

Understanding the Shift: ChatGPT and its Effects on Traditional Online Purchase Determinants

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Abstract

This research paper aims to comprehensively understand the shift brought about by ChatGPT, an advanced generative AI platform, and its effects on traditional online purchase determinants. Through the integration of a systematic literature review of 304 research articles on online purchase intentions, theories, and constructs, along with an examination of ChatGPT's disruptive capabilities, this study provides valuable insights into the transformative potential of AI in the marketing domain. The literature review process follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) approach, employing a top-down methodology. The findings reveal the dominance of TAM and UTAUT as theories in traditional online purchase determinants, while also identifying key determinants such as privacy concerns, rising purchase power parity, and online incentives. These determinants are further categorized based on geographical variations and standard of living, drawing insights from studies conducted across different regions. By exploring the disruptions caused by ChatGPT, this study bridges the gap in understanding the impact of AI technologies on traditional online purchase determinants. The insights gained from this research will assist marketers in effectively adapting their strategies to leverage ChatGPT's capabilities, taking into account factors such as personalization, privacy, data security, and ethical AI use. Moreover, there is a need to align existing studies such as TAM and UTAUT with recent constructs like ChatGPT, highlighting the importance of integrating new technological advancements into established models.

Keywords: Online purchase indicators, UTAUT, ChatGPT, Disruptions, Consumer behaviour, Artificial intelligence, Generative AI, Online consumer preferences, Technology adoption

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Introduction

The rapid advancements in artificial intelligence (AI) have revolutionized various industries, including marketing. Among the emerging technologies in the AI landscape, ChatGPT has garnered significant attention for its potential to disrupt traditional marketing strategies and practices. ChatGPT, an advanced generative AI platform developed by OpenAI, combines deep learning and language models based on the Generative Pre-training Transformer (GPT) architecture (Radford et al., 2018). This integration enables ChatGPT to generate human-like text, making it a valuable tool for a wide range of applications.

The Internet has played a pivotal role in facilitating global business and transforming the way consumers engage with brands (Sakarya & Soyer, 2014). The increasing penetration of internet connectivity in developing countries has led to a surge in online shopping, where products and services are bought and sold over the internet (Rudansky-Kloppers, 2014). This growing trend of online shopping has created new opportunities and challenges for marketers, prompting the need to understand and adapt to evolving consumer behavior in the digital space.

In this context, there is a need to examine how the disruptive capabilities of ChatGPT impact traditional online purchase determinants. Online purchase behavior has become a significant factor in consumer decision-making, and marketers must gain insights into the factors that influence consumer choices in the digital landscape. Previous research has focused on theories such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT), providing valuable insights into consumer behavior online (Lokman and Ameen, 2018; Venkatesh et al., 2003).

However, with the introduction of ChatGPT, there is a paradigm shift in how businesses engage with their customers and shape purchase decisions. The unique capabilities of ChatGPT to generate textual content and engage in conversational interactions open up new possibilities for marketing and customer engagement. It has the potential to transform the way businesses communicate, deliver personalized experiences, and influence consumer behavior.

Therefore, the objective of this research paper is to comprehensively understand the shift brought about by ChatGPT and explore its effects on traditional online purchase determinants. Through the integration of a systematic literature review of 304 research articles on online purchase intentions, theories, and constructs, along with an examination of ChatGPT's disruptive capabilities, this study aims to provide valuable insights into the transformative potential of AI in the marketing domain. By analyzing the dominant theories such as TAM and UTAUT and identifying key determinants such as privacy concerns, rising purchase power parity, and online incentives, the study will categorize these factors based on geographical variations and standard of living.

The findings of this research will bridge the gap in understanding the impact of AI technologies, specifically ChatGPT, on traditional online purchase determinants. Marketers will gain valuable insights to adapt their strategies effectively, considering factors such as personalization, privacy, data security, and ethical AI use. Additionally, the study highlights the importance of integrating new technological advancements, like ChatGPT, into established models such as TAM and UTAUT, aligning recent constructs with traditional theories to

enhance the understanding of online purchase behavior.

Overall, this research contributes to the existing literature by providing a comprehensive analysis of the disruptive potential of ChatGPT in the context of traditional online purchase determinants. The insights gained will assist marketers in navigating the evolving landscape of AI-driven marketing strategies and leveraging ChatGPT's capabilities for improved marketing outcomes.

