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## **EXPLAINING THE ROLE OF TRUST AND RISK UNDERSTOOD IN ELECTRONIC BUSINESS AND INTERNET FUNCTION**

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### **ABSTRACT**

Trust as one of the empowerment components in electronic business is regarded as the critical characteristic of a web site success in the virtual world in addition to a key factor in maintaining and developing stable relations to customers. High level of trust not only meets the customer's upmost expectations but also remove realized risk and uncertainty of online deals. This research tried to study trust and realized risk backgrounds and their role in tendency towards electronic purchase of petrochemical companies listed in Tehran Stock Exchange. This study is regarded as an applied research in terms of goal and descriptive-correlation in nature. Research hypotheses were tested using Spearman correlation test and chi square test.

**Keywords:** *Electronic Business; Internet; Trust; Realized Risk; Petrochemical Companies*

### **INTRODUCTION**

Most of economists, experts and provident believed that e revolution has occurred in recent years like industrial revolution. This revolution entered the world in to the information age, deeply changed most economic, social and cultural aspects of human life and through utilizing innovative technologies, has achieved a new and incredible level of dynamism and change.

The deep changes emerged in economic relations among people, companies and states are considered as an information age dimension so that introduced a new phenomenon named electronic business and electronic commerce which altered most economic concepts, basics and theories; to the extent that 'traditional economy' term has gradually been replaced by 'internet-based economy'.

Nowadays, using internet and businesses obtained from this technology by companies has been become a means of getting competing advantage in businesses.

E-commerce based on internet enables customers to search for information and purchase goods and services through direct contact to net markets. It must be mentioned that internet shopping is not based upon real shopping experience but it is more concerned about appearances such as picture, figure, quality information as well as promotions (advertisements) (Lohse and Spiller, 1999).

But, what causes avoidance of applying e-commerce and online buy and sell by organizations and consumers are distrust and realized risk. Realized risk is an uncertainty in purchase environment where consumers may consider purchase and its significance and results a mistake and or an inappropriate decision.

Since risk objective measurement is difficult, the literature in this area concentrated on user's perceptions. Realized risk is also defined as the citizen's subjective expectations from pain and suffering of losing in pursuing a desired outcome (Warkentin *et al.*, 2002).

Realized risk in e-commerce may reduce user's tendency toward information exchange and execution interactions. Indeed, realized risk is regarded as an important factor influences on customer behavior (Pavlou, 2003).

### **MATERIALS AND METHODS**

#### **Research Purposes**

How much trust and realized risk may influence on the tendency toward using internet and e-commerce in organizations?

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**Sub Purposes**

1. Explaining the relation of trust with realized risk in the function of internet and e-commerce.
2. Explaining the relation between trust and personal privacy concerns in internet and e-commerce application.
3. Explaining realized risk relation with personal privacy concerns in internet and e-commerce application.
4. Explaining the relation between the realized risk and safety knowledge in internet and e-commerce application.

