

# **DIFFUSION OF ELECTRONIC COMMERCE (B2C) IN OMAN THROUGH EDUCATION SECTOR -AN ANALYSIS BASED ON E.M. ROGERS' THEORY OF DIFFUSION OF INNOVATIONS (DOI) 1995**

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## **Abstract**

Notwithstanding Sultanate of Oman is recently entitled as one of the fastest growing nations over the last 40 years among 135 states in the world and is grouped as the most developed and stable country in the region by the United Nations Development Programme, it ranks low in the list of electronic commerce (EC) practicing countries worldwide. Indeed, it is locals' attitude towards EC that has been resulting in country's lower position in the list states pursuing EC and not technological infrastructure. Addressing important factors effecting persuasion of business-to-consumer (B2C) e-commerce in Oman, this paper aims to uphold a thorough analysis by using E.M. Rogers's theory of diffusion of innovations (DoI) and come up with a proposed framework and valuable suggestions those will help diffusing EC within the Sultanate. In this regard, it is recommended that intellectuals including; academicians, scholars and students can play a vital role by conducting interpersonal communication across the community.

**Keywords:** electronic commerce, diffusion, innovation, channel, social system, persuasion

## **1. Introduction**

Contributing one of the lowest in the world, Middle East and Africa are expected to increase their share from 1.6% to 3.5% in global e-commerce by 2016 (Fredriksson, 2013). According to the 2012 e-commerce index revealed by ATKearney, Sultanate of Oman holds strict digital laws and regulations. However, it scored lower rank in line with an analysis uphold using basic variables; online market attractiveness, online infrastructure establishment and retail development. The state possesses exceptionally hi-tech infrastructure but the locals seems reluctant buying online, effecting global e-commerce market (Kearney, 2012). In point of fact, every second home in Oman owns a computer and every second citizen holds more than one smart internet enabled device. By and large, 60 percent of the total population has internet connectivity. And about half million are using face-book that shows a general awareness on the technology among masses (e-Commerce Overview, 2012).

## **2. Diffusion of Innovation**

Diffusion of Innovation denotes the increase of new ideas and notions, scientific information, and real carry out within a society, where the increase embodies flow or movement from source to an adopter, normally via communication system. Diffusion of innovations, according to Rogers, has four key elements; *innovation, communication channels, time, and social system* (Rogers, 2003).

## 2.1. Innovation

An idea, practice or plan perceived as new to an individual or a social system is known as innovation, synonymous with "technology". The "newness" of an idea, practice or plan is not only limited to a new information. Individuals or social systems might have sufficient knowledge about the innovation but they have neither developed their opinion nor they have accepted or rejected it (Rogers, 2003).

Unexpectedly, a very little contribution in the global B2C e-commerce by Omani society that is well equipped with an efficient technological infrastructure and prominent use of internet enabled smart devices, has been rightfully instigating diffusion researcher to find out the possible reasons of leisurely spread of the technology. In this regard, government of Oman has also been passionately focusing on its online business areas; including electronic commerce. To address the subject, it has taken an excellent initiative introducing "*eOman*" lead by the information technology authority (ITA) that works under the ministry of national economy, aiming to create a valuable government-community-citizen infrastructure. This focuses on public services to a common man, resulting in an important information flow between the government and its citizens (e-Commerce Overview, 2012).

According to generalized diffusion of innovation (DoI) framework, innovation-decision process involves five phases: knowledge, persuasion, decision, implementation, and confirmation. Prior to all, decision process deals with previous practices, needs, innovativeness, norms and values of social systems. Accordingly, individuals or social systems come to know about an innovation and its functions in the *knowledge* phase. Generally, it deals with characteristics of decision making units like; socioeconomic status, personae and communication activities. *Persuasion* takes place to help building an opinion on the innovation, deals with perceived characteristics of innovations i.e. relative advantage, compatibility, complexity, trialability and observability. The characteristics are taken as variables to judge the rate of adoption of innovations. Moreover, potential variables those decide rate of adoption of an innovation are: perceived characteristics of innovations, types of innovation-decision (optional, collective and authority), communication channels (mass media, interpersonal), nature of the social system (norms, values, degree of network interconnectedness) and extent of change agents' promotion effort. Likewise, individuals or social system adopt or reject the innovation in third phase called *decision*. Rate of adoption is the comparative speed with which an innovation is accepted by individuals or groups in a society. *Implementation* and *confirmation* take place to finalize diffusion processes (Rogers, 2003). In the light of above phenomenon, teachers, intellectual and students can play a big role by conducting interpersonal communications focusing perceived characteristics of innovations to support diffusion processes.