1.1. Scope of the Study:

This research paper aims to comprehensively understand the shift brought about by ChatGPT and investigate its effects on traditional online purchase determinants. The scope of the study encompasses an examination of the dominant theories in traditional online purchase determinants, such as TAM and UTAUT, as well as an exploration of key determinants including privacy concerns, rising purchase power parity, and online incentives. Geographical variations and standard of living will also be considered to provide insights into the diverse factors influencing online purchase decisions across different regions.

1.2. Objectives of the Study:

- a.** To analyze the disruptive capabilities of ChatGPT, an advanced generative AI platform, and its impact on traditional online purchase determinants.
- b.** To conduct a systematic literature review on online purchase intentions, theories, and constructs, following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) approach.
- c.** To identify the dominance of TAM and UTAUT as theories in traditional online purchase determinants, and explore their interrelation with ChatGPT.

- d.** To bridge the gap in understanding the impact of AI technologies on traditional online purchase determinants and provide valuable insights for marketers to adapt their strategies effectively.

- e.** To highlight the importance of integrating new technological advancements, such as ChatGPT, with established models like TAM and UTAUT in order to align with recent constructs and enhance the understanding of online purchase behavior.

2. Theoretical background on Online Purchase Indicators

According to Chakraborty and Balakrishnan (2017), online shopping can be defined as the process of purchasing and selling products through the internet. The paper outlines key factors that are commonly referred to as purchased determinants for online shopping, followed by prominent theories and finally an exhaustive list of factors suggested by different researchers

2.1. Key Factors influencing online purchase

2.1.1. Customer Satisfaction:

Whether it's traditional marketing or online marketing, Customer satisfaction is the most significant variable in consumer's buying behavior (Alam & Yasin, 2010). Customer satisfaction depends on many factors such as quality of product and services, website design, security, payment method, delivery performance, etc. Intention to buy online is directly linked with satisfaction to buy online (Uzun & Poturak, 2014). Customer satisfaction also seems to be influenced by online buying habits(Lin & Lekhawipat, 2014). Another study by Liang et.al (2015) proposed seven constructs-price, convenience, product information, return policy, financial risk, product risk, and delivery risk that affects customer satisfaction to re-purchase in e-

stores in China. Another study by Dharmesti & Nugroho (2013) revealed that customer's online satisfaction is affected by information quality, privacy, payment system, delivery, and customer service toward customer loyalty.

2.1.2. Convenience & Time-saving:

Many studies pointed out convenience in buying online as one of the predominating factors for buying online (Al Karim, 2013; Rudansky-Kloppers, 2014). Convenience can be time-saving, availability of information, user-friendly website, stress less and less expensive shopping, and having fun while shopping includes interim convenience (Al Karim, 2013). Purchasing online saves a lot of time. Among other convenience factors, time-saving is one of the prime reasons for online shopping (Bellman, Lohse, and Johnson, 1999).

2.1.3. Quality and Variety of Product & Services, Price:

A variety of products and services was found to be another prominent reason why people prefer to buy online. Another study indicated access to quality products affects willingness to purchase online (Uzun and Poturak, 2014).

2.1.4. Trust:

Since online transaction involves less human interaction in person, concern regarding fraud, inferior quality are predominant. Because of this trust is plays important role in buying online. Another study that studied trust along with four other prominent online purchase determinants- time, product variety, convenience, and privacy, revealed that trust is given the highest importance by the young generation while making an online purchase (Bashir et.al, 2015). The purchasing behaviour of online shoppers can be affected by the trustworthiness of the internet (George, 2004).

2.1.5. Website:

For online purchase website act as an online shop/ face of the company. The customer's decision whether or not to make a purchase, sign up for availing services is dependent on the website. It becomes very crucial to organize the contents of the website so that customers get what they are looking for easily and led to a successful purchase. Park and Kim (2003) indicated purchase decision for Korean customers is dependent on awareness of the site, quality of user interface, quality of service information, perceptions about security. Consumers' intention to continue using a website seems to be affected significantly by the perceived usefulness of the website in the customer's view (Liao et.al, 2010). After interacting with a website, within the first few seconds itself customers make their perception about the merchant and conclude whether to continue exploring the purchase option or leave the site to check another service provider. Hence usefulness, quality of a website becomes very crucial for the success and failure of the sales process.

3.2. Theories/ Models for Online Purchase Determinants

3.2.1. Technology Acceptance Model (TAM)

Davis (1985) introduced the Technology Acceptance Model (TAM) consisting of two types of variables: user motivation and outcome variables. The user motivation variables include "Perceived ease of use," "Perceived usefulness," and "Attitude," while the outcome variables include "Behavioral Intentions" and "Technology use."

Perceived ease of use (PEU): This refers to the individual's perception of the effortlessness associated with using technology (Davis, 1989).

