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Technology Acceptance Model in Understanding Consumers' Adoption of Emerging Technologies in Retail

Arulmozhi Kasthurirengan

arulmozhi.j@gmail.com

Abstract

The Technology Acceptance Model (TAM) helps understand how consumers adopt new technologies in retail by focusing on two key factors: perceived usefulness and perceived ease of use. Technology is more likely to be adopted if consumers believe it will be helpful (usefulness) and easy to use. These perceptions influence a consumer's attitude toward the technology, which in turn affects their behavioral intention to use it, ultimately leading to actual use.

Keywords: Consumer's acceptance, Extensive Analysis, Corporate Strategies, technology, positive attitude, Ease of Use, literature analysis, Interface cluttered. Self-checkout Kiosk, Mobile App

Introduction

- **Perceived Usefulness (PU):**

This refers to the extent to which a consumer believes using a particular technology will improve their performance or satisfaction. For example, a customer might perceive a self-checkout kiosk as useful because it allows them to avoid long lines and complete their purchase quickly.

- **Perceived Ease of Use (PEOU):**

This reflects how easily a consumer believes they can use a new technology. A technology that is perceived as too difficult to learn or use will be less likely to be adopted, even if it's perceived as useful. For example, a customer might be less likely to use a store's mobile app if they find the navigation confusing or the interface cluttered.

- **Attitude toward Using:**

A consumer's overall feeling or impression of technology, shaped by their perceptions of usefulness and ease of use. If technology is perceived as both useful and easy to use, the consumer is likely to have a positive attitude towards it.

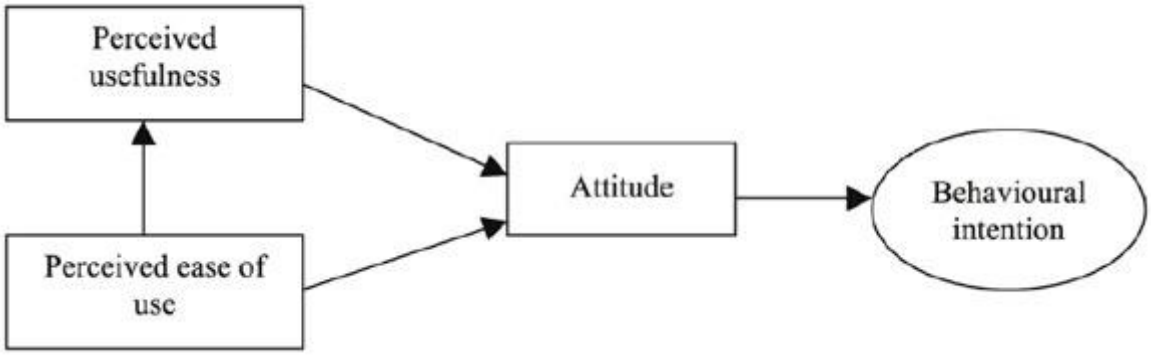
- **Behavioral Intention:**

This refers to a consumer's willingness or intention to actually usetechnology. A positive attitude, stemming from perceived usefulness and ease of use, strengthens the intention to use the technology.

- **Actual Use:**

This is the final stage, where the consumer actually uses the technology, as influenced by their behavioral intention.

- The availability of a huge number of studies about the Technology Acceptance Model (TAM) for predicting consumer's acceptance and usage of innovations in points of sale motivates writing of the present. Review, with emphasis on the new variables integrated in the traditional model. This is concerned with a synthesis of the current progresses in the field, thus offering a unified view of consumers' behaviour towards new technical solutions. Such synthesis is achieved from an extensive literature analysis, including computer science, innovation, human-computer interaction, and technology management perspectives. For each case, both opportunities and issues are outlined in order to advance the current knowledge and highlight what practitioners and scholars should take into account for developing new and efficient corporate strategies.
- The technology acceptance model (TAM) is a widely accepted theoretical framework that explains how users accept and use technology. TAM has been applied in various marketing contexts to explain consumer behavior toward new technological products and services. By understanding how consumers perceive their products' usefulness and ease of use, marketers can design effective marketing strategies that maximize consumer adoption and usage rates.



