



A Comparative Study of Online Shopping by Users in Two Different Societies (Case Study: Erzurum Ataturk University and Tabriz Azad University)

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Abstract— *This research has been conducted as a comparative study in order to compare online shopping in two different societies. The purpose of this study was the analysis and comparison of effective factors involved in the online shopping of two groups of students in Erzurum Ataturk University in Turkey and Tabriz Azad University in Iran. As to the purpose, this study falls into applied research type, and as to the nature and the method of research, it falls into survey and correlation studies. The sampling methods in this study were simple random sampling and Cochran relation. Data analysis and data interpretation are of two parts: The first part is descriptive statistics in order to compare data, and the second part is interpretive statistics utilizing spearman correlation coefficient and linear regression in order to analyze the research hypotheses. The results of the study show that along with the verification of the existence of four factors in online shopping, online shopping is more common among students at Erzurum Ataturk University.*

Keywords— *Online shopping, Individual factors, Organizational factors, Environmental factors, Product Attributes*

I. INTRODUCTION

Along with the growing popularity of Information Technology throughout the world and its importance in people's daily lives, new challenges have arisen in human relations especially in business environment. What is growing popular now is the replacement of traditional attitudes towards business with e-business [1]. E-business is advantageous from different perspectives. For example, with the development of virtual reality producers and consumers get closer, and time and location barriers are removed to a great extent: therefore, this, in return, accelerates data and business transactions. However, without virtual reality and the Internet this attribute would have been impossible [2]. Basically, the Web is a powerful tool which has greatly facilitated communication between companies and customers who are endlessly giving feedback on purchased products. Nowadays, companies, due to the competitiveness in world economy, are growingly developing their activities within the virtual reality. The sheer result of e-business has been the advent of new group of customers called e-customers who take advantage of the Internet to do shopping and get a variety of services. An understanding of the process of timely decision making is significantly important in placing effective marketing in order to develop business strategies [3]. These days, due to the volume of e-business, the environment of the market is constantly changing. E-customers have become more experienced and more skilled at timely shopping. They are seeking joy and excitement while shopping. There has been a growing wave of studies trying to discover factors which are involved in the attitudes of e-customers, their mental state, the quality of timely services, satisfaction with services, the preference for shopping, and the preference for revisiting sites by customers. Despite the abundance of research in this area, the questions faced by e-sellers in a competitive environment have not been responded yet [4]. From one perspective, Turkey and Iran two neighboring countries which are of strategic value for each other, and also business, worth of millions of dollars, is done between merchants in both countries each year and this keeps growing. From another perspective, e-business between the citizens and merchants in both countries in developing and merchants in both countries can easily sell their products and offer their services in each other's market. Based on the importance of the question under discussion, the challenge facing this researcher is answering this very fundamental question: "What factors affect e-shopping?" and "Do these factors equally affect e-shopping in two different societies?" Based on the fact that virtual reality and e-business, due to being a fledgling phenomenon, are mostly common within the young generation, and that this group of people have a tendency for electronic business environments, university students have been chosen as the target of the study. Overall, the research purposes in this study are the following:

1. The discovery and prioritization of important factors in e-shopping in the four-dimension model.
2. The comparison of tendency to e-shopping in two different societies
3. The comparison of the types of purchased products and methods of payment in two different societies.
4. The introduction of guidelines for the development of e-business based on the results of the study.

It is crystal-clear that the results of this study will promote e-business by making a right understanding of factors affecting the virtual space in the two countries.

II. REVIEW OF RELATED LITERATURE

Peter in a study entitled “Personal Differences in Attitude and Willing to Buy” introduces the most significant factors affecting e-shopping as the following: age, education, gender, income, personal perspective towards virtual space and etc. [5]. Ziqi Liao in a study entitled “Electronic Buy and Attribute of Customers” proposes that major factors affecting e-shopping areas the following: customers’ cognitive risk-taking, retail prices, education and practical training, an understanding of e-shopping by customers, network speed, and the level of Internet usage by users [6]. Park and Kim in a study entitled “Identifying Key Factors Affecting Consumer Purchase Behavior in an Online Shopping Context” have studied the relationship between different characteristics of e-shopping and purchase habits of customers. By studying a sample of 602 Korean customers in e-bookstores they came to the conclusion that the quality of information, the quality of user interface, and the trust the customer puts on the site have an effect on the consistency and loyalty of customers on the e-store [7]. In another study they also evaluated customer cognition and stimulating factors in making customers make an e-buy. Accordingly, perceived input makes costumers mentally engaged with a product. On the other hand, there is a negative relationship between perceived pleasure and customer’s mental engagement with a new product [8]. Poddar and et al have introduced a three dimensional model in which site identity, site quality, and customer preferences are considered the most significant factors in e-shopping [9].