## 2.2. Communication Channels and Time

The process of getting messages from one individual to another is called a "communication channel". Discussions uttered among individuals or group of people regarding innovations play a vital role in diffusion processes. To help exchanging information about the innovation, it is important to choose suitable communication channels to uphold diffusion processes. Out of the two, interpersonal communication channels are considered as more effective than mass media (Rogers, 2003).

Towards promoting innovation, it needs to be worldwide diffused and education is the best model (Zhang, Yan, Gao, & Wang, 2012). In Omani perspective, education institutions could be selected as the best suitable podium to maintain interpersonal communications. Academicians, professionals and students may get themselves fall in the category of potential innovators. Both, formal and informal conversations take place within educational environments. Students share their ideas with their fellows on daily basis. In particular, interaction between teachers and students proves very effective. Teachers, as a source of inspiration, can effectively motivate their students to go for something good and positive. Also, it is strongly believed that student-teacher interpersonal relationship has positive effects on both the students and teachers. Importantly, teachers and students experiencing healthy interpersonal relationship with each other are said to be more satisfied with their profession and student-hood respectively (Maulana, Christine, Perry, & Bosker, March 2011). Equally important, innovation

diffusion process, adopter categorization, and rate of adoptions all include a "time" dimension.

### 2.3. Social System

Every *social system* bears different characteristics in itself. Several potential factors effecting diffusion within a social structure are: effect of norms on diffusion, role of opinion leaders and change agents, types of innovations decisions and consequences of innovation. Akin to social structures and change agents, role of opinion leaders possessing cosmopolitan outlooks, socioeconomic status and innovative approaches, may either support or oppose diffusion progression.

Looking at different possible solutions, teachers and students, as opinion leaders and change agents, can play a central role in the diffusion of B2C e-commerce in Omani society (Harkola & Greve, 1995). Suitable, looking at the characteristics of opinion leader, thirty percent of the total population in Oman is expats and majority belongs to a working class including; education industry, and bears reasonably good socio-economic status (Gulf, 2010). Equally important, in Oman, an Islamic state with majority practicing Muslims, theological motivation by religious intelligentsias can also play a big role. Islam reveals a beautiful concept on EC in its teaching. For example; towards the legality of trade, the Holy Quran has revealed two prerequisite for the legitimacy of any given transaction; namely, permissibility and harmlessness. Since, EC relies on ICTs; Islam ensures transparency in the communication, clarity of products' definition, peaceful settlement of agreement, and continuity in the communication. In Islamic standpoint, EC possess a prominent place provided that certain *Shariah* requirements are ensured. By following the same practice, welfare, prosperity and maximum profit can be guaranteed (Dali, Bin Harun, Bte Mohd Khalid, & Bte Abdul Hamid, 2004). Moreover, truthfulness, genuineness and honesty are fundamental moral values of Islam. Equally important, trust is extremely important because without trust, growth of EC could not reach its potential (Zainul, Osman, & Mazlan, 2004). Joining hand-in-hand, teachers, scholars and students can bring in good results in diffusing the new ideas changing *optional* and *collective* decisions in the state. For *authority* decisions, at a large scale, state government itself has been playing a dynamic role by taking initiatives like; *eOman*.

### 2.4. Adopters' Categories

On the basis of innovativeness, adopter can be categorized into five categories; "innovators, early adopters, early majority, late majority and laggards". *Innovators*, mostly possess cosmopolitan features, are ready to take any risk. Adding on, *early adopters* belong to the local community and consist of highest degree of opinion leaders in social systems. While, *early majority* adopters intermingle with their friends more often and *late majority* join the group due to economic obligation and peer pressure. *Laggards*, having more traditional approach, particularly belong to local community and consist of no opinion leadership. Measuring different mind-sets within a social system towards tendency to adopt an innovation, innovators ranks the highest followed by early adopters and early majority. And laggards rank first, followed by late majority in gauging tendency to resist an innovation (Rogers, 2003). Expatriates living in Oman comprise about 30 percent of the total population and majority is associated with different organizations including; education, health & oil industries etc. (Gulf, 2010). Looking at the characteristics mentioned above, academicians and scholars may get themselves accept the innovation - new idea - as innovators. However, students - majority locals - may fall in the category of early adopters leading to early majority.

