

Internationalization of E-commerce: A Comparison of Online Shopping Preferences of Turkish and American University Students

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Abstract

While international e-commerce has been as an efficient means of global transaction, it can be improved even more if it is tailored to differences in local markets in terms of economy, infrastructure and culture. In trying to investigate the internationalization of e-commerce, we examined the online shopping preferences in the US (which has a well-developed market in e-commerce) and Turkey (which has more of a developing market with good potentials). This empirical study indicated significant cross-national differences in online shopping preferences, particularly on attitude towards online credit card payment and online purchase involvement. It was also concluded that the culture based factors such as website design appeal is also significantly affected by nationality.

Keywords: Online shopping; e-commerce; cultural differences

1. Introduction

According to the International Telegram Society (ITU), the number of internet users passed 3.2 billion in 2015 (www.internet-society.org). It has been stated that as of mid-2016, more than half of the world's population was online (with a growth rate of 918 % for the period of 2012-2016).

The Internet has changed the business and communication preferences for the millions of users, ranging from governments and industries to private parties all over the world. It has literally created a "globalized" dimension to all of its participants. The main impact of the Internet on the global economy was through its revolutionary marketing and commerce tool, the World Wide Web (www). Thanks to web based e-commerce, companies regardless of their size and nationality began to enjoy an equal chance to reach their potential customers all around the world. Business-to-customer (B2C) markets created the most popular e-commerce domain and introduced a concept of "online retailing" the first time. Online purchases from bricks-and-mortar retailers (for example, Wal-Mart) and from "pure-click" retail corporations (for example, Amazon.com) became the new way of buying things for many consumers. In 2016, online retail sales reached to \$1.915 trillion which corresponds to 8.7 percent of global retail spending (www.emarketer.com). Even though the growth rate for the global retail sales has been held back due the financial crises, the digital portion of it has been continuously growing (23.7 percent growth rate forecast for 2016). eMarketer predicts that retail e-commerce sales will reach to \$4.058 trillion in 2020, making up about 14.6 percent of total retail spending that year.

Total number of global internet shoppers was estimated to reach to 1.61 billion with a global turnover of 1.9 trillion US dollars in 2016. More than 41 percent of the global internet users have purchased online in 2013 and this number is predicted to go over 46 percent in 2017 with different penetration rates in different countries. For instance, in 2016 in the Middle East and Africa accounted for only 1.8 percent of the total sales while this ratio was 12.1 percent in Asia Pacific in the same year. (<https://www.statista.com/topics/871/online-shopping/>).

This lack of symmetry in e-commerce distribution is caused by not only variations in levels of economic and socio technical infrastructure, but also differences in cultural aspects in adopting e-commerce across nations (Hwang, Jung, & Salvendy, 2006). Being considered as major issues in the internationalization of e-commerce (Kshetri 2001), these differences require theoretical and empirical investigation. Despite the global nature of the international e-commerce, political, social, cultural, technical and economic conditions of local markets deserve a special consideration (Steinfeld and Klein 1999). This is particularly true for B2C e-commerce since it is more locally divergent compared to business-to-business (B2B) e-commerce. Accordingly, improving international e-commerce, particularly in B2C, involve a detailed research of local consumer markets that are distinguished by online shopping preferences. Therefore, it is essential for both academicians and practitioners to comprehend cultural factors as well as political, legal, financial, economic and infrastructure-related ones since they all have a major impact on how to implement e-commerce in different countries. Many of these factors are interrelated and they do shape the compatibility of e-commerce with the values and norms of the society so that they influence the degree of rejection/acceptance of both the Internet and e-commerce in that society (Kshetri, 2001).

The purpose of this paper is to first highlight the problems associated to e-commerce across different cultures. That will be done by examining the role of attitude towards online credit card payment system and culture based factors such as website design appeal.

2. Theoretical Background

Turkey is a candidate to be a member of the European Union and in this section both the European B2C e-commerce market and the previous research about the importance of culture on adoption of e-commerce will be detailed.