**Statement of the Problem**

**Trust Significance in E-commerce**

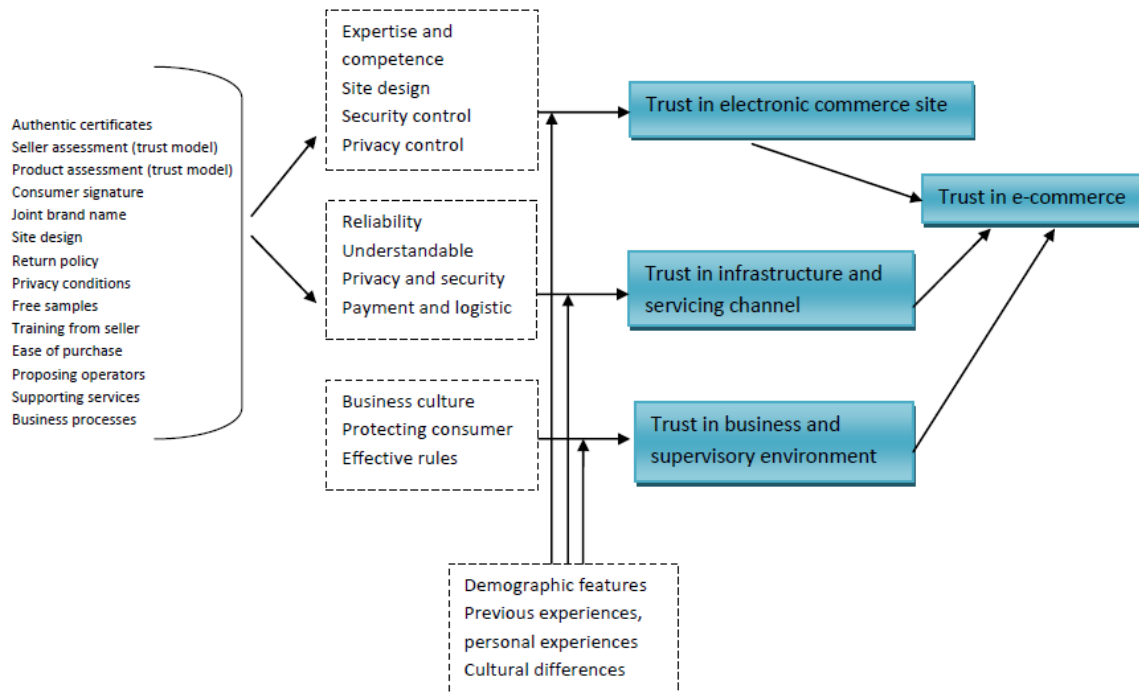
Trust, dealing with distrust and dependency in most social interactions, is a critical element. Online transactions and commerce relations not only possess distrust feature, but also carry other features such as anonymousness, lack of control, potential opportunism, as well.

The significance of creating and maintaining trust survival between buyer and seller as a facilitator is considered as success in e-commerce. In addition to academic studies, there are large numbers of experimental studies investigating the role of trust in e-commerce in terms of trust different aspects and multidimensional structure.

**Effective Factors in Trusting E-commerce**

Generally, there are three important effective factors in trusting e-commerce. 1. Trusting to e-commerce site; 2. Trusting infrastructure and servicing channel. 3. Trusting to business and monitoring environment. Effective factors in trusting to e-commerce site include expertise and competence, site designing, ease of use, security control and privacy monitoring. The elements influence on trust to the infrastructure and service providing channel contain reliability, realizable, security and privacy, payment and logistic. Factors such as business culture, protecting consumer, effective rules and regulations are counted as influencing on trusting to business and monitoring environment (Sanayei, 2002).

Moreover, demographic features, previous experiences, personal characteristics and cultural differences also influencing in trust to e-commerce.



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### ***E-commerce Appeal***

In the following are the causes of e-commerce high attractiveness and appealing:

1. Cost reduction. There would be a reduction in the cost of ordering before goods delivery as well as after sale service's cost after goods providing, if e-commerce site is well implemented.
2. More purchase in each transaction. Amazon site offers a property that ordinary, general stores lack such. When you study a book specification, it is also possible to see the names of those who ordered the aforementioned book and other similar purchases. So, this enables you to see what other related, similar books others have purchased. There would be, thus, the possibility of higher book purchase by site visitors compared to an ordinary book store.
3. If the web site is designed in a way involving other business stages, there makes possible to get more information about the purchased products for customers. The customers are always enabled to see their order last status if Dell incorporation, for instance, registers each computer status from production to supply (Sarafi, 2004).

### ***E-commerce Status in Iran***

Public use of internet, in Iran, is mostly restricted to universities and research issues. The centers created in cities also limitedly use internet mostly for external telephoning and electronic operations. Furthermore, most regulations and required foundations for e-commerce are not yet provided in the countries. Therefore, it could not be expected e-commerce to be extended in the community so fast. Ranking of e-commerce, in 2000, in 60 countries of all around the world indicated this. This ranking that indeed shows e-commerce facility and accessibility in nations applied tow general indices of trading environment and communication. 70 criteria were used in trading environment including economy prevalence, political perspective, monitoring environment, and commerce degree of freedom as well as investing, based of which Iran scored 3 of 10 being ranked 59.