III. THE CONCEPTUAL MODEL OF THE STUDY

Based on the results gained from previous studies as to the identification of elements and effective factors in e-buy a four dimensional model of e-buy has been proposed which includes the following factors: individual factors, organizational factors, environmental factors, and product attributes (Figure 1). Individual factors: Dennis believes that the most important factors involved in individual preferences towards e-buy are: previous training, previous experiences, trust, and perspective [10]. According to Parboteeah this quality majorly includes consumer’s age, gender, culture, spirits, materialism, joy in shopping, and a tendency for immediate purchasing [11]. In general, individual factors comprise all factors and characteristics involved with users themselves. Organizational factors: these factors in virtual space are as the following: web designing, picture or color quality of the product and specific information about the product [12]. Therefore, in general, organizational factors are a set of actions taken in the virtual space and websites by sellers and producers in order to present their products [13]. Environmental factors: a set of factors which are involved with society and are mostly related to governments as: the existence of infrastructure for using the Net, assuring the safety of virtual space and so on [14]. Product attributes: Larose introduces some of the factors related to goods which affect online shopping habits as: low prices of goods, duration of goods and their variety [15]. Therefore, all the characteristics which somehow indicate the quality or the quantity of products or services are included in this concept [16].

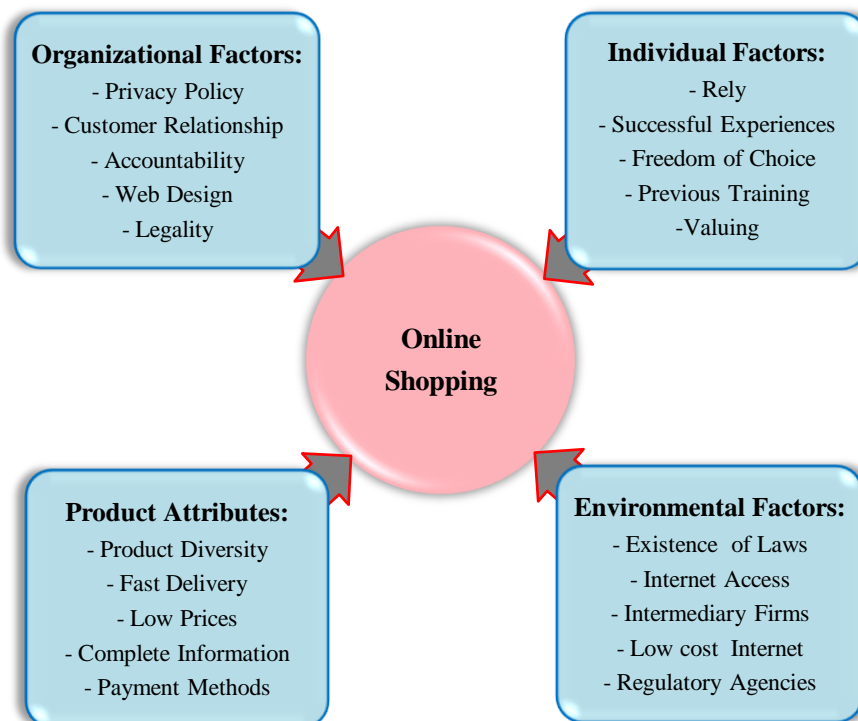


Fig. 1. Conceptual model

A. Research Hypotheses

- There is a significant relationship between individual factors and e-buy
- There is a significant relationship between environmental factors and e-buy
- There is significant relationship between organizational factors and e-buy
- There is a significant relationship between product attributes and e-buy

B. Research Method and Sampling

As to the purpose, this study falls into applied research type, and as to the nature and the method of research, it falls into survey and correlation studies. Data collection has been carried out through questionnaires whose stability has been determined by Cronbach’s Alpha relation set at 0.871. Based on simple random sampling and Cochran relation 478 students from Erzurum Ataturk University and 337 students from Tabriz Azad University were selected for this study.

IV. STATISTICAL DATA ANALYSIS

A. Descriptive Data Analysis

Most individuals identified in both statistical societies were 20 years of age. Furthermore, most individuals were at the age range of 19 to 23 (Diagram 1).

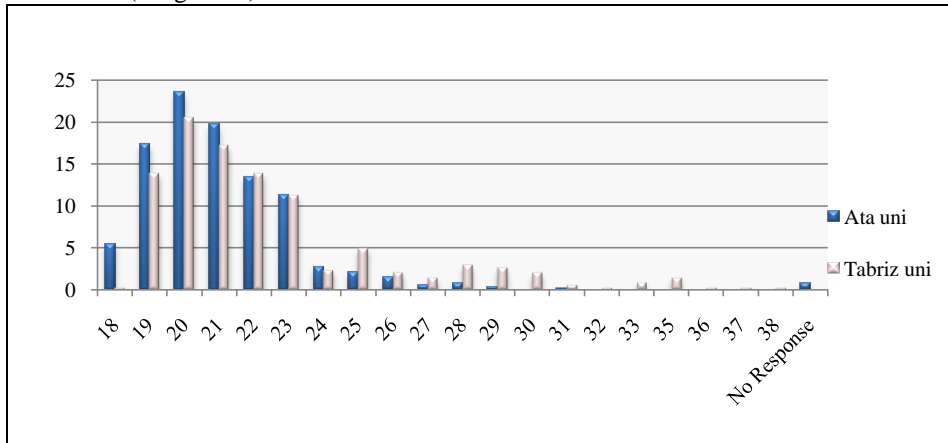


Diagram 1. A Comparison of age distribution

In general, females comprised the most of the gender population. However, the gender distribution of males in the Tabriz Azad University was more than that of Erzurum Ataturk University. But the distribution of females was vice versa between the two universities (Diagram 2).

