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The intervention of Information Technology in Consumer Decision Making: A review and research agenda

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Abstract

The latest advancement in technology and digital environments have significantly affected consumer decision making. Consumption decisions are highly interspersed with technology for contemporary consumers, necessitating a continuous stream of research. The systematic review of literature has a focus on different themes, journals, and research methods. The research design of the paper follows three stages: qualification criteria and refinement of literature, analysis & classification, and presentation. This interdisciplinary review establishes that the academic work has highly concentrated on certain technologies and some stages of decision-making. We further explain the research arena of consumer behavior and information technology along with gaps, future opportunities and challenges. This robust method helps in developing future research landscape for information technology and marketing scholars.

5 Key Words – Consumer Decision Making, Information Technology, Digital, Marketing, Purchase

1. Introduction

This paper reviews selected articles that examines the role of information technology (IT) in consumer decision-making (CoDM), to understand the research gaps and future research areas. The new technologies are converging the digital, physical and organic worlds paving way for the fourth industry revolution (Schwab, 2017). The rapid influx of digital elements have significantly affected the consumer behavior. Over the decade, several scholars have contributed towards unravelling the technology-consumer interaction and corresponding changes in consumer behavior. The past research focusing heavily on technology perception, adoption, and consumption (Hoehle et al., 2012; Oliveira et al., 2014) have set strong foundations to consumer behavior studies. However, as consumers and technology are rapidly transforming, continuous research and retrospect is inevitable for the growth of the marketing discipline. This review discovers that present academic work hinges upon the one-dimensional consumer decision-making models from the non- digital era (Howard & Sheth, 1969; Nicosia, 1966). These models are inadequate to encapsulate the complex behaviours of the digitally oriented consumers. Hence, there is an urgent requirement of research for studies related to different stages of technology-enabled decision-making. Moreover, there is a scarcity of holistic models that bridges CoDM with the latest technology. Hence, the research in this area needs more impetus towards theory development and extension. This paper fills this gap and provides comprehensive frameworks that functions at the intersection of technology and CoDM. We also provide future areas of research to encourage more academic endeavours in the area of technology and consumer decision making.

Review Methodology

The paper focuses on exploring empirical, opinion and conceptual work , published in high rated journals from 2010 till 2019. These paper accentuates CoDM and technologies role in this process. We

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summarize the present knowledge across marketing (retail, consumer behavior, and advertising), psychology, IT and public policy. The multidisciplinary approach helps to answer the vital research questions

RQ1: What research studies connects CoDM and information technology?

RQ2: What are the research areas that are not addressed by the earlier literature but are important in terms of variables and research methodologies?

RQ3: What salient avenues are there for future research work in this domain and the respective implications?

To address, these research questions, we conduct a systematic review, which seems to be an appropriate approach (Eteokleous et al., 2016). A step by step approach has been taken (Senyo et al., 2019) to assess the samples for review. First, we establish the qualification norms for selecting the research studies. This studies considers peer reviewed work from A and A* Journals, published between 2010 and 2019. Subsequently, we conduct a systematic selection of research papers from databases such as Emerald, EBSCO, Google Scholar, Elsevier, and Jstor. The keywords for search include different combination of : "Website" "VR", "Search", "Recommendation", "Purchase", "Processing", "Personalization", "Need Recognition", "Intention", "Natural Language Processing", "Mobile", "Machine Learning", "Impulse", "Evaluation", "Digital", "Decision", "Data", "Choice", "Comparison", "Consumer", "Chatbot", "Apps", "Augmented Reality", "Alternative", "Artificial Intelligence" producing 181 studies. We further select only articles, which are at the intersection of technology and CoDM. This process resulted in a list of 31 articles. As the next step, we follow a detailed citation search and analysis, resulting in 39 articles. In the penultimate step, we classify the articles based on the technology focus and CoDM stages, keywords and bibliometric aspects (Hao et al., 2019). Finally we layout our analysis and the metrics in a narrative style.