Information, the other index, constitutes of criteria such as distributed telecommunication network and communication in addition to criteria explaining internet accessibility like internet connection cost, literacy rate, etc. Iran is ranked as 58 of 60 countries based on this index. Low non-oil commerce, inappropriate technical facilities, inadequate required legal areas to use e-commerce, relatively high primary cost of applying e-commerce in state and private companies particularly in small institutes, exclusiveness of government in telecommunication, internet and inefficiency, low indices of telephone and cellular prevalence, low public knowledge, as well as lack of knowledge and culture of using e-commerce and internet network, lack of Iran membership in world trade organization,... all are considered as factors leading insufficient performance in the e-commerce domain.

### ***Research Background***

Sajedi, in a study named evaluating the effect of e-service quality on building online customer's trust in Tehran operators companies concluded that customer trust has gained considerably importance as the present world e-commerce development. Electronic servicing provides a unique opportunity for businesses in order to present new models of valuing to customers.

The results of Mousavi (2002) study named e-commerce and security are as follows. Electronic exchange technology is not merely limited to automation of manual operations and reserving paper based approaches; rather, its application plays a determining role in enhancing organization's efficiency and profitability, improving management and facilitating trading transactions and intercourses. In general, it fundamentally changes the way organizations activate.

Azizi and Haj (2008) studied organizational readiness (preparedness), market dynamism, e-commerce advantages and risks and innovation capacity variables, through a different, innovative approach, in applying e-commerce in small corporations. The results showed that organizational readiness, advantages of e-commerce, market dynamism and company's innovation positively influence on e-commerce, respectively. Whereas, e-commerce risks negatively influences.

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Qi and Mc Gillian (2007) study demonstrated that the speed of accepting internet in geographical region mainly influences on e-commerce application in small and medium enterprises. They conducted the study in Berry region, Manchester, England.

Stockdale and Standing (2006) showed that inclination of small enterprises in converting in to a virtual firm can be a major factor of applying this technology.

Evanz, also, discussed electronic life cycle notion. This cycle demonstrates how an electronic business progress over time. In Evanz point of view, electronic life cycle includes brochure, e-commerce, e-business, e-enterprise stages.

**Research Validity**

Validity of research was determined through using a standard questionnaire derived from “An Empirical Investigation on Customer's Privacy perception” research published in ISI and confirmed by advisors.

**Research Reliability**

Data analyze using SPSS software can calculate tools reliability by Cronbach alpha method; however, it is also obtained by a formula. More obtained percentage closer to 100%, higher reliability of the questionnaire (Moghimi, 1998).

Data were analyzed, in this research, by descriptive statistical approaches including frequency and bar graph. Sample’s demographic data and research hypotheses were analyzed using statistical tests including agreed table, Spearman correlation test and chi square test.

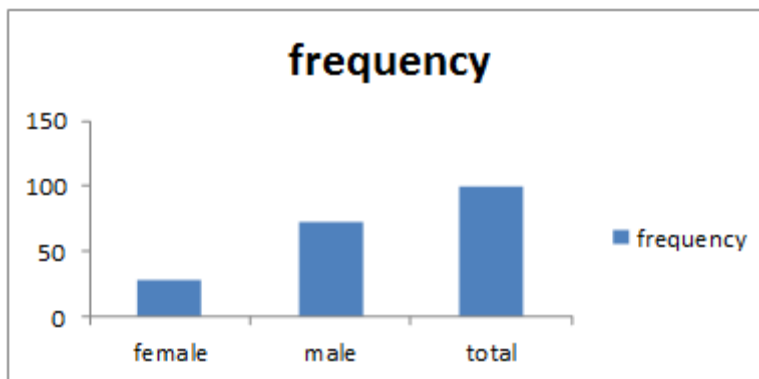
**RESULTS AND DISCUSSION**

**Descriptive Analysis**

The goal of statistics is to inference many observations obtained from society. So, the first question raised here is that whether a large set of values can be described and how the large observations from society can be organized in a framework (Azar and Momeni, 2002). In this analysis, the researcher studied sample’s demographic data through using adequate descriptive data analysis tools. Data analysis results are as follows.

