

PRESENTATION OF KEY FACTORS INFLUENCING THE ACCEPTANCE AND APPLICATION OF E-COMMERCE

Elen AVALYAN

ASTU lecturer at the Department of FA

Key words: online platforms, key factors, technologies, sales turnover, financial resources.

Introduction. Historically, the Internet has spread much faster than the previous generation of communication technologies. Today, the Internet is not only a network media, but also serves as a retailing tool between suppliers and consumers, becoming a dominant option in retailing every day [Yulihhasri et al., 2011]. The Internet affects how people communicate with each other, get information, learn, transmit culture, shop online, or engage in e-commerce. RA also faces challenges in harnessing the potential of e-commerce. Notably, e-commerce can stimulate growth in developing countries by increasing the transparency and efficiency of market operations and public institutions.

Methodology. The research is mainly based on the presentation of existing obstacles in the field, the comparative analysis of selected businessmen with active status, and the presentation of the factors affecting the activity. The study is mainly based on the presentation and identification of the factors affecting the intention to adopt AR technologies, as well as the summary presentation of the results of the activities of RA resident companies doing business through online platforms.

Scientific novelty. Creating the opportunity to penetrate more comprehensive markets as a result of the use of online platforms and the joint launch of augmented reality (AR), which will lead to an increase in the possibility of influencing international markets.

Literature review. Augmented reality can be presented in terms of content in several ways. Augmented reality (AR) is a form of activity implementation in which the real world (RW) is augmented with software content associated with specific locations and/or activities [Yuen et al., 2011]. AR works better especially in terms of allowing customers to experience [Bakirlioglu et al., 2022]. Augmented reality is closely related to virtual reality because it developed as an extension of or an alternative to virtual reality. Academic interests have greatly increased with the rapid advancement of VR and AR technologies, which have led to the digitization and development of various applications [Perannagari et al., 2019]. The use and future possibilities of VR/AR technology in online retailing are analyzed in different contexts [Chen et al., 2021]. The implementation of AR technologies also facilitates several fundamental processes in terms of logistics [Cirulis & Ginters, 2013]. As virtual goods become more tangible through the use of AR, consumers more often decide to save money by visiting online stores [Mahr et

al., 2018]. There is a huge gap in the research literature and practical application of VR/AR in retail and various other special applications. Current debates, developments, issues and challenges in the retail industry and the application of VR/AR technologies are of critical importance [Vijayakumar et al., 2021]. Furthermore, the mechanism through which VR induces purchase intentions in a commercial setting has not been deeply analyzed and needs further study [Grewal et al., 2017].

Analysis. E-commerce can be an extremely beneficial tool especially when barriers to e-commerce adoption are mitigated [Lawrence and Tar, 2010]. It is particularly important to ensure that such barriers are minimized for small and medium-sized enterprises (SMEs). Barriers to e-commerce can be categorized into the following five groups:

- 1) organizational obstacles,
- 2) financial obstacles,
- 3) technical obstacles,
- 4) legal obstacles,
- 5) behavioral barriers.

All these barriers to e-commerce affect the adoption and diffusion of e-commerce. Legal and regulatory barriers are the most significant barriers to e-commerce adoption. However, regardless of the presence of obstacles, e-commerce companies are also established in RA, which carry out their business activities both offline and online.

Indicator	description	Quantity
Year of registration	During last 12 months	1
	During 1-3 years	3
	More than 3 years ago	17
Average number of employees	2021, first quarter	265
	2022, first quarter	280
Average AVUM	2021, first quarter	49,374.000
	2022, first quarter	49,005.000
Sales turnover	2021, first quarter	30,027,389.774
	2022, first quarter	34,201,105.611

21 resident business entities engaged in e-commerce in RA and beyond were selected for the study. Comparative information on the selected entities is presented below, taking into account that the entities conduct sales and provide services also on their own online platforms.

Based on the above, it can be concluded that one of the factors contributing to the growth of turnover of companies can also be considered electronic platforms, which support the mass and globalization of trade, thus leading to an increase in sales turnover. Within the framework of the study, it also becomes clear that the number of employees involved in the first quarter of 2022 being more compared to the same months of 2021,

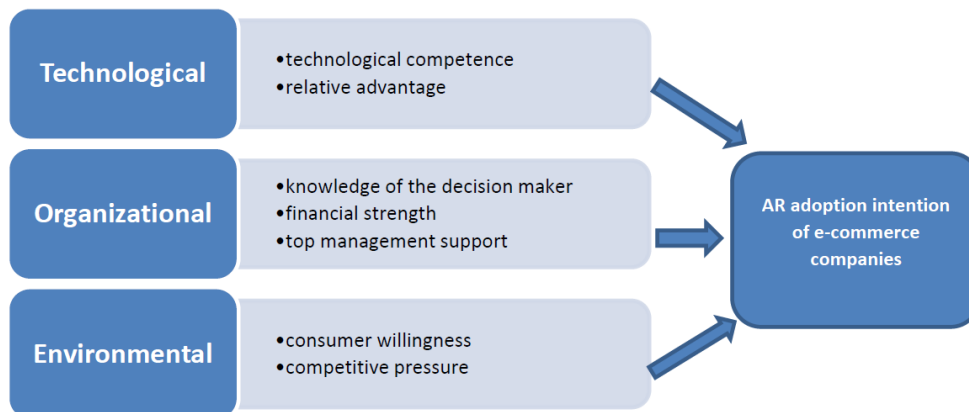
for the companies, they provided a smaller cost in the field of AVUM, which is also positively characterized from the point of view of business implementation.