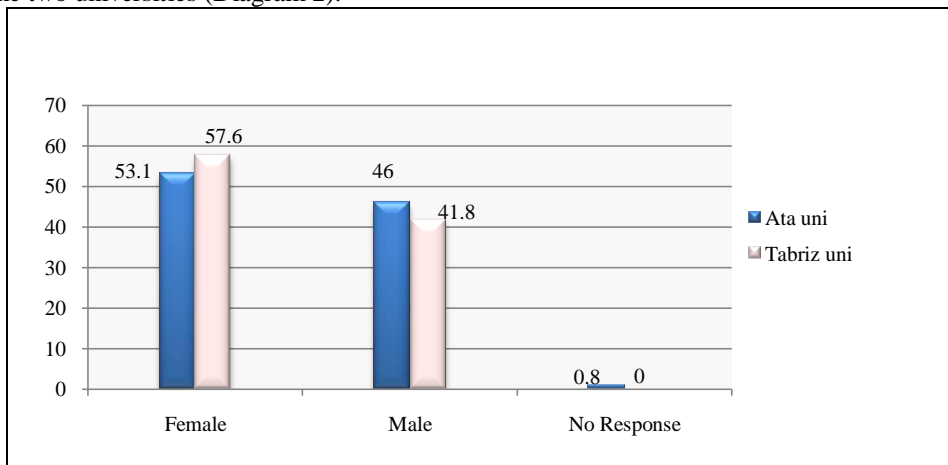


Diagram 2. A Comparison of gender distribution

The married comprise the majority of the population. However, in comparison, the married in the Tabriz Azad University were more than the ones in Erzurum Ataturk University (Diagram 3).

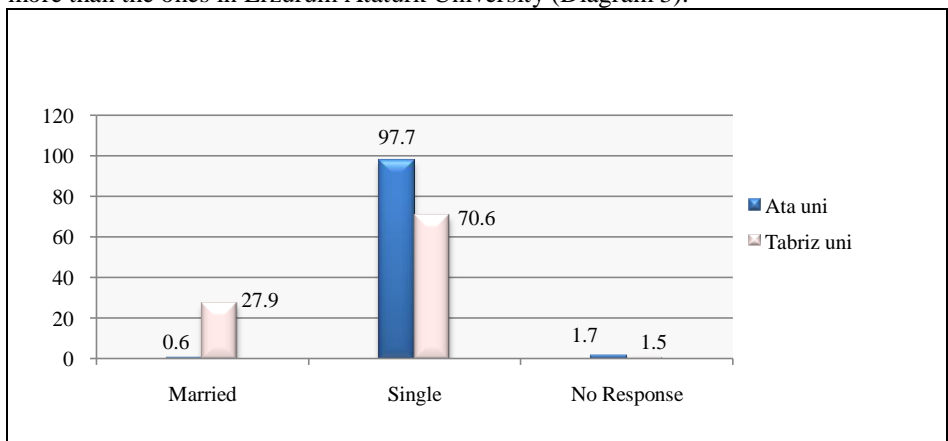


Diagram 3. Marital Status in both societies

The population under study was majorly M.S. students (Diagram 4). This study has been conducted in 12 different faculties which in order of population are: The Faculty of Economy and Official Sciences, The Faculty of Medical Sciences, The Faculty of Technical Engineering, The Faculty of Laws, and The Faculty of Agriculture.

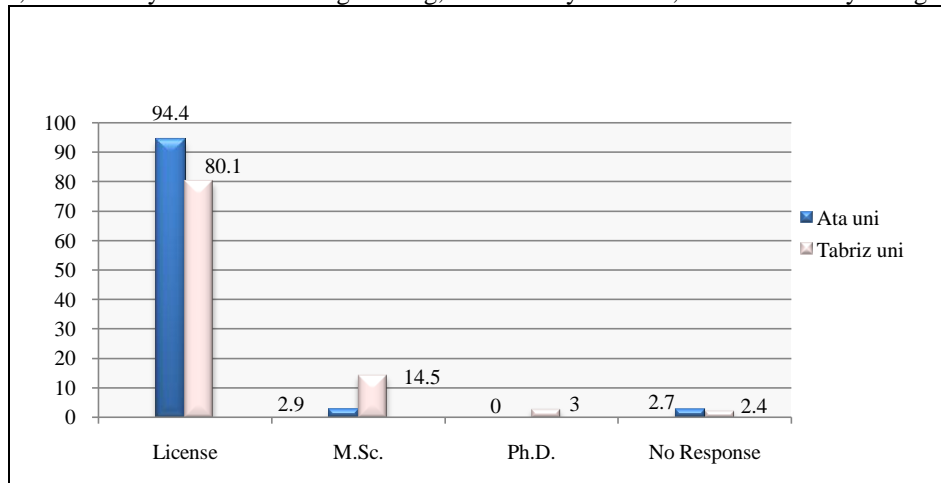


Diagram 4. Educational status in both societies

97.2 percent of students at Erzurum Ataturk University use the Net. Out of this percentage, 85.6 percent of students make daily use of the Net and 9.2 percent surf weekly. On the other hand, 95.2 percent of students at the Tabriz Azad University use the Net 91.5 percent of whom make daily use of the Net and 6.6 percent surf once a week. Based on the conducted study the score of e-buy among students at Erzurum Ataturk University is 48.51, which is more than the average score i.e. 37.5. However, the score among students at the Tabriz Azad University is 30.93 meaning less than the average mentioned above (Diagram 5). Tendency towards e-buy is 89.6 at the Tabriz Azad University and 78.4 at Erzurum Ataturk University.