2.1 E-commerce in Europe and in Turkey

Europe is one of the largest B2C e-commerce markets worldwide. Two of the globally leading countries in terms of online retail sales, the UK and Germany, account for almost half of the region's B2C e-commerce sales. In 2015 those two countries also had the highest online shopper penetration rates in Europe. Being the Europe's third leading country in B2C e-commerce sales, France has also had a high double-digit online shopper penetration rate. Since these markets have already accomplished advanced phases of their growth phase, their sales growth rates are expectedly more modest compared to the growth rates expected in emerging B2C e-commerce markets such as Turkey and Poland (www.ystats.com)

Being second largest in Eastern Europe, the B2C e-commerce market in Turkey is also among the fastest growing, according to market reports by [yStats.com](http://www.ystats.com). In 2015, online retail sales in Turkey raised by a medium-high double-digit share and they are anticipated to amplify even more in the future. Even though Turkey was reported to have the fifth largest Internet audience in Europe in 2015, its online shopper penetration rate reached just above 50 percent during the same year. Only about one third of the Internet users made purchases online that year, suggesting that the rates of both Internet and online shopper penetration rates had lots of room for growth which would eventually increase the B2C e-commerce sales.

Two of the key characteristic of the B2C e-commerce market in Turkey are the rapidly growing importance of mobile shopping and social media. Market reports by [yStats.com](http://www.ystats.com) expose that more than 50 percent of online shoppers in Turkey declared that their online buying decision was influenced by what they followed on social media (www.ystats.com). The major cause of this "m-commerce" development has been the increasing penetration of mobile Internet-enabled devices, the most popular means of accessing the Internet. Major online retail competitors have been reporting nonstop increases in mobile traffic and sales.

The rapid growth of online shopping market in Turkey has attracted many foreign investors. Hepsiburada.com, the country's largest online retailer entertained 100 million U.S. dollars of investment in 2015, while Yemeksepeti.com, a foremost online food ordering service, was acquired by Delivery Hero for more than half a billion U.S. dollars.

The USA has always been the leading country both in penetration rate and the volume of e-commerce. According to The Census Bureau of the Department of Commerce, the second quarter of 2017 e-commerce estimate increased 16.2 percent ($\pm 1.6\%$) from the second quarter of 2016 while total retail sales increased only 4.1 percent ($\pm 0.5\%$) during the same time period. E-commerce sales in the second quarter of 2017 accounted for 8.9 percent of total sales in the USA (<http://www.census.gov/estats>).

2.2 Culture

One of the popular topics among researchers has always been whether or not technology acceptance is similar across different cultures (McCoy, Galletta, and King 2007; Singh et al. 2006). Likewise, the applicability of the technology acceptance model (TAM) across various cultures has also been questioned (Calantone, Griffith, and Yalcinkaya 2006; Straub, Keil, and Brenner, 1997). In a study by McCoy, Galletta and King (2007), 4000 students from different countries were questioned and it was reported that the TAM model would not be the same in certain cultures. Perceived ease of use and perceived usefulness, two main constructs of the model, were nullified in countries with low uncertainty avoidance, high masculinity, high power distance and high collectivism. Similarly, Rau, Choong, and Salvendy (2004) investigated the cultural differences affecting the computer performance of users with different cultural backgrounds in order to develop interfaces to accommodate cultural differences to enhance human-computer performance for the Chinese population. The objective was to offer different alternatives of user interface design for various users and to show the significance of considering the cultural factors in user interface design.

In 2012, Turan tested two major theories, the extended version of Technology Acceptance Model (e-TAM) and Theory of Planned Behavior (TPB), in the context of Internet shopping experience in Turkey and the results indicated that the proposed relationships in both of the theories had significant theoretical relationships. Furthermore, the TPB has demonstrated a more detailed and a better explanatory framework (Turan, 2012).

In another study, Lightner *et al.* (2002) compared the online shopping habits and preferences of Turkish consumers to the US consumers and concluded that Turkish shoppers were more concerned with security, technology issues and privacy than US shoppers (2003). Considering the fact that Turkey is not one of the leading countries in technology (especially compared to the US), one can understand why Turkish respondents had these concerns. As stated by Hofstede (2003) Turkey and USA have completely different ranks of classifications with respect to six cultural dimensions. Accordingly, Turkey is classified as more risk averse and this can attribute

to why Turkish respondents were more concerned about internet security and privacy than their US counterparts. Helander and Khalid (2000) proposed a model with three sub systems to explain the human factors that influence e-commerce in different cultural environments; they are the web environment, the customer, and the web technology. The web technology includes features like search agents, control tools, and visual display techniques. The customer subsystem includes demographics and psychographics such as gender ((Teo and Lim 2000) and the wired lifestyle (Bellman et al. 1999). The web environment consists of design features of a website that influence decisions during the buying process. Whether or not cultural preferences exist in the preferences of consumer for website design is one of the questions explored by the research study discussed below.