Research methodology

- Between 2002 and 2022, the Scopus database engine was utilized to find TAM marketing publications. Scopus is one of the most comprehensive databases of citations and abstracts for peer-reviewed literature, including scientific journals, books, and conference proceedings. Although multiple publications discuss various marketing studies, this investigation focuses solely on international journals extracted using the Scopus search engine and Sci-Hub because some materials were not free. Nonetheless, the Scopus database has a sizable cross-indexed percentage of marketing research (Naved & Mohammed, Citation2021). Figure 2 illustrates the stages of data screening. In stage one, the initial analysis was conducted using two keywords without any limitations and we found 1089 documents. This stage was used for metadata analysis. The second stage included adding limitations to determine the boundaries of our research, including 2002 to 2022 publications which include journals only and the researchers found 437 documents, where this stage was used for bibliometric analysis. Finally, the third stage includes 57 open-access documents used for content analysis using Wordstat. These documents were selected based on their availability or as open-access

resources, which allowed us to perform content analysis using Wordstat. The Wordstat software was used to analyze trends, developments, and keywords of marketing by using TAM. To identify the most prevalent keywords, we employed the word cloud method. Word clouds, a form of data mining, visually represent the frequency of words within a text or paragraph. Typically, the word located at the center of the cloud signifies the most frequently used term within the specific subject area. As the size of the word diminishes and it moves farther from the center, it indicates a decreasing frequency of usage. Additionally, the researchers ran a Word Frequency analysis to provide information on the occurrence of words within a given dataset. This analysis shows the frequency with which each word appears, allowing researchers to understand the distribution of terms and identify the most common words used. The analysis also includes information on the total number of words processed and provides insights into the overall composition of the text (Li et al., Citation2020).

Metadata analysis

The initial step in initiating the review involves utilizing metadata analysis to describe prior research in marketing and Technology Acceptance Model (TAM). This analysis encompasses examining publications by year, identifying the top journals containing these publications, assessing publications by authors, categorizing publications by country, and identifying the fields included in these publications. The subsequent step entails conducting a bibliometric analysis to illustrate market research trends by mapping the network between thematic clusters over time. Finally, the third step involves content analysis to uncover marketing development by showcasing word clouds, word frequency distributions, and topic analysis.

Publications by year

Figure 4 shows how marketing research utilizing TAM has progressed over publication (2002–2022). From 2002 through 2022, the number of marketing studies using TAM has grown significantly, with a noticeable drop from 2015 to 2018. In 2020, there was an exponential increase in the number of publications. From 4 publications in 2002 to 157 in 2022, the number of publications has steadily increased. However, the rise in the number of marketing studies utilizing TAM is not consistent. The graphic shows that in 2014, there was a notable rise in the number of marketing studies that utilized TAM, resulting in 52 publications. This increase could be attributed to various factors, such as the growing recognition of the TAM framework's relevance in understanding consumer behavior and technology adoption trends. However, following the surge in 2014, there was a decline in 2015, with 38 publications. This decline, as compared to the number recorded in 2012, could indicate a temporary deviation from the upward trajectory. Possible reasons for this dip might include shifts in research focus, methodological variations, or fluctuations in the popularity of TAM as a research tool.

Conclusion

The final step of our metadata analysis includes the subject area of publications, where Figure 7 illustrates the most dominant fields of publication. The top field was business and management, with 26% of all publications, and computer science in the second level with more than 20%, while social science, engineering, decision science, and economics were at the following levels, respectively.

Few industries tout their sustainability credentials more forcefully than the fashion industry. Products ranging from swimsuits to wedding dresses are marketed as carbon positive, organic, or vegan while yoga mats made from mushrooms and sneakers from sugar cane dot retail shelves. New business models including recycling, resale, rental, reuse, and repair are sold as environmental life savers.

References

1. Research Gate (2021) – https://www.researchgate.net/publication/236606388_Understanding_Consumer%27s_Acceptance_of_Technology-Based_Innovations_in_Retailing
2. Journal of Technology Management & Innovation (2022)- https://www.jotmi.org/index.php/GT/article/view/art279
3. Science Direct (2023) https://www.sciencedirect.com/science/article/pii/S2405844023055573