**Table 1: Respondents gender**

Gender	Frequency	Frequency percentage
Male	72	72%
Female	28	28%
Total	100	100%



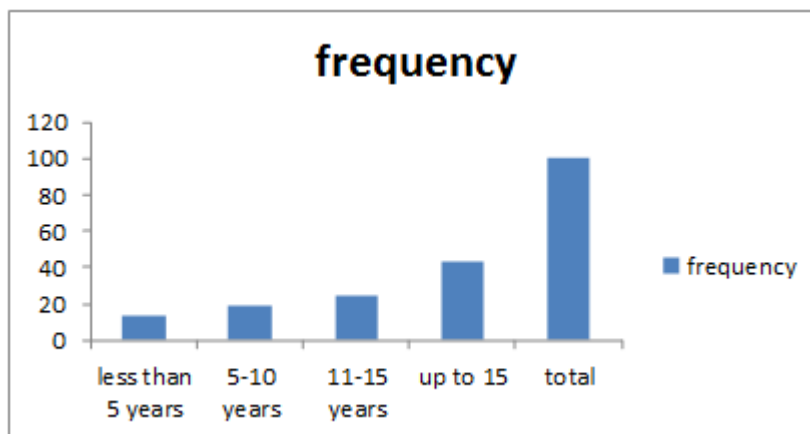
**Graph 1: Respondents gender**

As it can be seen, most of the respondents were male consisting 72%.

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**Table 2: Respondent’s servicing experience**

Service experience	Frequency	Frequency percentage
Less than 5 years	14	14%
Between 5-10 years	19	19%
Between 11-15 years	24	24%
Up to 15 years	43	43%
Total	100	100%

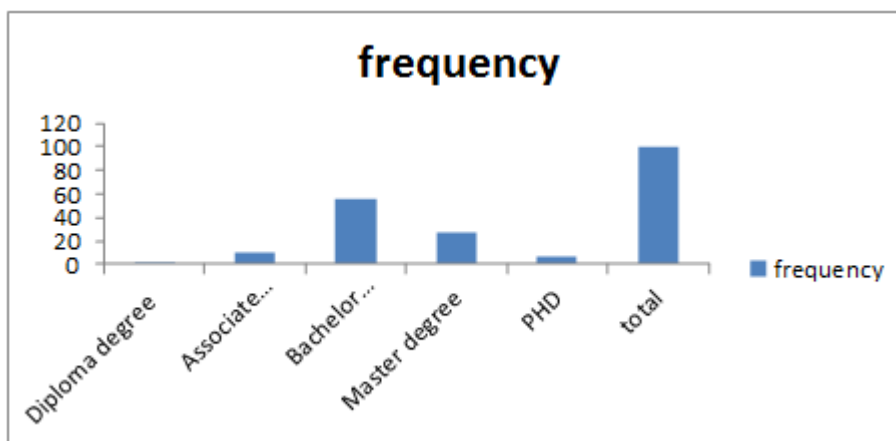


**Graph 2: Respondent’s service experience**

Most respondents had up to 15 years service experience.

**Table 3: Respondent’s education**

Education	Frequency	Frequency percentage
Diploma	2	2%
Associate degree	10	10%
Bachelor degree	55	55%
Master degree	27	27%
PHD	6	6%
Total	100	100%