3. The Research

3.1 Survey

The purpose of this research is to investigate the major characteristics that may have an impact on online purchase decisions. Students from two major universities, Yeditepe University in Istanbul, Turkey and University of Houston, Texas, US made up the sample for the study to relate to the three components proposed by Helander and Khalid (2000).

Most of the survey questions used in this study was derivatives of the ones used in the previous studies. While one of the questions asked respondents their product category preferences to purchase online, another one asked the preferences of respondents between text and pictures listed on the websites (Tilson et al. 1998, Janvenpaa and Todd 1997, Lightner & Eastman 2002). Another question about the significance of bargaining in online shopping settings was used to assess the potential impact of bargaining opportunities in an online setting since bargaining is an important part of the Turkish culture.

Those questions based on previous findings had a scale of 5-point Likert scale ranging from “completely disagree” to “completely agree.” Turkish students in the sample were all undergraduate students at different departments of Yeditepe University, the largest private university in Turkey. Similarly all the American participants were undergraduate students at the Business School of the University of Houston-Clear Lake.

In this section, the results from the survey are presented starting with the exploratory factor analysis:

The overall internal reliability as measured by Cronbach’s alpha was 0.67.

Table 1

KMO Bartlett is 0.961	Significant
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Table 2 The Rotated Component Matrix

Rotated Component Matrix ^a	Component	
	1	2
11. When shopping online, quick access to information is the most important thing for me.	0,846	
17. When I buy from an on-line vendor, a well-designed search mechanism is very important for me.	0,846	
12. When shopping online, information accuracy is the most important thing for me.	0,828	
10. When I buy from an on-line vendor, transaction security issues must be emphasized	0,811	
19. When shopping online, privacy of the user information is the most important thing for me.	0,808	
09. When shopping online, I choose sites that would allow me complete my shopping quickly.	0,808	
14. When shopping online, ease of shopping cart use is the most important thing for me.	0,802	
07. Detailed information about products is important thing for me.	0,797	
13. When shopping online, the sites with product and price comparisons are the best ones.	0,774	
03. Since I value my time, I would like to complete my shopping as quickly as possible.	0,689	
16. When shopping online, sites with other buyers' ratings are the best ones.	0,677	
08. I prefer pictures to text for information about products.	0,664	
18. When I buy from an on-line vendor, I prefer stores having all kinds of products to product specific stores.	0,660	
02. If I have no previous information about it, it is important for me to touch and feel the product..	0,608	
01. If possible, I like to negotiate for a lower price.		
15. When I buy from an on-line vendor, I prefer brand name classification to product based classification.		
20. When I buy from an on-line vendor, I hesitate to give my credit card number.		0,883
06. I believe It is risky to give credit card number on the Internet.		0,865

The components are:

Comp. 1: Purchase Involvement (Questions:1+2+3+7+8+9+10+11+12+13+14+15+16+17+18+19)

Comp. 2: Negative Attitude towards Online Credit Card Payment (Questions: 20+6)

Table 3 Reliability Statistics

Comp1: Purchase Involvement		Comp 2: Negative Attitude towards Online Credit Card Payment	
Cronbach's Alpha (α)	Number of Items	Cronbach's Alpha (α)	Number of Items
0,960	16	0,817	2

Cronbach's Alpha was used as a measure to assess the reliability or internal consistency of test items. The scores listed in the above table are considered "excellent" ($\alpha \geq 0,9$) and "good" ($\alpha \geq 0,8$).

Table 4. Levene's Test of Equality of Error Variances^a

	F	df1	df2	Sig.
Attitude Towards Online Credit Card Payment	0,540	1	326	0,463
Purchase Involvement	3,604	1	326	0,059

a. Design: Intercept + Nation

The Levene test is used to verify that assumption that variances are equal across groups of students from two different countries. The null hypothesis that the error variance of the dependent variable is equal across groups has been tested and rejected.

