | Unstandardized coefficients |            | Standardized coefficients | t     | Sig.  |
|-----------------|-----------------------------|------------|---------------------------|-------|-------|
|                 | B                           | Std. Error | Beta                      |       |       |
| constant        | 120.12                      | 7.06       |                           | 17.07 | 0.000 |
| e-customs value | 0.458                       | 0.357      | 0.135                     | 1.275 | 0.006 |

Regression line equation:  $R=A+B(x)$

Intelligent opportunism= $120.12+0.458(\text{establishment of e-customs})$

Regression coefficient (b): According to results, the regression coefficient of establishing e-customs equals to 0.458 while the standardized coefficient is estimated 0.357. The estimated value as per t-test is 1.275 which is significant at a confidence level of 95% regarding its significance level that is 0.006. Therefore, hypothesis 4 is confirmed.

**Hypothesis 5: Establishing e-customs has a significant effect on foresight**

**Table 9.** correlation coefficients, coefficient of determination, adjusted coefficient and Std. Error of Estimate

| R     | R Square | Adjusted R Square | Std. Error of Estimate | F    | Sig.  |
|-------|----------|-------------------|------------------------|------|-------|
| 0.274 | 0.245    | 0.230             | 6.57                   | 1.27 | 0.022 |

The correlation between the establishment of e-customs and foresight is 0.274. The resulted coefficient of determination is 0.245 and the adjusted coefficient of determination based on the analyzed variable in 0.230 or 23%. This means that this variable accounts for 23% of changes in the foresight variable. The value of F is 1.27 with a sig. level of 0.022 implying that it is significant at a confidence level of 95%.

**Table 10.** regression standardized and unstandardized coefficient of the effective variable on conceptual thinking

| model           | Unstandardized coefficients |            | Standardized coefficients | t     | Sig.  |
|-----------------|-----------------------------|------------|---------------------------|-------|-------|
|                 | B                           | Std. Error | Beta                      |       |       |
| constant        | 43.8                        | 8.6        |                           | 5.059 | 0.000 |
| e-customs value | 0.398                       | 0.352      | 0.240                     | 1.13  | 0.022 |

Regression line equation:  $R=A+B(x)$

Foresight=43.8+0.398(establishment of e-customs)

Regression coefficient (b): According to results, the regression coefficient of establishing e-customs equals to 0.398 while the standardized coefficient is estimated 0.240. The estimated value as per t-test is 1.13 which is signifi-

cant at a confidence level of 95% regarding its significance level that is 0.022. Therefore, hypothesis 5 is confirmed.

## **Conclusion**

Challenges facing the customs organization have continuously changed the management system of customs in different countries from long times ago. The management system of IRICA, however, has understood the need for changes in its structure. Today, it is seriously perceived that the international competition components and pressures governing the world trade system, disrupt the desirable efficiency of customs system and therefore, a new model and framework should be designed and implemented to this organization as soon as possible. E-customs wave has influenced almost all companies of different economies and the companies have no choice to capture e-commerce. In this new age, the development of strategy is nothing but the design of the targets of e-commerce strategic thinking. Like a guide light this, in turn, will facilitate all attempts and actions carried out to properly implement e-commerce aimed at gaining competitive advantages in the electronic world. On the other hand, the e-commerce, in turn, will affect the method of developing strategic thinking.

According to hypothesis 1 results, establishing e-customs affects system thinking that accounts for 15% of changes in this variable. To explain this more, one can argue that the establishment of e-customs causes managers to leave loose thinking and to better understand the relations between different sections of an organization, the relations between different problems and discover that how different problems are related with each

other. In this way, they can understand the general problems of the organization with this vision.

According to hypothesis 2 results, the establishment of e-customs has a significant effect on creativity (17%). To explain this more, one can argue that the creativity is an element differentiating individuals and organizations. Managers seek for new solutions and noble ideas through establishing e-customs. Managers monitor different conditions of the organization and combine different solutions in order to develop their own creative solution. Without creativity, managers will not be strategic managers.

According to hypothesis 3 results, establishing e-customs has a >17% influence on conceptual thinking. To explain this more, one can argue that the change of views to an organization from a separate system to a holistic system causes managers not to sink into routine problems of the organization and can identify the effect of different problems and their dimensions and observe them within the frameworks forming the organization activity.

According to hypothesis 4 results, establishing e-customs affects intelligent opportunism (13%). To explain this more, one can argue that establishing e-customs makes it possible to review planned strategies and to introduce new strategic options associated with new conditions. However, it makes it possible to suggest proper hypotheses concerning work environment and to examine their effectiveness.

According to hypothesis 5 results, the effect of establishing e-customs on foresight is 22%. To explain this more, one can argue that establishing e-customs clarifies the perspective and targets of an organization and draws the orientation of works and activities to managers and employees

and makes them to avoid unnecessary activities that are not in line with the drawn targets.

It will be a challenging task to define the extent to which each element is applied. This will show the weakness and strengths of an organization in the implementation of strategic thinking. Finally, it can be argued that trade and its main executive i.e. the private sector, expects governments, and accordingly customs, to apply e-management systems enabling them to quickly clear their consignments from customs using a coordinated operation without wasting time. Since electronic methods are being expanded in commercial activities the main challenge of customs is to pass a stage in which all commercial activists are seriously interested in adopting electronic methods. To overcome the challenge, customs should be more active and efficient than before. To do this, the organization should use emerging opportunities and e-instruments to modify traditional procedures and apply modern mechanisms for the consignment of goods. To achieve these targets, customs needs to be equipped with different kinds of services and electronic services. In addition to paving the ground for communicating with other customs, these services should be simple services that are easily used.

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