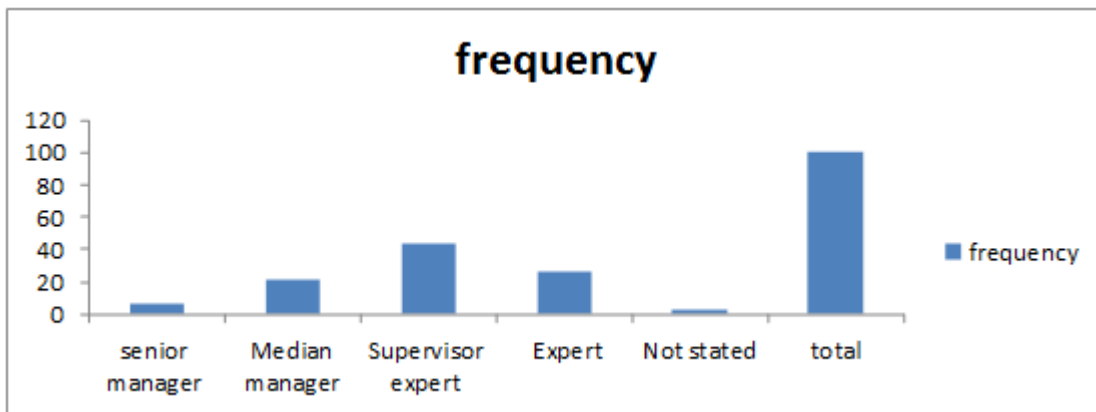
**Graph 3: Respondent’s education**

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Questionnaire results indicated that 2% of respondents had diploma degree, 10% associate degree, 55% bachelor degree, 27% master degree and 6% PHD.

**Table 4: Respondent’s position**

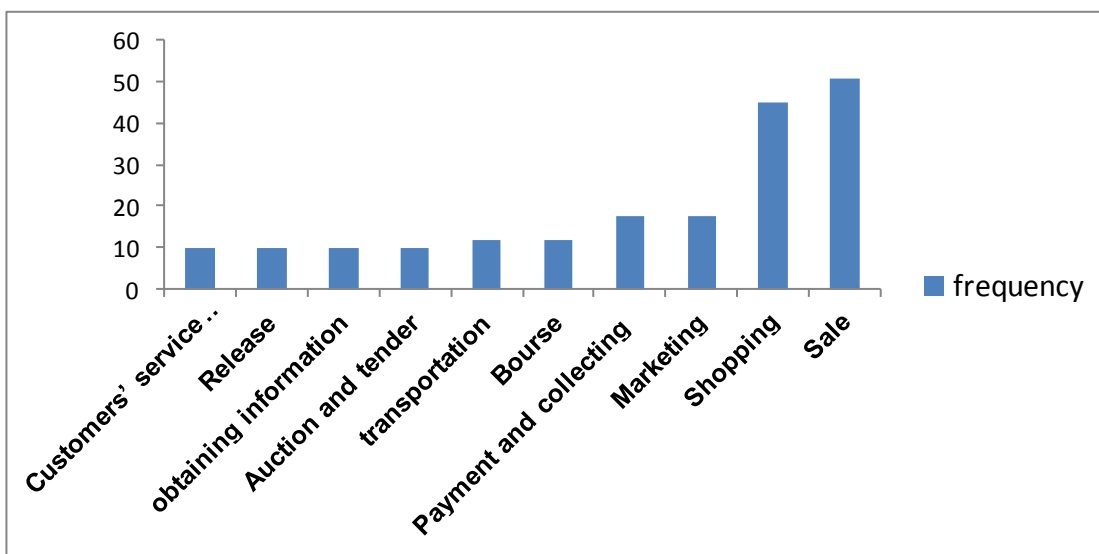
Job position	Frequency	Frequency percentage
Senior management	6	6%
Mid management	22	22%
Supervisor	43	43%
Expert	26	26%
Not stated	3	3%
Total	100	100%



**Graph 4: Respondent’s position**

The results obtained from questionnaires showed that 6% of the respondents were senior management, 22% median management, 43% supervisors and 26% were experts.