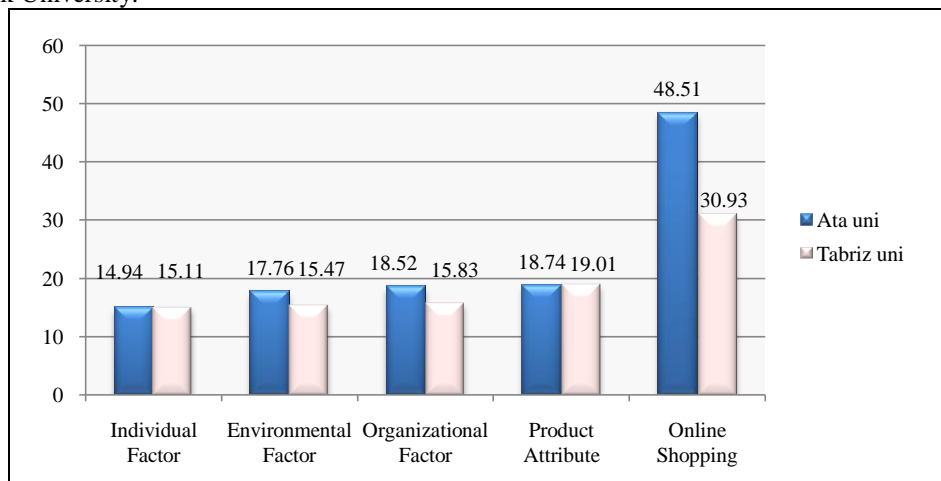


Diagram 5. Scores of variables in both societies

The majority of items and products purchased by students at Erzurum Ataturk University are the following in order: clothing and shoes, tourism services such as travelling tickets. The majority of items and products purchased by students at Tabriz Azad University are the following in order: Cell phone credit, tourism services, and computer equipment (Table 1).

Table I. The Most Important Products Purchased Online

Valid	Erzurum Ataturk University		Tabriz Azad University	
	Frequency	Percent	Frequency	Percent
Buying computers and equipment	80	16.7	119	35.3
Buying furniture/decoration	17	3.6	20	5.9
Buying office/stationery	44	9.2	76	22.6
Buying phone/mobile phone	62	13.0	35	10.4
Buying clothing/shoes	243	50.8	86	25.5
Buying Home appliances	37	7.7	32	9.5
Buying car and car products	15	3.1	30	8.9
Buying gold and jewelry	9	1.9	7	2.1

Buying mobile phone credit	76	15.9	147	43.6
Buying travel services (airline tickets, etc.)	128	26.8	130	38.6
Buying the food	24	5.0	79	23.4
Buying book/magazine	124	25.9	165	49
Buying cosmetic /health products	68	14.2	48	14.2
Buying other items	6	1.3	4	1.2

Students at Erzurum Ataturk University consider the following as the most important criteria in online shopping from websites: safe and dependable sites, sites offering guaranteed products, and well-known sites. However, criteria considered by students at the Tabriz Azad University are the following: high-speed sites, trustworthy and safe sites, and well-designed sites (Table 2).

Table II. The Most Important Factors Involved in Choosing Site for E-buy

Valid	Erzurum Ataturk University		Tabriz Azad University	
	Frequency	Percent	Frequency	Percent
Nice and well designed	84	17.6	145	43.0
Quick	91	19.0	197	58.5
New products giving	47	9.8	128	38.0
Celebrities sites	120	25.1	121	35.9
Guarantee encourages	189	39.5	133	39.5
Product description makers	79	16.5	109	32.3
Securely websites	259	54.2	180	53.4
Other items	5	1.0	2	0.6

16.7 percent of students at Erzurum Ataturk University a couple of times a month, 17.8 percent of do e-buy at least once in three months. However, 29.7 percent of students at the Tabriz Azad University a couple of times a month, and 31.8 percent of them do e-buy at least once in three months (Diagram: 6).