### 3. Suggested framework

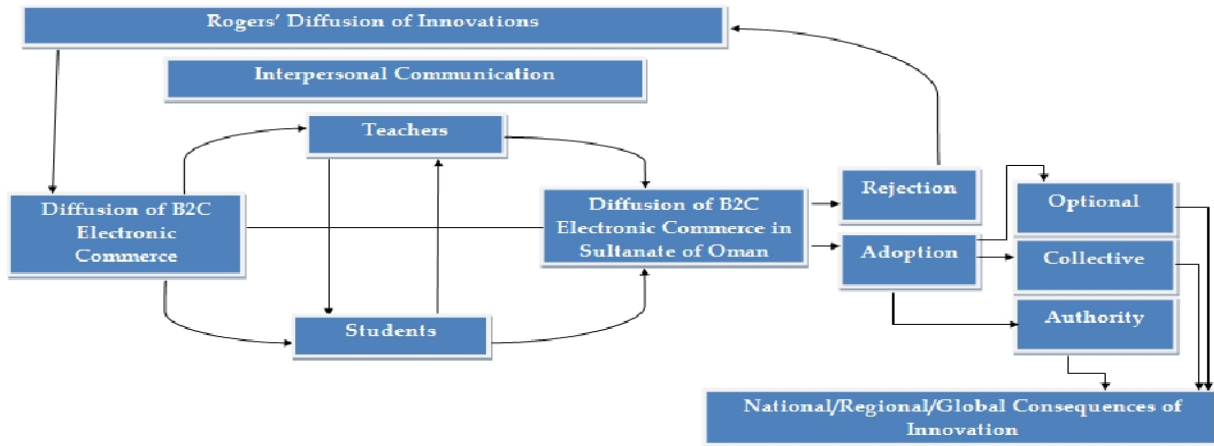


Fig: framework idea based on Rogers's theory of diffusion of innovations (Rogers, 2003)

### Conclusion

Successful results of the proposed framework for the diffusion of B2C electronic commerce in Sultanate of Oman will help creating a valuable government-community-citizen infrastructure. It will also help focusing on public services to a common man, resulting in an important information flow between the government and its citizens. Overall diffusion of e-commerce will contribute at national, regional and global levels.

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## References

- Dali, N. R., Bin Harun, M. Z., Bte Mohd Khalid, F., & Bte Abdul Hamid, H. (2004). E-COMMERCE IN ISLAMIC PERSPECTIVES. THE THEORETICAL FRAMEWORK, KEY SUCCESS FACTOR AND CHALLENGES FOR ISLAMIC E-COMMERCE BUSINESS. *Knowledge Management International Conference*. Pulau Pinang: Academia.
- (2012). *e-Commerce Overview*. London: IORMA, TEJURI & IMRG.
- Fredriksson, T. (2013, April Monday). Retrieved from E-commerce and Development Key Trends and Issues: <http://www.wto.org/>
- Gulf, C. f. (2010). *Oman*. Islamabad: Centre for Pakistan and Gulf Studies - Innovating Future.
- Harkola, J., & Greve, A. (1995). THE ROLE OF OPINION LEADERS IN THE DIFFUSION OF A CONSTRUCTION TECHNOLOGY IN A JAPANESE FIRM. *International Social Network Conference* (pp. 249-256). London: INSNA International Social Network Conference.
- Kearney, A. T. (2012). *E-Commerce is the Next Frontier in Global Expansion*. Korea: A. T. Kearney.
- Maulana, R., Christine, M., Perry, O. d., & Bosker, R. (March 2011). Teacher-student interpersonal relationships in Indonesia: profiles and importance to student motivation. *Asia Pacific Journal of Education*, 33-49.
- Rogers, E. M. (2003 ). *Diffusion of innovations (5th edition)*. New York: Free Press.
- Zainul, N., Osman, F., & Mazlan, S. H. (2004). E-Commerce from an Islamic perspective. *Electronic Commerce Research and Applications*, 280-293.
- Zhang, X., Yan, Z., Gao, Y., & Wang, W. (2012). Microelectronics Global Diffusion through Education. *Wireless Communications Letters, IEEE*, 110 - 113.