**4-4 The Results of Research Interview**

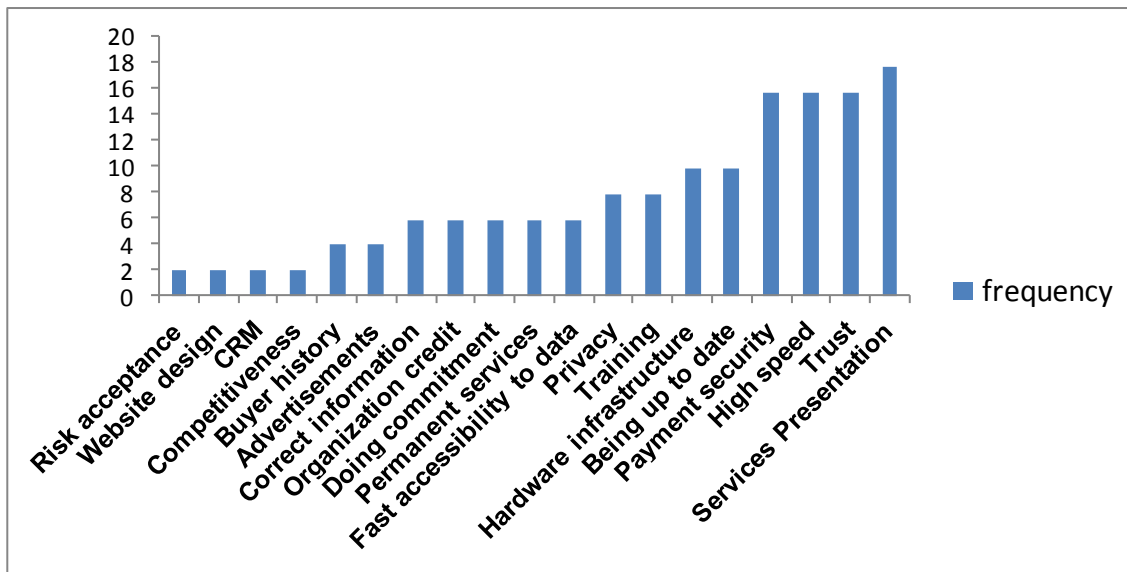


**Graph 5: Question 1**

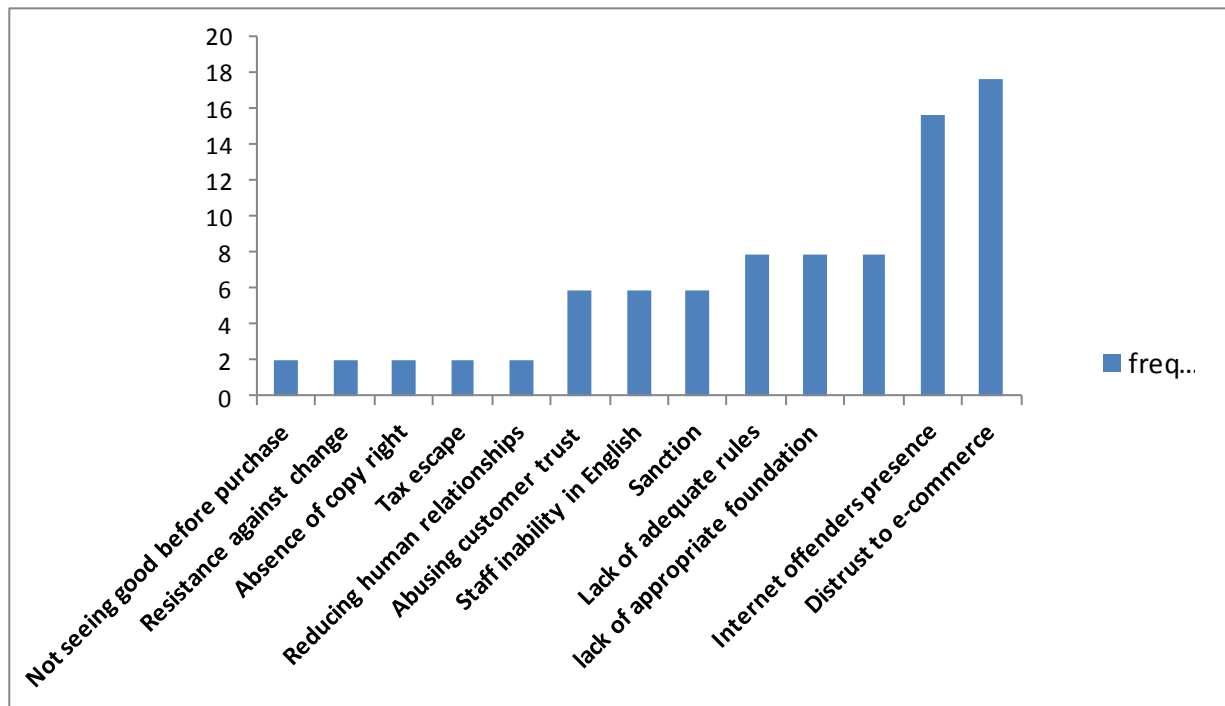
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1. In which activities your organization utilize e-commerce?