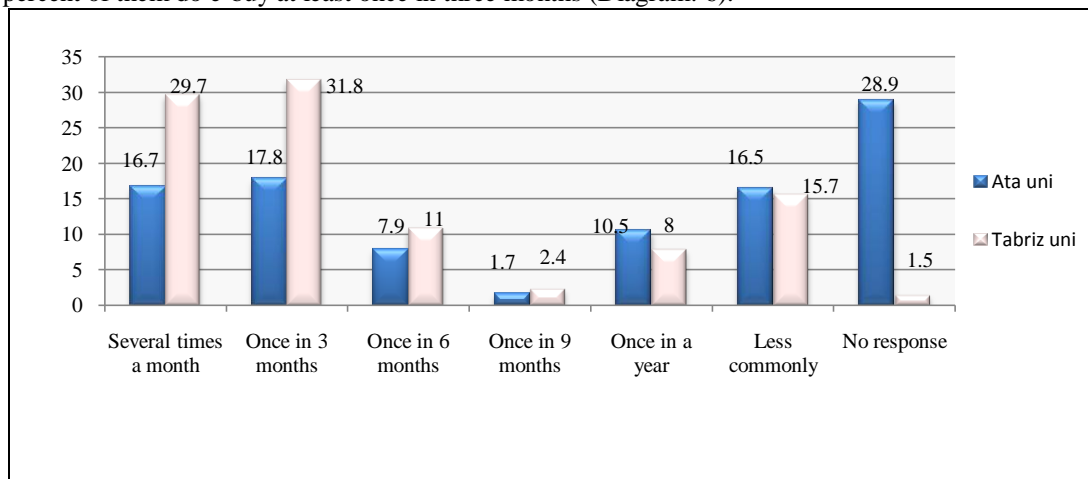


Diagram 6. Frequency of E-buy

Populations under study in both societies have paid for purchased products majorly in the following ways: using credit and electronic cards, paying at the time of delivery, and paying through account number (Diagram 7).

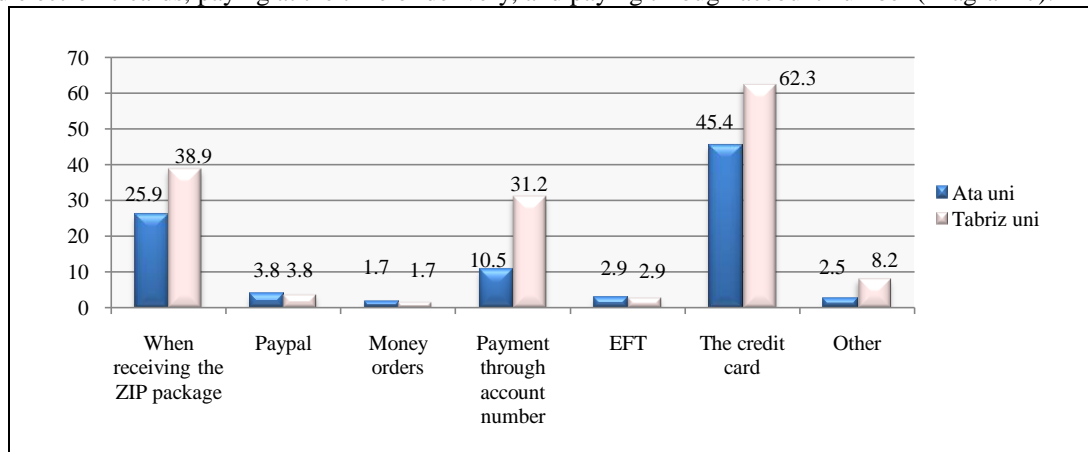


Diagram 7. Payment methods on purchased products

16.3 percent of students at Erzurum Ataturk University have claimed that they have faced trouble having done online shopping the majority of which are: delivery time, delivery of broken or deficient products, wrong or incomplete delivery of products. 37.7 percent of students at the Tabriz Azad University have also claimed that they have faced trouble having done online shopping the majority of which are: returning the product and reclaiming paid amount, delivery of broken or deficient products by sellers, wrong or incomplete delivery (Table 3).

Table III. Issues Encountered in Online Shopping

Valid	Erzurum Ataturk University		Tabriz Azad University	
	Frequency	Percent	Frequency	Percent
At the time of delivery	36	7.5	4	1.2
Send wrong or incomplete products	29	6.1	77	22.8
Sending faulty products	31	6.5	79	23.4
Issues with payment	17	3.6	50	14.8
After sales service	12	2.5	43	12.8
Return of goods and Regain money	16	3.3	85	25.2
Selling an item that does not exist	11	2.3	6	1.8
Other	2	0.4	9	2.7

The most important factors discouraging students at Erzurum Ataturk University from online shopping are the following: preferring traditional methods of shopping to online shopping, not being able to see and examine products, distrusting the guarantee of products. Also, the most important factors discouraging students at the Tabriz Azad University from online shopping are the following: not being able to see and examine products, limited variety of offered products on the Net, not being able to exchange or change purchased products (Table 4).

Table IV. Obstacles Influencing Online Shopping

Valid	Erzurum Ataturk University		Tabriz Azad University	
	Frequency	Percent	Frequency	Percent
I do not need to buy from the Internet	66	13.8	30	8.9
Uncertainty to product warranty	70	14.6	31	9.2
Uncertainty in the payment methods	48	10.0	74	22.0
Product diversity on the Internet is limited	11	2.3	33	9.8
Lack of appropriate laws to support the buyer and the consumer	37	7.7	41	12.2
I prefer traditional shopping	89	18.6	45	13.4
High prices on the Internet	12	2.5	22	6.5
Because product are not visible from nearby	87	18.2	81	24.0
I think that is not good after-sales service	24	5.0	32	9.5
If you choose the wrong product cannot be changed	37	7.7	43	12.8
The others do not recommend it	5	1.0	18	5.3
Other	5	1.0	2	0.6