Organizing Framework

The review is structured under four different parts. First, we assess CoDM and technology. Under this review, we explore how technology influences every stage of CoDM considering there are six stages i.e. need recognition, information search, evaluation of alternatives, purchase decision that includes purchase intention and post-purchase behavior. These stages are adapted from the application of Engel, Kollat, & Blackwell (EKB) model that gives the five-step decision-making process (Ashman et al., 2015). Information processing has been also included as a key category in the study as the decision is affected by information overload (Jacoby et al., 1974). Second, we subdivide the articles into themes. Four themes have emerged from the chosen literature: six articles contributed to Mobile Environment and CoDM, 21 articles contributedto Digital Environment and CoDM, 3 articles contributed to the adverse impact of technology on CoDM and 9 articles contributed to AI, DATA and Immersive technologies and CoDM. Third, the articles are categorized based on their journal publication. The domains are include IT, Marketing, Psychology and Public policy. We found that 23 different journals have published 39 articles with the highest number of articles from the International Journal of Information Management. Fourth, we focus on structuring the review based on the research methods. Our review identified that 17 studies have used an experimental research design to establish the role of technology and CoDM. From an analysis perspective, we observe that12 articles have used structural equation modelling which emerge as the most frequently used method.. The sampling methods employed include convenience, random, and snowball sampling with sampling sizevarying from 75 to 6000. Some of the key independent variables are time disassociation, focused immersion, curiosity, heightened engagement, perceived usefulness, perceived ease of use, owned social media, promotions, perceived media, satisfaction, channel choice, perceived cost, recommendation, hedonic value, contextual factors, perceived risk, perceived benefits, persuasion, attitude, ease of use, response time, choice engagement, perceived knowledge, customer satisfaction, cognitive involvement. Some of the key dependant variables are information search, sales, purchase intention, information search, propensity to buy, decision quality, impulse purchase, attitude, attention, search, action, share, purchase decision.

Review Discussion and Directions for Future Research & Implications

This review presents two significant contributions. First, we have studied relevant articles and published between 2010 until 2020 centring on influences of IT on consumer behavior from top-rated journals of Australian Business Deans Council Journal Quality List. Second, we converged on bridging gaps under the existing spectrum of studies. We highlighted gaps and developed a roadmap for further research opportunities to strengthen the understanding of this domain.

We study 39 research papers from top journals and most of their work is based on the linear models of buying processes. Most of the studies have centered on the ultimate purchase decision, ignoring the stages that leads to the final decision. This indicates that new models of CoDM pivoting on technology and ever- evolving consumer is the need of the hour. The sampling of 80% of the studies have convenience sampling with a large homogeneous student samples. Hence these results cannot be generalized to a wider audience or varied contexts. Further studies should cater to heterogeneous sampling with a probabilistic sampling of end-users.

Earlier research have not focused heavily on the digital medium such as social media, websites and recommendation systems. Further research should traverse the different technologies and their effect on CoDM. Artificial Intelligence, Chatbot, Augmented Reality, Virtual Reality, Virtual Search, Voice Search, Wearable Devices and Internet of Things are some of the emerging areas that can be studied with CoDM. These technologies have a huge potential to modify consumer behavior. Further research requires to develop new models for CoDM as a research area.

The comprehension from top journals has addressed how technology influences CoDM and recognizes the theoretical, methodological and contextual areas for further research. However, this paper has limitations on conceptual and methodological avenues which can be overcome in future research.

The first limitation of the present manuscript is that the databases may use filters, leading to exclusion of some studies. Second, we have not included book chapters, dissertations, monographs, and conference proceedings, only journals have been considered for this review. Third a meta-analysis on CoDM would enable scholars to summarize major dimensions of CoDM. Last, the themes are undefined since samples are prohibitive, further studies can facilitate in creating theories and newer themes from papers.

The objective of this study was to understand the systematic literature review and the CoDM process. The last 10 years papers are studied to understand how CoDM works with the intervention of latesttechnology. We found gaps and identified the much needed research areas, which can enable future scholars to develop their research focus.

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