Perceived usefulness (PU): This pertains to the individual's belief that utilizing

technology will enhance their job performance (Davis, 1989).

Attitudes toward technology (ATT): This encompasses an individual's evaluation of technology or specific behaviors related to its use (P. Zhang, Aikman, & Sun, 2008).

3.2.2. Unified Theory of Acceptance and Use of Technology (UTAUT)

Venkatesh et al. (2003) introduced a comprehensive framework, Unified Theory of Acceptance and Use of Technology (UTAUT), by consolidating eight key models related to online customer behavior. The models integrated into UTAUT are the Motivational Model, Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), TAM (a combination of TPB/TRA), Innovation Diffusion Theory (IDT), Model of Utilization, and Social Cognitive Theory (SCT). According to UTAUT, customers' intention to purchase online can be inferred from four key constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions. Additionally, UTAUT explores the moderating role of gender, age, experience, and voluntariness on the impact of these constructs on usage intention and behavior.

Performance Expectancy: Performance expectancy refers to the degree to which an individual believes that using a system will improve job performance (Venkatesh et al., 2003). This construct can be compared to perceived usefulness in TAM. Studies have shown that when customers perceive that using a system will lead to better performance, it positively affects their intention to buy online.

Effort Expectancy: Effort expectancy is related to the ease of use associated with a system. It measures the level of easiness or difficulty in using the technology

(Venkatesh et al., 2003). The easier the system is to use, the more likely customers are to have a positive intention to purchase.

Social Influence: Social influence is defined as the extent to which an individual perceives that important others, such as relatives, peers, and subordinates, believe that he or she should use the new system (Venkatesh et al., 2003). Opinions from peers, friends, and family can significantly influence a customer's intention to purchase online.

Facilitating Conditions: Facilitating conditions refer to the degree to which an individual perceives that organizational and technical infrastructure exists to support the use of the system (Venkatesh et al., 2003). Improvements in high-speed mobile computing devices and networks have positively contributed to customers' intention to purchase online.

3.2.3. Unified Theory of Acceptance and Use of Technology 2 (UTAUT2)

After the successful development of UTAUT, Venkatesh, Thong, and Xu extended its application to the consumer context, resulting in the emergence of UTAUT2. This new theory incorporated three additional constructs into the original UTAUT framework. These new constructs are Hedonic motivation, Price value, and Habit. Similar to UTAUT, UTAUT2 also explored the moderating role of individual differences, namely age, gender, and experience, on the effects of these additional constructs on behavioral intention and technology use. Each of the additional constructs is discussed in detail below:

Hedonic Motivation: Hedonic motivation refers to the fun or pleasure derived from using technology, and it has been identified as an influential factor in determining technology acceptance and use (Brown and Venkatesh, 2005). In the context of online purchase, hedonic

motivation is particularly prevalent in mobile applications where additional features, such as product comparisons and demos, positively influence customers' intention to make online purchases.

Price Value: Price value is the user's perception of the benefits of using technology compared to the monetary cost paid for it. A positive perception of price value has been found to have a positive impact on customers' intention to make online payments. For example, customers who believe that online purchases offer more choices and better deals than the delivery charges are likely to show a higher intention to purchase online.

Habit: A person's habit towards using technology has been found to significantly influence their intention to purchase online. Tech-savvy individuals who are early adopters of new technology tend to exhibit a greater intention to make online purchases.

The impact of facilitating conditions on age, gender, and experience is moderated as follows:

Age: Younger individuals are more adaptive to new technology compared to older individuals. Older people tend to place greater importance on the availability of support when considering the use of new technology (Hall and Mansfield, 1975).

Gender: Men tend to rely less on facilitating conditions when adopting new technology, while women tend to place greater emphasis on external supporting factors.

Experience: More experience with technology leads to greater familiarity and comfort with its usage, reducing the need for external support (Alba and Hutchinson, 1987).

Understanding these additional constructs and the moderating effects of individual differences can help marketers and practitioners tailor their strategies to

meet the specific needs and preferences of different customer segments, ultimately enhancing technology acceptance and online purchase intentions.

3.2.4. ChatGPT and Online Purchase Determinants:

The ongoing development of AI algorithms has led to an increased focus on chatbot-related studies in the literature (Lokman and Ameen, 2018). Chatbots, incorporating language models and deep learning, have been employed to address natural language processing (NLP) problems and provide real-time feedback to customers (Bellegarda, 2004; Melis et al., 2017; Kushwaha and Kar, 2021). With the introduction of OpenAI's ChatGPT, the capabilities of chatbots have significantly expanded through the integration of deep learning and language models based on the Generative Pre-training Transformer (GPT) architecture (Radford et al., 2018).