B. Analysis of Statistical Hypotheses at Erzurum Ataturk University

The first hypothesis: considering correlation coefficient ($r=.662$) and considering that significance threshold ($p=0.000$) is less than ($\alpha= 0.01$), so H_0 is confirmed and H_1 is rejected. Therefore, with a certainty of 99 percent, there is a meaningful relationship between individual factors and online shopping rate, and the linear regression equation for this relationship is as the following (individual factors are represented by X, and e-buy is represented by Y).

$$Y=1.828 X + 21.048$$

The second hypothesis: considering correlation coefficient ($r= .519$) and considering that significance threshold ($p=0.000$) is less than ($\alpha= 0.01$), so H_0 is confirmed and H_1 is rejected. Therefore, with a certainty of 99 percent, there is a meaningful relationship between environmental factors and online shopping rate, and the linear regression equation for this relationship is as the following (environmental factors are represented by X, and e-buy is represented by Y).

$$Y= 282/1 X + 25/894$$

The third hypothesis: considering correlation coefficient ($r= .436$) and considering that significance threshold ($p=0.000$) is less than ($\alpha= 0.01$), so H_0 is confirmed and H_1 is rejected. Therefore, with a certainty of 99 percent, there is a meaningful relationship between organizational factors and online shopping rate, and the linear regression equation for this relationship is as the following (organizational factors are represented by X, and e-buy is represented by Y).

$$Y= 029/1 X + 29/270$$

The fourth hypothesis: considering correlation coefficient ($r= .524$) and considering that significance threshold ($p=0.000$) is less than ($\alpha= 0.01$), so H_0 is confirmed and H_1 is rejected. Therefore, with a certainty of 99 percent, there is

a meaningful relationship between product attributes and online shopping rate, and the linear regression equation for this relationship is as the following (product attributes are represented by X, and e-buy is represented by Y).

$$Y = 171/1 X + 26/798$$

C. Analysis of Statistical Hypotheses at the Tabriz Azad University

The first hypothesis: considering correlation coefficient ($r=.562$) and considering that significance threshold ($p=0.000$) is less than ($\alpha= 0.01$), so H_0 is confirmed and H_1 is rejected. Therefore, with a certainty of 99 percent, there is a meaningful relationship between individual factors and online shopping rate, and the linear regression equation for this relationship is as the following (individual factors are represented by X, and e-buy is represented by Y).

$$Y = 089/1 X + 14/469$$

The second hypothesis: considering correlation coefficient ($r=.249$) and considering that significance threshold ($p=0.000$) is less than ($\alpha= 0.01$), so H_0 is confirmed and H_1 is rejected. Therefore, with a certainty of 99 percent, there is a meaningful relationship between environmental factors and online shopping rate, and the linear regression equation for this relationship is as the following (environmental factors are represented by X, and e-buy is represented by Y).

$$Y = 337/0 X + 25/713$$

The third hypothesis: considering correlation coefficient ($r= .165$) and considering that significance threshold ($p=0.000$) is less than ($\alpha= 0.01$), so H_0 is confirmed and H_1 is rejected. Therefore, with a certainty of 99 percent, there is a meaningful relationship between organizational factors and online shopping rate, and the linear regression equation for this relationship is as the following (organizational factors are represented by X, and e-buy is represented by Y).

$$Y = 201/0 X + 27/742$$

The fourth hypothesis: considering correlation coefficient ($r= .327$) and considering that significance threshold ($p=0.000$) is less than ($\alpha= 0.01$), so H_0 is confirmed and H_1 is rejected. Therefore, with a certainty of 99 percent, there is a meaningful relationship between product attributes and online shopping rate, and the linear regression equation for this relationship is as the following (product attributes are represented by X, and e-buy is represented by Y).

$$Y = 518/0 X + 21/085$$

V. CONCLUSIONS

The findings of this study show that e-buy is more common among students at Erzurum Ataturk University than among students at the Tabriz Azad University. However, there are more tendencies towards e-buy among students at Tabriz Azad University in the future. Besides confirming research hypotheses in both societies under study, the relationship between dependent and independent variables among students at Erzurum Ataturk University is stronger than the same relationship among students at Tabriz Azad University (Diagram 8). Based on conducted analysis on the four dimensional model findings suggest that in the both societies under study, the factors affecting e-buy in order of significance are the following: individual factors, product attributes, environmental factors, and organizational factors (Diagram 8). Table 5 represents measurement criteria based on regression scores and effectively rates independently in both universities.

Table V. The Order of Main Variables and Measurement Criteria Based on Significance and Regression Score

University	Original variable	Measurement indicators	University	Original variable	Measurement indicators
Erzurum Ataturk University	Individual Factors	Successful Experiences	Tabriz Azad University	Individual Factors	Successful Experiences
		Freedom of Choice			Rely
		Rely			Valuing
		Valuing			Previous Training
		Previous Training			Freedom of Choice
	Product Attributes	Low Prices		Product Attributes	Payment Methods
		Complete Information			Low Prices
		Product Diversity			Product Diversity
		Payment Methods			Fast Delivery
		Fast Delivery			Complete Information
	Environmental Factors	Internet Access		Environmental Factors	Internet Access
		Regulatory Agencies			Regulatory Agencies
		Low cost Internet			Existence of Laws
		Existence of Laws			Low cost Internet
		Intermediary Firms			Intermediary Firms
	Organizational Factors	Legality		Organizational Factors	Customer Relationship
		Web Design			Web Design
		Customer Relationship			Legality
		Accountability			Privacy Policy
		Privacy Policy			Accountability