Table 5. Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Attitude Towards Online Credit Card Payment	102,781 ^a	1	102,781	106,914	,000
	Purchase Involvement	398,658 ^b	1	398,658	2985,02	,000
Intercept	Attitude Towards Online Credit Card Payment	2802,879	1	2802,879	2915,57	,000
	Purchase Involvement	2919,057	1	2919,057	21856,966	,000
Nation	Attitude Towards Online Credit Card Payment	102,781	1	102,781	106,914	,000
	Purchase Involvement	398,658	1	398,658	2985,02	,000
Error	Attitude Towards Online Credit Card Payment	313,399	326	,961		
	Purchase Involvement	43,538	326	,134		
Total	Attitude Towards Online Credit Card Payment	3173,500	328			
	Purchase Involvement	3263,672	328			
Corrected Total	Attitude Towards Online Credit Card Payment	416,180	327			
	Purchase Involvement	442,196	327			

The table 6 shows that Attitude towards Online Credit Card Payment has a direct effect on Purchase Involvement and the nationality of the respondent has a moderating effect on this significant relationship.

Table.6 Ancova

ANCOVA ^{a b}							
			Experimental Method				
			Sum of Squares	df	Mean Square	F	Sig.
Purchase Involvement	Covariates	Attitude Towards Online Credit Card Payment	105,560	1	105,560	790,958	0,000
	Main Effects	Nation	293,263	1	293,263	2197,419	0,000
	Model		398,822	2	199,411	1494,189	0,000
	Residual		43,374	325	0,133		
	Total		442,196	327	1,352		

a. Purchase Involvement by Nation with Attitude Towards Online Credit Card Payment b. Covariates entered first

Table 7. Model Goodness of Fit

Purchase Involvement by Nation with Attitude Towards Online Credit Card Payment	Factors and Covariates	
	R	R Squared
	0.950	0.902

The Model Fitness explanatory power is as high as %90, 2.

Table 8. MCA ^a

	N	Predicted Mean		Deviation	
		Unadjusted	Adjusted for Factors and Covariates	Unadjusted	Adjusted for Factors and Covariates
Purchase Involvement	Turkey 156	4,0905	4,0771	1,15762	1,14416
	USA 172	1,8830	1,8952	-1,04993	-1,03772

a. Purchase Involvement by Nation with Attitude Towards Online Credit Card Payment

Table 9. Web View Nation Cross tabulation

Web view	Visual	Count	Nation		Total
			Turkey	U.S.A.	
	Visual	% of Total	13,9%	6,6%	20,6%
		Count	44	21	65
	Text-visual	% of Total	30,9%	45,3%	75,9%
		Count	97	143	240
	Text	% of Total	1,3%	2,2%	3,5%
		Count	4	7	11
Total	Count	145	171	316	
	% of Total	45,9%	54,1%	100,0%	

Table 10. Chi-Square Test

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15,741 ^a	2	0,000
Likelihood Ratio	15,876	2	0,000
Linear-by-Linear Association	13,930	1	0,000
N of Valid Cases	316		

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 5,05.

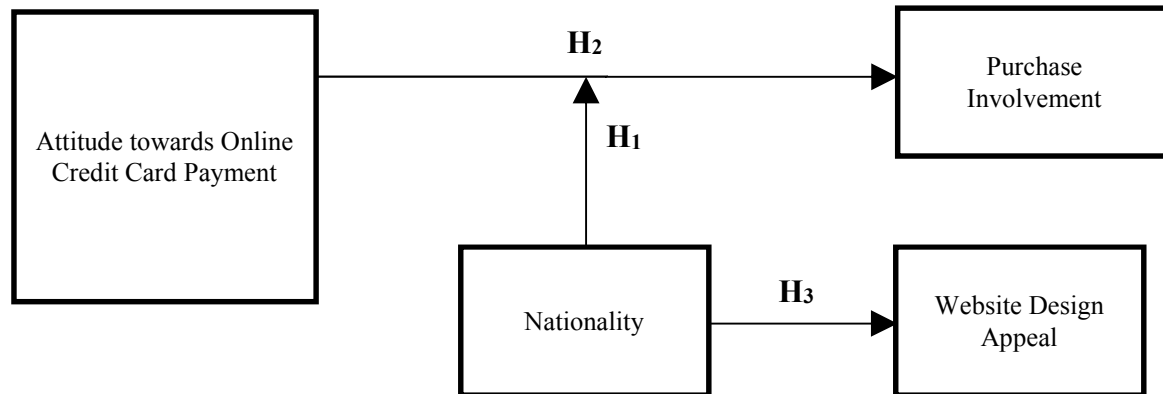
3.2 The Final Model

H₁: Nationality has a moderating effect on relation between Attitude towards Online Credit Card Payment and Purchase Involvement.