The widespread global adoption of ChatGPT has showcased its versatility across various domains, including software development, poetry, essays, business letters, and contracts (Reed, 2022). However, this adoption has also raised concerns regarding differentiating human versus AI authorship within academic and education communities, sparking a renewed debate on the role of traditional human endeavours.

While the potential relevance of AI for innovation management has been recognized, studies in this field have primarily focused on economic, technological, and social drivers of AI adoption for innovation, as well as economic, competitive, organizational, and innovation outcomes (Mariani et al., 2022). Although generative AI has been underexplored, the launch of generative AI platforms like GPT3 and ChatGPT has garnered significant attention from the media, organizations, and users,

highlighting their potential impact (Mariani et al., 2023).

The distinctive capability of ChatGPT lies in its ability to generate textual content. Within just three months of its release, ChatGPT has been utilized by software developers, creative writers, scholars/teachers, and songwriters to generate computer software, text, academic essays, and song lyrics. However, it is crucial to exercise caution as inaccuracies in the generated content have been observed, particularly regarding the sources of ideas (Reed, 2022).

While technical improvements in training models and data quality may enhance AI platform performance, it remains unclear whether better technical performance will lead to more meaningful innovation outcomes. The question arises as to whether AI platforms such as ChatGPT are capable of independently driving meaningful product, process, or business model innovation. Creative and innovative activities, involving multiple areas of the human brain, often require more than a prompt to generate distinctively different and original new products, particularly those involving emotional intelligence (Jena & Goyal, 2022).

In summary, AI platforms such as ChatGPT still have a long way to go before they can independently lead to meaningful innovation outcomes. At best, they can augment human intelligence for innovation by enhancing human capabilities. As AI platforms and technology continue to evolve, further research is needed to investigate the increasing relevance of generative AI in triggering innovation outcomes.

Knowledge work, compared to physical labor, presents challenges in measuring inputs versus outputs. Research suggests that a significant portion of a knowledge worker's time is spent on discretionary

activities that could be competently handled by others, including technology solutions like ChatGPT. The anticipation is that AI will augment human intelligence, enabling more efficient problem-solving, decision-making, and goal achievement.

The recent release of OpenAI's ChatGPT has generated considerable anticipation among top business leaders, who believe it will bring about profound changes in our work and lives. Experts have highlighted its potential impact on the work of researchers (van Dis et al., 2023), although concerns have been raised about the accuracy of information generated by ChatGPT (Thorp, 2023).

ChatGPT belongs to the family of generative AI that can create various forms of content, including text, code, audio, images, and videos. Built on transformer technology, similar to Google's rival platform Bard, ChatGPT showcases the advancements in neural network architecture that generate predictions based on inputs.

In conclusion, the implications of ChatGPT on online purchase determinants are multifaceted, ranging from its disruptive potential in marketing to its impact on innovation and knowledge work. This literature review sets the stage for a comprehensive understanding of the shift brought about by ChatGPT and its effects on traditional online purchase determinants. The findings from this research will provide valuable insights for marketers, innovators, and knowledge workers in navigating the evolving landscape of AI-driven technologies and leveraging ChatGPT effectively for improved outcomes.

1. Research Methodology

This research study was conducted in two steps to comprehensively explore the online purchase indicators and the recent

literature on ChatGPT as an emerging online purchase indicator. The methodology involved a detailed literature review and an analysis of the findings to synthesize a holistic model describing online purchase indicators from 1970 to 2023.

Step 1: Detailed Literature Review on Online Purchase Indicators In the first step, a thorough literature review was conducted to identify and analyze existing research articles and studies related to online purchase indicators.

The study followed a qualitative literature review for searching research papers. For searching the researches, generic keywords such as "Online Shopping Models", "Factors influencing online purchase,behavior", "Consumer Behaviour online" were used. We used Google Scholar, Scopus, Science Direct, and Emerald databases for the study. The initial search resulted in some common themes/theories that were frequently referred to. UTAUT, TAM was the most common model used in the searched results. Based on the themes that emerged from the initial stage, more focused researches were made using specific keywords like "UTAUT and extensions", "TAM and extensions". Results helped to shape and correlate the various models that are commonly used for online customer behavior studies. The below table summarizes some of the common keywords used for studies.

Table 1: List of Keywords.