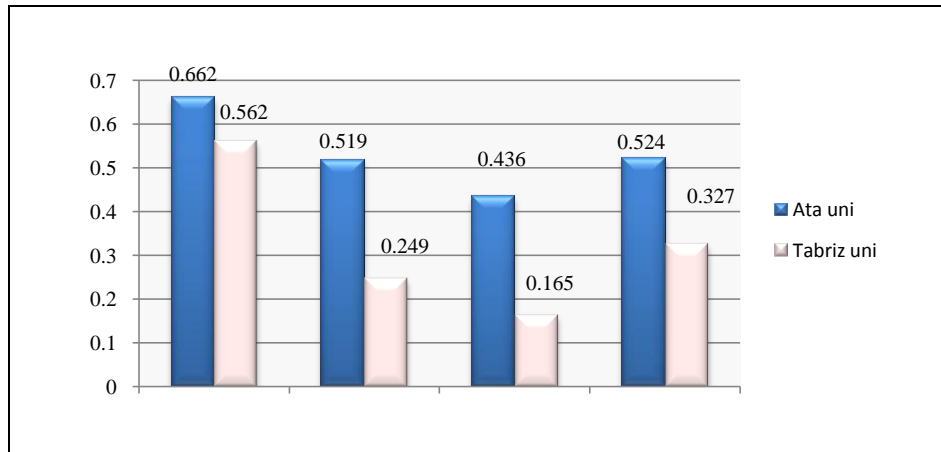


Diagram 8. A Comparison of correlation relationship between research variables in two societies

Suggestions of the Study

Based on the findings of this research the following are proposed in order to promote e-business in the two societies which were under study:

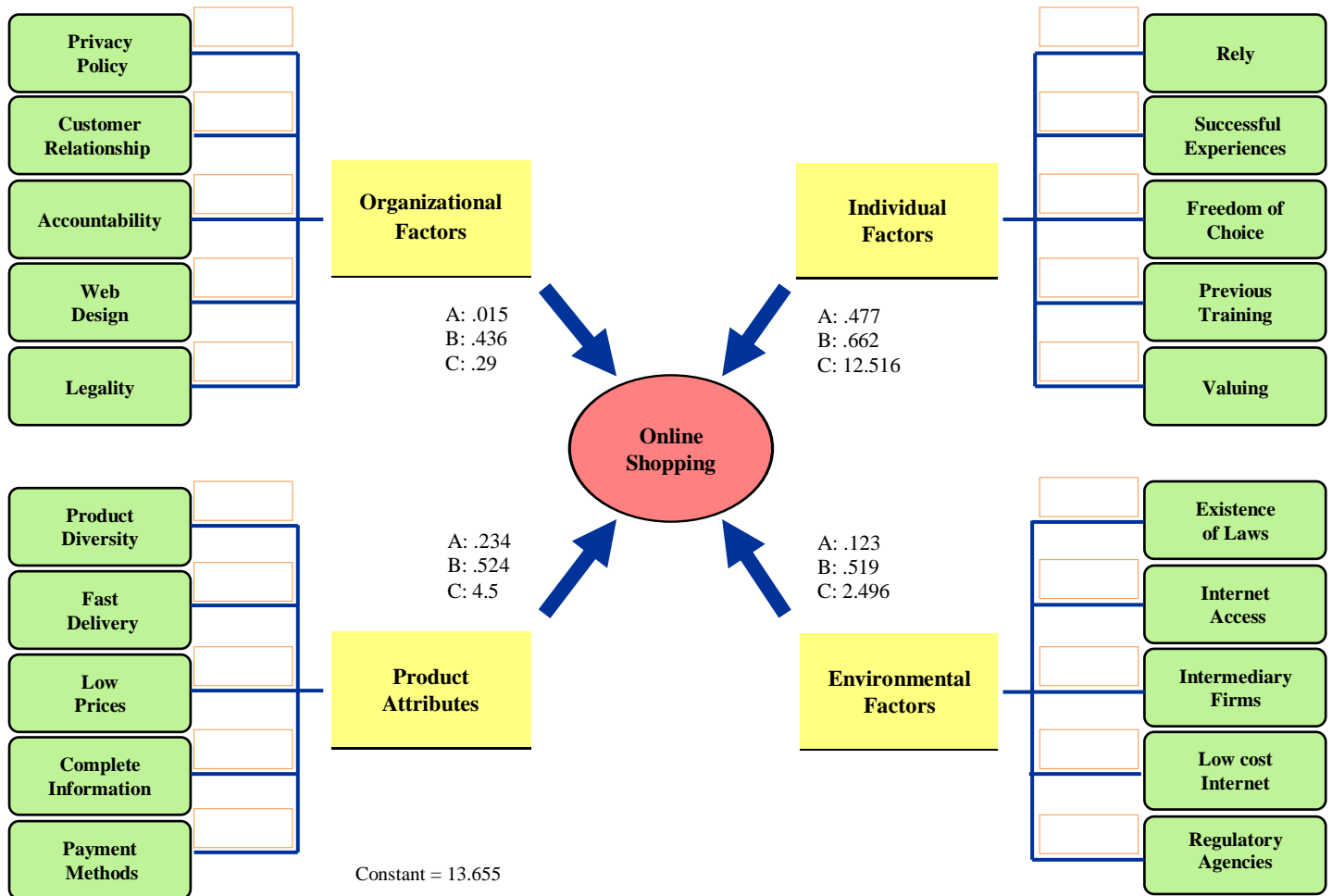
- Establishing accurate and practical laws in order to support virtual space as a means of enhancing user security
- Taking social-cultural aspects and user preferences in consideration in designing web-sites
- Developing interface companies to establish a connection between customers and sellers
- Setting educational grounds for users for making a correct and reasonable use of virtual space
- Providing virtual space services to users by governments
- Protecting the privacy rights of users in virtual space by organizations and sellers
- Establishing Supervising and Supporting foundations in virtual space
- Establishing accurate and trustworthy data bases for identifying dependable sites
- Facilitating and developing different methods of payment for products and services
- Responsiveness of firms in the face of their responsibilities and obligations