A unique challenge for e-commerce companies is also to provide online customers with the opportunity to "try before they buy" by leveraging the rich opportunities afforded by the medium. This issue has been shaped by the growth of customers with different needs, who are increasingly curious and require visual and tactile stimuli to make purchases [Huang and Tseng, 2015]. Augmented Reality, where objects in the real world are enriched with digital capabilities, sometimes in multi-sensory ways, is being explored for the proper organization of e-commerce. AR can be defined as a system that includes three main features: the combination of real and virtual worlds, real-time interaction, and accurate 3D registration of virtual and real objects [Wu et al., 2013).

AR technology differs from other innovative technologies by offering customers a deep and personalized experience and requires research attention. A complete reference model of technological innovation adoption from the firm's perspective is evaluated by the TOE framework [Picoto et al., 2014], which analyzes the factors influencing AR adoption intentions of e-commerce companies. TOE provides a useful analytical framework for studying the adoption and adoption of different types of IT innovations.

The TOE framework includes technological, organizational and environmental factors to study the adoption of technological innovation at the firm level [Sila, 2015]

Below is a chart based on the TOE model depicting the factors and sub-factors influencing companies' adoption intention of AR technologies.



1. The technological context includes both the internal practices applied by the company and the external technologies available to the company (Oliveira, and Martins, 2011). It is critical for companies to understand the competitive advantage new technologies offer over existing technologies.

□ The technological competence sub-factor refers to the firm's willingness to adopt new technologies. Innovative companies are interested in supporting the adoption of new technologies, so the higher the company's level of technological competence, the more likely it is to adopt new technologies (Zhu, Kraemer, and S. Xu, 2002).

□ Relative advantage is the degree to which an innovation is judged to be better than an existing option. Information technology is one of the best tools for achieving sustainable competitive advantage.

2. Organizational context refers to the descriptive dimensions of the organization, such as its scope, size, management structure, and organizational resources [Oliveira, and Martins, 2011].

□ Decision makers must have sufficient cognitive skills and knowledge to understand their own organization, their customers' needs and the latest technologies [Brynjolfsson and Hitt, 1996]. Their role is important in promoting innovation within organizations.

□ Financial resources are probably the key element to drive innovation. Limited financial resources can force companies to be extremely cautious in their investments and capital expenditures.

□ The role of top management support is critical because employees often resist adopting new technologies, mainly because senior officials do not properly communicate the strategic benefits of new tools [Knight, 2018].

3. The environmental factor includes the environment in which the company conducts its business: consumers, competitors, suppliers, etc.

□ Consumer readiness is a combination of the propensity and support received for new technologies. In the context of AR in e-commerce, 'engaging' online shoppers as they visit online stores is a priority for all retailers.

□ Competitive pressure affects the adoption of new technologies because under these conditions companies will act quickly to ensure that they stay ahead of the race. Competition strengthens the need and possibility of using innovative technologies in business. Firms that compete aggressively with their competitors embrace technological innovation so that they can reduce their costs. Competitive pressure has been identified as one of the constraints that a firm considers when deciding to adopt new technologies [Zhu Kraemer, and Xu, 2003]. Therefore, it can be concluded that a high level of the above factors and sub-factors is positively related to the adoption intention of AR by e-commerce companies.

Conclusion. Although AR technologies are growing in use, there are some drawbacks here as well. The expected utility and ease of use of any new technology are important factors in its adoption. Not only is it important to understand the factors that influence the intention to adopt AR, but it is also imperative to understand the ways in

which a company will build a business model to increase the total expected revenue and gain a competitive advantage.

Since almost half of the studied organizations were not large organizations, but most of them experienced an increase in sales turnover through e-commerce, it can be said that online platforms are equally applicable and beneficial to both small and medium-sized and large organizations. Electronic marketplaces enable Armenian companies to advertise their products and services to a significant number of online customers, reduce their operating costs, and increase trust and transparency around their operations.