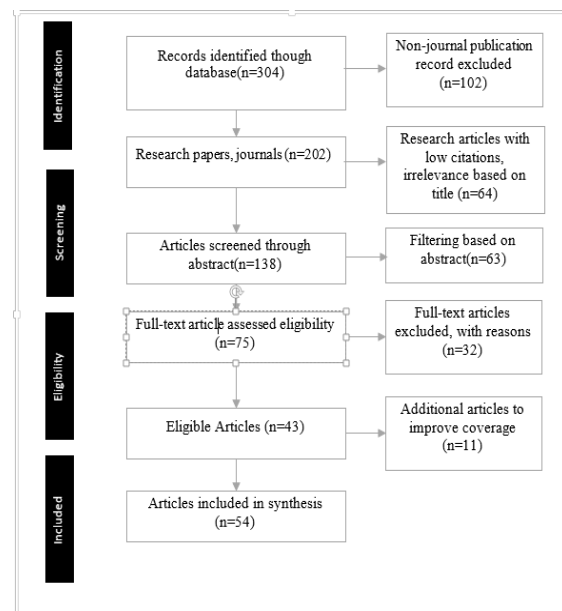
Keywords
Online Purchase Determinants
Online Purchase Intentions
Online Shopping Models
Factors influencing online purchase behavior
Consumer Behaviour online
UTAUT and extensions
TAM and extensions

The initial search gave resulted in about 39,970 results on science direct & about 7,32,000 articles on Google Scholar. PRISMA framework was used to shortlist papers from searched results. About 304 articles were shortlisted initially. In the first pass through these articles, 59 non-journal articles were excluded to keep the research specific.

To provide broader coverage, the possible sources of biases are identified. E.g. Some of the research explored in earlier phases was centred on hospitality. To overcome such biases, researches from other industries were also explored. Finally, to bind all the models together-existing review work done by other researchers to consolidating the important online purchase models were studied.

About 304 pages were screened from out of which 54 were shortlisted included in the study.

Figure 1. Adapted PRISMA model for Selection of articles for Study



Journals with categories “Business Research”, “Retailing and Consumer Services”, “Science and Technology” are found to be common for publications by the researchers. Journals that were commonly found in search results includes- Journal of Outdoor Recreation and Tourism, Technology in Society, Journal of Retailing and Consumer Services, International Journal of Hospitality Management.

Step 2: Literature Review on ChatGPT as an Online Purchase Indicator In the second step, the recent literature on ChatGPT as an emerging online purchase indicator was studied. Given the novelty of this topic, the literature on ChatGPT and its implications for online purchase indicators is still under development. However, the available literature from reputable sources such as research articles, industry reports, and expert opinions was analyzed to gain insights into the potential impact of ChatGPT on online purchase behavior.

Finally, the literature reviews from both steps were thoroughly analyzed to identify common themes, trends, and key findings related to online purchase indicators. The analysis involved a systematic examination of the literature to extract relevant information and identify gaps in the existing knowledge. The findings were then synthesized to develop a holistic model describing online purchase indicators, incorporating insights from both the traditional literature and the emerging literature on ChatGPT.

1. Review Findings

The findings of the literature review highlighted the significance of TAM and UTAUT as dominant theories in understanding and describing consumer behavior in the online context. These theories have been widely studied and referenced by researchers, indicating their

relevance and applicability in the field of online purchase intentions.

Within the scope of this study, the literature review encompassed prominent literature reviews conducted by different researchers on TAM and UTAUT in various settings. These reviews provided valuable insights into the key constructs, relationships, and factors that influence online purchase behavior. By synthesizing these literature reviews, this study consolidated the findings and identified common themes and trends across different contexts.

One notable aspect that emerged from the literature review was the influence of geography on the factors influencing online purchase decisions. The findings revealed that factors such as country-specific cultural norms, economic conditions, and the standard of living played a significant role in shaping consumer behavior in the online marketplace. For instance, consumers in developed countries with higher standards of living may prioritize factors such as product quality, convenience, and trustworthiness of the seller. On the other hand, consumers in developing countries with lower standards of living may prioritize factors such as price affordability, delivery options, and product availability.

5.1. Cross-Continental Perspectives

In addition to the widely recognized models such as TAM, UTAUT, and UTAUT2, several studies have investigated the determinants of online purchase intentions in diverse contexts. Table 2 presents an overview of these studies along with their respective findings on online purchase determinants. To gain insights into the variations in purchase determinants across different continents, our study specifically examined models and findings from the United States, Europe, and Asia. By

considering these regional perspectives, we aimed to capture the nuanced differences in online purchase

determinants across various geographical contexts.