Respondents referred to 10 items in this question: purchase, sell, transportation, release, payments and collection, marketing, getting information, tender, exchange information, service providing to customers.



**Graph 6: Question 2**



**Graph 7: Question 3**

According to graph 4-5, petrochemical corporations utilize e-commerce more in sale department as compared to other departments.



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#### 2. What are the important elements in electronic processes?

19 elements are stated in this question as hardware infrastructure, payment security, providing service, training, using the state of the art method, promotions, fast speed, adequate access to data, constructing trust, protecting privacy, risk, precision in entering information, web site design, buyer history, seller and organization credit, doing commitment, permanent services, price competitiveness, product quality and CRM (customer relation management).

According to table 4-6, the highest frequency percentage is associated to after sale services which are regarded as the critical element in electronic processes in petrochemical companies.

#### 3. What are some e-commerce challenges?

13 items are stated in this question including internet offenders, lack of adequate rules, absence of coy right, sufficient foundations deficiency, people unawareness of using services, tax escape, staff inability in English, sanction, reducing human relation, distrust to e-commerce, abusing customer trust, not seeing goods before purchase, resistance against change (new methods).

### **Conclusion**

#### **First Main Hypothesis Inference**

The first main hypothesis was verified using agreed table of Spearman correlation test and chi square test. The results obtained from both approaches indicated main hypothesis maintenance with the probability of 95% stated that there is a significant, positive relation between trust and tendency toward shopping from online organizations.

Therefore, it can be stated that people believed customer trust impact in tendency toward shopping organizations providing online goods and services. In respondent's point of view, higher customer's trust into online organizations, more tendency toward shopping from such organizations.

#### **Second Main Hypothesis Inference**

Second main hypothesis was also tested by the agreed table of Spearman correlation and chi square tests. Test's results determined that there is no significant relation between these two variables suggesting that second main hypothesis of there is a significant, positive relation between realized risk and shopping tendency from online organizations will be rejected. Therefore, realized risk (including financial risk, credit risk, etc) has the least effect on shopping tendency from online organizations in customer's orientations.

#### **First Alternative Hypothesis Inference**

This hypothesis was evaluated using Spearman correlation test, the results of which maintained the hypothesis. In other words, the first alternative hypothesis of there is a negative, significant relation between realized risk and trust will be maintained. Hence, it can be concluded that higher customer's trust in online buying products and getting services, less risk being felt.

#### **Second alternative hypothesis inference**

This hypothesis was tested by Spearman correlation test which resulted in maintaining the hypothesis. The hypothesis of there is a negative, significant relation between privacy and trust will be maintained at 95%. So, it can be concluded that more customers concern their privacy, less trust to online buying products and services.

#### **Third Alternative Hypothesis Inference**

This hypothesis was tested by Spearman correlation test. The results maintained the hypothesis meaning that there is a positive, significant relation between privacy and realized risk at 95%. Thus, it can be concluded that more customers concern their own privacy, higher risk being felt in online purchase and services.

#### **Forth Alternative Hypothesis Inference**

Forth alternative hypothesis was tested using Spearman correlation test. Test results showed that there is no significant relation between two variables; to put precisely, the negative, significant relation between awareness of internet security and realized risk.



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