References

1. Yulihastri, Md. Aminul, I., Ku, A., Ku, D. 2011. Factors that Influence Customers' Buying Intention on Shopping Online. *IJMS*, 2011, 128
2. Yuen, S.; Yaoyuneyong, G.; & Johnson, E. (2011). Augmented reality: An overview and five directions for AR in education. *JET Development and Exchange*, 4, 119-140,
3. Bakırlıoğlu, A., Cakıroğlu, D., Tuncer, O. & Cebeci, U. (2022). A Model for Augmented Reality Efficiency Analysis on E-Commerce Websites and its Feasibility Analysis for a Gold Jewelry Company. *Journal of Current Research on Engineering, Science and Technology*, 8 (1), 29-42.
4. Perannagari, K. T., & Chakrabarti, S. (2019). Factors influencing acceptance of augmented reality in retail: insights from thematic analysis. *International JRDM*.
5. Chen, Joy Long Zong, and P. Hengjinda. "Early Prediction of Coronary Artery Disease (CAD) by Machine Learning Method-A Comparative Study." *JAI* 3, no. 01 (2021): 17-33.
6. Cirulis, A., & Ginters, E. (2013). Augmented reality in logistics. *Procedia Computer Science*, 26(11), 14-20.
7. D. Mahr, D.I keeling, JHeller, T. Hilken, M. Chylinski, and K. de Ruyter, "Making omnichannel an augmented reality: the current and future state of the art," *JRIM*, vol 12,no 4pp509-523, 2018, doi:10.1108/JRIM-01-2018-0023
8. Vijayakumar, T., Mr R. Vinothkanna, and M. Duraipandian. "Fusion based Feature Extraction Analysis of ECG Signal Interpretation—A Systematic Approach." *Journal of Artificial Intelligence* 3, no. 01 (2021): 1-16
9. Grewal, D., Roggeveen, A. L., & Nordfält, J. (2017). The future of retailing. *Journal of Retailing*, 93 (1), 1-6.
10. Lawrence, J. E., and Tar, U. A. Barriers to ecommerce in developing countries. *Information, Society and Justice*,2010, 23-35.
11. Huang, T.L. and C.H. Tseng, "Using Augmented Reality to Reinforce Vivid Memories and Produce a Digital Interactive Experience," *Journal of Electronic Commerce Research*, 2015, Vol. 16, No. 4, 307
12. Wu, Hsin-Kai; Lee, Silvia Wen-Yu; Chang, Hsin-Yi; Liang, Jyh-Chong, "Current status, opportunities and challenges of augmented reality in education...", 2013.
13. Picoto, W.N., F. Bélanger, and A. Palma-dos-Reis, "A Technology-Organisation-Environment (TOE)-based mBusiness Value Instrument," *IJMC*, 2014 V. 12, 1, 78-101.

14. Sila, I., "Factors Affecting the Adoption of B2B E-commerce Technologies," *Electronic Commerce Research*, 2013, Vol. 13, No 2, 199-236.
15. Oliveira, T., and M.F. Martins, "Literature Review of Information Technology Adoption Models at Firm Level," *The E-JISE*, 2011, Vol. 14, No. 1, 110-121.
16. Zhu, K., K.L. Kraemer, and S. Xu, "A Cross-Country Study of Electronic Business Adoption Using the Technology- Organization-Environment Framework," *Center for Research on Information Technology and Organizations UC Irvine*, 2002.
17. Brynjolfsson, E., and L. Hitt. "Paradox Lost? Firm-Level Evidence on the Returns to Systems Spending," *Management Science*, 1996, Vol. 42, No.4, 541-58
18. Knight, R., "Convincing Skeptical Employees to Adopt New Technology," *Harvard Business Review*, 2018.
19. Zhu, K., K.L. Kraemer, and S. Xu, "Electronic Business Adoption by European Firms: A Cross-Country Assessment of the Facilitators and Inhibitors," *European Journal of Information Systems*, 2003, Vol. 12, No. 4, 251-268

Elen AVALYAN

Presentation of key factors influencing the acceptance and application of e-commerce

Key words: online platforms, key factors, technologies, sales turnover, financial resources.

The modern age is the age of technologies as online companies try to introduce innovations in order to survive under the conditions of tough competition. This leads to the creation of international values, improves market access, increases the effectiveness of marketing mechanisms and reduces the transaction costs (Humphrey, Mansell, Paré, and Schmitz, 2003, UNCTAD 2015)¹. Innovation, including technological innovation, is defined as an idea, experience, or item that is new both to consumers and those who supply it. Currently, companies are trying to carry out entrepreneurial activities through the usage of applications. According to Bill Gates: "If you have a business but it's not on the Internet, think that you don't really have it." For e-commerce, organizations are offered Augmented Reality (AR) applications that connect digital content with the real world. Although literature has long introduced AR into the public consciousness, however, in terms of its application, many associate AR with the future. AR in e-commerce helps consumers in the right environment to understand the nature and essence of the product being purchased. However, despite the fact that this technology has great potential and a great future, it is still not used to the maximum extent. The introduction of technologies can be justified if a company as a result of them can cut costs, mitigate risks associated with its own operations, or create new revenue streams by attracting or retaining existing customers.

¹ Humphrey, J., Mansell, R., Paré, D., and Schmitz, H. *The Reality of E-commerce with Developing Countries*. 2003, UNCTAD, *Information Economy Report*. *Unlocking the Potential of E-Commerce for Developing Countries*. 2015