Table 2 Studies and Online Purchase Indicators Proposed

Geography	Researchers	Purchase Determinants
Western context	Shim S & Drake MF 1990	The prior online purchase experience
India	Mohanty & Panda, 2008	Rising purchasing power parity (PPP), Demographics, Increasing urbanization, Technology revolution
USA and China	Tong, 2010	Perceived ease of use, The prior online shopping experience
India	Permatasari, & Kartikowati, 2018	Design of website, Perceived risk
India	Bagla & Khan, 2017	Busy lifestyle, Assortment of options online, Rewards and cash-backs
India	Panda & Narayan, 2016	Long office hours, Penetration of smartphones, User-friendly web-interface, Need for comfort, Cheaper internet data, Customer-friendly policies like 'Offers and Discounts', 'Cash on Delivery, 'Assured Product Return'
Western context	Mukherjee & Nath, 2007	Privacy and security features of the website
India	Panda & Swar, 2013	Anxiety, Ease of use, Usefulness, Price
India	Nayyar & Gupta, 2011	Lack of touch and feel, Fear of identity, Financial theft, Format of a fixed price, Delivery time, Product genuineness
Thailand	Alessandro, Antonia & Leela, 2012	Privacy and security practices, Perceived risk and online trust
India, US	Gupta, Dogra & George, 2018.	Price saving, Prior use habits, Perceived trust
India	Roby, Ashe, Singh & Clark, 2013.	Innovation, usefulness, perceived risk, attitude.
Pakistan	Ahmed, Su, Rafique, Khan & Jamil, 2017	Domain-specific innovativeness and shopping orientations

These geographical variations in online consumer behavior emphasize the importance of considering local context and tailoring marketing strategies accordingly. Marketers need to be cognizant of the cultural nuances, economic conditions, and consumer preferences specific to each market segment to effectively target and engage their audience.

Overall, the findings suggest that TAM and UTAUT provide a solid foundation for understanding consumer behavior in the online realm. However, they need to

be supplemented with localized insights and contextual factors to capture the complexities and variations across different markets. By recognizing the role of geography in shaping online purchase decisions, marketers can adopt a more targeted and adaptive approach to their strategies, ultimately enhancing customer satisfaction and driving business success.

5.2. Chat GPT as an Online Purchase Determinant

Expanded Capabilities: ChatGPT, with its integration of deep learning and

language models based on the GPT architecture, significantly extends the capabilities of chatbots. This enhanced functionality enables chatbots powered by ChatGPT to provide real-time feedback to customers, addressing their queries and concerns in the online purchasing process (Bellegarda, 2004; Melis et al., 2017; Kushwaha and Kar, 2021; Radford et al., 2018).

Versatility and Adoption: The widespread global adoption of ChatGPT across various domains such as software development, content creation, and communication demonstrates its versatility and potential impact on online purchase decisions. It has become a valuable tool for software developers, creative writers, scholars/teachers, and songwriters in generating computer software, text, academic essays, and song lyrics (Reed, 2022).

Impact on Innovation: While studies on the impact of AI on innovation management have primarily focused on economic, technological, and social drivers, the emergence of generative AI platforms like ChatGPT highlights the potential for innovation in product, process, and business models. Although the ability of ChatGPT to independently drive meaningful innovation outcomes is still under investigation, its integration in the creative and innovative process has the potential to enhance human intelligence and augment innovation

6.1. Proposed Model

Based on the analysis of 73 research papers included in this study, a holistic model presented in Figure 2 is proposed to comprehend the similarities and differences in online purchase determinants across various contexts. The model serves as a framework to understand the factors influencing purchase decisions in different geographical regions.

efforts (Mariani et al., 2022; Mariani et al., 2023; Jena & Goyal, 2022).

Knowledge Work Transformation: ChatGPT's ability to generate textual content has implications for knowledge work. It has the potential to automate certain tasks traditionally performed by knowledge workers, freeing up their time for more complex and value-added activities. This shift can enhance productivity and efficiency in online purchase-related knowledge work. **Anticipated Impact:** The release of ChatGPT has generated significant anticipation among business leaders and experts who believe it will bring profound changes to various aspects of work and life. While concerns have been raised about the accuracy of information generated by ChatGPT, its potential impact on the work of researchers and its ability to generate content across different formats are areas of interest and exploration.

In summary, ChatGPT's advanced generative AI capabilities and its potential to transform knowledge work and innovation processes position it as a significant determinant in the realm of online purchases. Further research and exploration are necessary to fully understand its impact and to leverage its capabilities effectively for improved outcomes in the online purchase domain.