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Appendix (1)

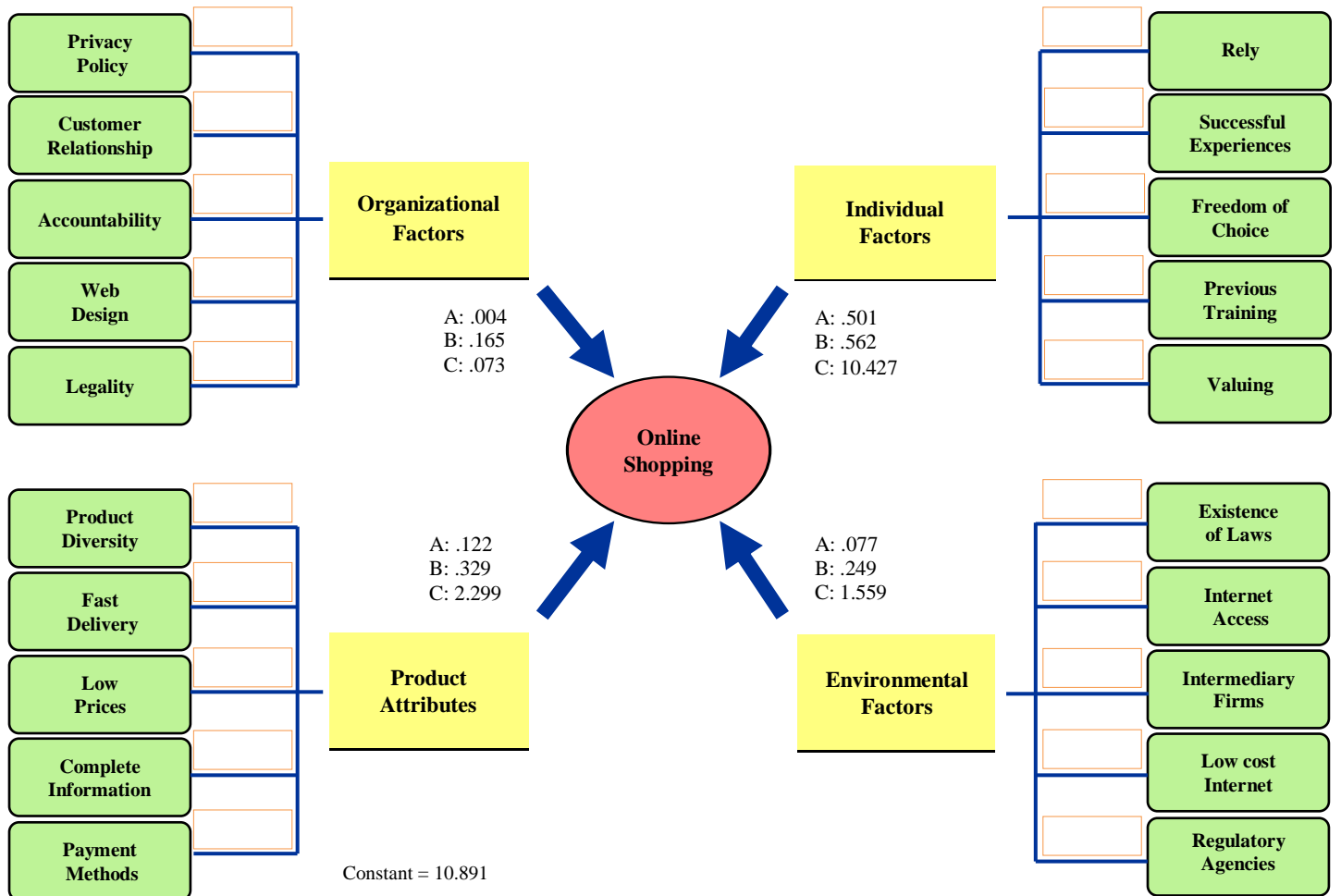
Structural equation variables in the Erzurum Ataturk University



B. Correlation is significant at the 0.01 level (2-tailed)

Appendix (2)

Structural equation variables in the Tabriz Azad University



B. Correlation is significant at the 0.01 level (2-tailed)