H₂: Attitude Towards Online Credit Card Payment has effect on Purchase Involvement

H₃: Nationality has an effect on Website Design Appeal

In order to improve the model, the website design appeal has also been checked and the Chi Square test has been applied to measure the impact of nationality on website design and the results are significant. The Turkish students have been found to be more visualizers and the American students have been found more visual-text oriented.



4. Limitations

The fact that the sample used in this study included only two universities is the major limitation of this research. Since Istanbul is both a commercial and a cultural center of Turkey, Yeditepe University students in Istanbul may reflect the basic trends and tendencies of online shopping in Turkey. On the other hand, since Yeditepe University is a private university, its students do not represent all the university students in Turkey. The same is true for the University of Houston-Clear Lake. Considering the vast cultural and economic differences in the USA, a more comprehensive sample from various institutions would have been more representative of the overall student population.

5. Discussions and Conclusion

The main objective of this research was to explore the role of nationality on attitude formation towards online credit card payment system across two diverse cultures by comparing the online shopping preferences of two different samples of students from Turkey and the USA. The main conclusion is that nationality has a moderating effect on relation between Attitude towards Online Credit Card Payment and online Purchase Involvement. Secondly it is concluded that the culture based factor such as website design appeal is also significantly affected by nationality. These conclusions can be said to be matching with the findings of the earlier researchers. According to the findings of the research conducted by Udo (2001), privacy and security concerns are the major impediment to internet shopping all around the world. Oxley and Yeung (2001) analyzed global e-commerce activities and then claimed that e-commerce activities depend significantly on supportive institutional environment in various countries. The transactional integrity based on trust and respect for the “rule of law” is the main component of this supportive institutional environment (p.705). Berthon *et al* (2008) analyzed the concept of e-readiness at both macro and micro levels and found out that the national values regarding the corruption and fraud in a particular country (macro) and the expectations of individuals to trust an online seller (micro) are the major contributors to receptivity to e - commerce.

The basic implication of the above conclusion is the fact that in the global world of e-commerce those organizations that take into consideration the cultural differences regarding the security issues of potential customers will be the successful ones.

REFERENCES

- Berthon, P., Pitt, L., Cyr, D., & Campbell, C. (2008). E - readiness and trust: macro and micro dualities for e - commerce in a global environment. *International Marketing Review*, 25(6), 700-714.
- Calantone, R.J., Griffith, D.A. & Yalcinkaya, G. (2006). An Empirical Examination of a Technology Adoption Model for the Context of China. *Journal of International Marketing*, 14 (4), 1-27.
- Ergin, E. A., & Akbay, H. O. (2008). An Empirical Investigation of Turkish Consumers' Online Shopping Patterns. *Journal of Global Business and Technology*, 4(2), 54-59. Retrieved from <http://search.proquest.com/docview/216934932?accountid=17384>
- Fletcher, R., & Bohn, J. (1998). The impact of psychic distance on the internationalization of the Australian firm. *Journal of Global Marketing*, 12(2), 47-68.
- Hamit Turan, A. (2012). Internet shopping behavior of Turkish customers: comparison of two competing models. *Journal of theoretical and applied electronic commerce research*, 7(1), 77-93.
- Helander, M. G., & Khalid, H. M. (2000). Modeling the customer in electronic commerce. *Applied Ergonomics*, 31(6), 609-619.
- Hofstede, G., (2003). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*. Sage publications.
- <http://www.internetsociety.org/globalinternetreport/2016/data-and-trends/#collapse265>