1. Discussion of Gaps and Direction for Future research

Perceived trust, habit, and prior purchase experience were identified as common determinants of online purchases regardless of geographical location. However, variations in customer preferences towards purchase determinants were observed among different continents. Customers in Western countries tend to prioritize

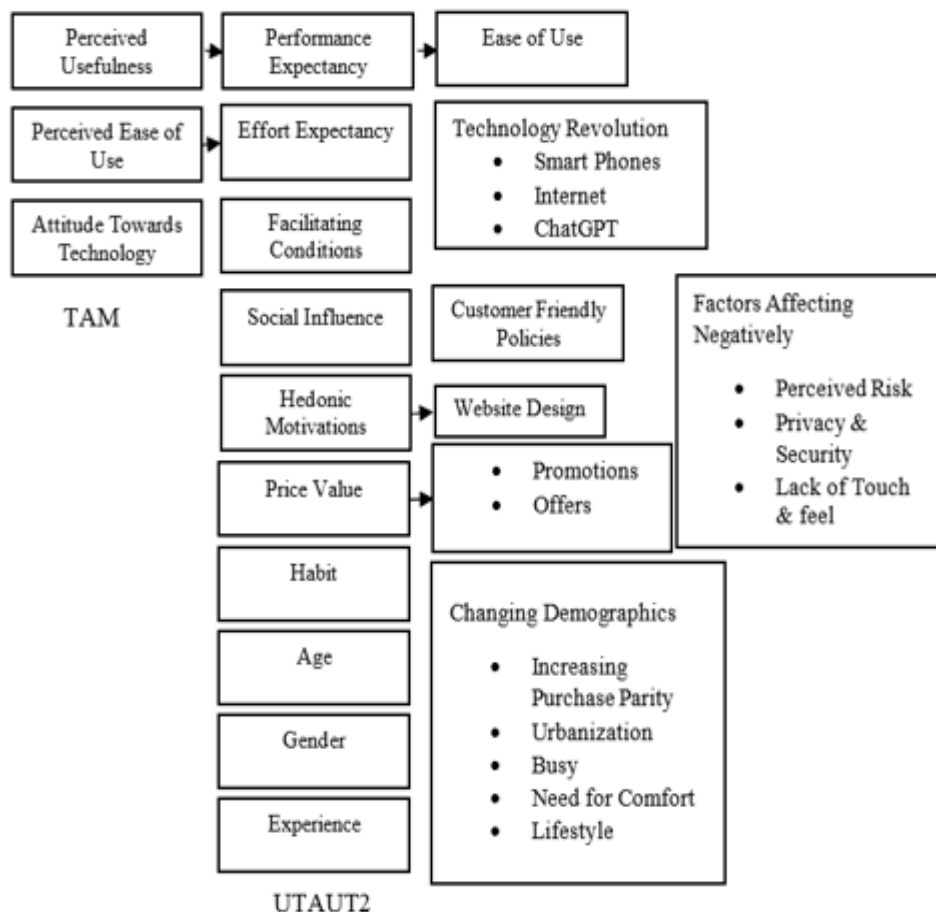
factors such as brand reputation, product quality, privacy, and security. Conversely, concerns related to online theft, lack of tactile experience, and discrepancies between online representations and actual products were found to significantly influence consumer purchase decisions.

Furthermore, ChatGPT emerges as a potential emerging determinant that is expected to have an impact on consumer purchase decisions, both online and offline. As an advanced generative AI platform, ChatGPT has the potential to

influence consumer behavior through its ability to provide real-time feedback, address queries, and generate content relevant to the purchasing process.

The proposed holistic model, derived from a comprehensive analysis of the literature, sheds light on the range of factors influencing online purchase decisions across different contexts. It highlights the significance of both universal and context-specific determinants while acknowledging the potential influence of emerging factors such as ChatGPT.

Figure 2. Factors influencing customer’s intention to purchase online



The model depicted in Figure 2 provides a comprehensive framework for understanding online purchase determinants by integrating constructs from established theories such as the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2), as well as incorporating additional determinants proposed by various researchers.

On the left side of the figure, the constructs from TAM and UTAUT2 are illustrated (Davis, 1989; Venkatesh et al., 2003). This includes perceived usefulness, perceived ease of use, and attitude towards technology, which are identified as fundamental determinants of online purchasing behavior (Davis, 1989; Venkatesh et al., 2003). Further exploration of UTAUT2 reveals additional constructs such as performance expectancy, effort expectancy, facilitating conditions, social influence, hedonic motivations, price value, habit, age, gender, and experience, which contribute to a holistic understanding of online purchase behavior (Venkatesh et al., 2012).