- <http://www.internetworldstats.com/>
<https://geert-hofstede.com/countries.html>
https://www.census.gov/retail/mrts/www/data/pdf/ec_current.pdf?cm_mc_uid=07157564813115035817993&cm_mc_sid_50200000=1503581799
<https://www.emarketer.com/Article/Worldwide-Retail-Ecommerce-Sales-Will-Reach-1915-Trillion-ThisYear/1014369#sthash.5peFuDaa.dpuf>
<https://www.statista.com/topics/871/online-shopping/>
<https://www.ystats.com/>
- Hwang, W., Jung, H. S., & Salvendy, G. (2006). Internationalization of e-commerce: a comparison of online shopping preferences among Korean, Turkish and US populations. *Behavior & information technology*, 25(1), 3-18.
- Jarvenpaa, S. L., & Todd, P. A. (1996). Consumer reactions to electronic shopping on the World Wide Web. *International journal of electronic commerce*, 1(2), 59-88.
- Kshetri, N. (2008). Barriers to e-commerce and competitive business models in developing countries: A case study. *Electronic commerce research and applications*, 6(4), 443-452.
- Lightner, N. J. (2003). What users want in e-commerce design: effects of age, education and income. *Ergonomics*, 46(1-3), 153-168.
- Lightner, N. J., Yenisey, M. M., Özok, A. A., & Salvendy, G. (2002). Shopping behavior and preferences in e-commerce of Turkish and American university students: implications from cross-cultural design. *Behavior & Information Technology*, 21(6), 373-385.
- McCoy, S., Galletta, D. F., & King, W. R. (2005). Integrating national culture into IS research: The need for current individual level measures. *Communications of the Association for Information Systems*, 15(1), 12.
- McCoy, S., Galletta, D. F., & King, W. R. (2007). Applying TAM across cultures: the need for caution. *European Journal of Information Systems*, 16(1), 81-90.
- Oxley, J. & Yeung, B. J Int Bus Stud (2001) 32: 705. <https://doi.org/10.1057/palgrave.jibs.8490991>
- Rau, P. L. P., Choong, Y. Y., & Salvendy, G. (2004). A cross cultural study on knowledge representation and structure in human computer interfaces. *International journal of industrial ergonomics*, 34(2), 117-129.
- Singh, N., Fassott, G., Zhao, H., & Boughton, P. D. (2006). A cross - cultural analysis of German, Chinese and Indian consumers' perception of web site adaptation. *Journal of Consumer Behavior*, 5(1), 56-68.
- Singh, N., Zhao, H., & Hu, X. (2005). Analyzing the cultural content of web sites: A cross-national comparison of China, India, Japan, and US. *International Marketing Review*, 22(2), 129-146.
- Sohaib, O., & Kang, K. (2012). The Effect of Technology, Human and Social Networks in Serviceable Cross-Culture Business to-Consumer (B2C) Websites. *Journal of Internet and e-Business Studies*, 2012, 1.
- Sohaib, O., & Kang, K. (2014). Cultural aspects of business-to-consumer (B2C) e-commerce: a comparative analysis of Pakistan and Australia. *The Electronic Journal of Information Systems in Developing Countries*, 61.
- Stafford, T. F., Turan, A., & Raisinghani, M. S. (2004). International and cross-cultural influences on online shopping behavior. *Journal of Global Information Technology Management*, 7(2), 70-87.
- Steinfeld, C., & Klein, S. (1999). Special section: local vs. global issues in electronic commerce. *Electronic Markets*, 9(1-2), 45-50.
- Straub, D, Keil, M. & Brenner, W. (1997). Testing the technology acceptance model across cultures: a three country study. *Journal of Information and Management*, 33(1), 1-11.
- Tilson, R., Dong, J., Martin, S., & Kieke, E. (1998). Factors and principles affecting the usability of four e-commerce sites. In *Proceedings of the 4th Conference on Human Factors & the Web, Basking Ridge, New Jersey*.
- Udo, G. (2001) Privacy and security concerns as major barriers for e - commerce: a survey study. *Information Management & Computer Security*, 9 (4), 165-174, <https://doi.org/10.1108/EUM0000000005808>
- Yap, A. Y., Das, J., Burbridge, J., & Cort, K. (2006). A composite-model for e-commerce diffusion: Integrating cultural and socio-economic dimensions to the dynamics of diffusion. *Journal of Global Information Management (JGIM)*, 14(3), 17-38.