Moving to the right side of the model, miscellaneous constructs from various studies are grouped and presented. This includes factors such as ease of use, which is commonly acknowledged by researchers and can be correlated with perceived expectancy from UTAUT2 (Venkatesh et al., 2012). The emergence of technologies like smartphones and increased internet usage is captured under the category of the technology revolution (Metz, 2022). Additionally, ChatGPT, as an influencer for purchase decisions based on recent advancements, is included (Radford et al., 2018). The model also incorporates factors related to customer-friendly policies and improved websites, with the playfulness of websites

being linked to hedonic motivation from UTAUT2 (Venkatesh et al., 2012). Promotions and offers, identified as important factors in the online context, can be associated with price value (Kim et al., 2008). Furthermore, researchers have proposed various factors grouped under changing demographics, including increasing purchase parity, urbanization, busyness, and the need for a comfortable lifestyle. Finally, the model recognizes factors such as perceived risk, privacy, security concerns, and the absence of tactile experiences, which negatively impact online purchase intentions.

By incorporating these various determinants into a unified framework, the model provides a comprehensive understanding of the multifaceted nature of online purchase behavior and highlights the interconnectedness of different constructs. It serves as a valuable tool for researchers and practitioners seeking to explore and analyze the factors influencing online purchase decisions in a holistic manner.

6.2. Research Gaps Based on Literature Review and Further Scope of Research

Based on the information provided, several research gaps can be identified for further studies on online purchase determinants, including the role of ChatGPT. These research gaps include:

6.2.1. Integration of Multiple Theoretical Frameworks: While the literature review focused on the Technology Acceptance Model (TAM) (Davis, 1989) and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) as dominant theories, there may be an opportunity to integrate the influence of ChatGPT as a determinant within these frameworks. By considering ChatGPT alongside other determinants, researchers

can explore how this advanced generative AI platform interacts with existing theories to shape online purchase behavior.

6.2.2. In-depth Examination of ChatGPT as a Determinant: While the literature review discussed the transformative potential of ChatGPT in various domains, including software development and content creation, there is a research gap in understanding its specific impact on online purchase determinants. Future studies can investigate how ChatGPT influences factors such as perceived usefulness, perceived ease of use, and attitude towards technology within the TAM and UTAUT frameworks.

6.2.3. Contextualization of ChatGPT: As the adoption of ChatGPT continues to expand globally, it is important to contextualize its effects on online purchase determinants across different regions and cultures. Research can explore how cultural factors interact with ChatGPT in shaping consumer behavior, considering variations in trust, privacy concerns, and preferences for personalized experiences.

6.2.4. Assessment of ChatGPT's Accuracy and Reliability: While ChatGPT offers enhanced capabilities, concerns have been raised regarding the accuracy and reliability of the information it generates. Further research can focus on evaluating the trustworthiness of ChatGPT-generated content and its impact on consumer purchase intentions. This can involve empirical studies that compare the perceptions and behaviors of consumers exposed to ChatGPT-generated content with those exposed to human-generated content.

6.2.5. Ethical Considerations and Consumer Perceptions: The introduction of AI platforms like ChatGPT raises ethical concerns related to transparency, accountability, and bias. Future research can explore how these ethical considerations influence consumer perceptions of ChatGPT-generated content and its impact on online purchase determinants. Understanding the ethical implications of using ChatGPT in marketing contexts can inform guidelines and best practices for its responsible implementation.

By addressing these research gaps, future studies can provide a more comprehensive understanding of how ChatGPT influences online purchase determinants. This knowledge can guide marketers in leveraging ChatGPT effectively, while considering ethical considerations, cultural nuances, and consumer perceptions.

1. Practical Implications

The findings and discussions presented in this research have important practical implications for marketers, innovators, and practitioners in the field of online purchases. The integration of ChatGPT into the online purchase context introduces novel opportunities and challenges that need to be considered. The following practical implications can be derived from the insights discussed:

Leveraging ChatGPT for Personalized Online Experiences: ChatGPT's advanced generative AI capabilities can be harnessed to deliver personalized experiences to online consumers. Marketers can utilize ChatGPT to understand customer preferences, provide tailored recommendations, and engage in real-time conversations to enhance the overall shopping experience (Bellegarda, 2004; Melis et al., 2017).

Ensuring Accuracy and Trustworthiness of ChatGPT-generated

Content: As ChatGPT-generated content becomes increasingly prevalent, it is crucial to ensure its accuracy and reliability. Organizations should invest in quality control measures, including human oversight and verification processes, to minimize inaccuracies and misinformation associated with ChatGPT-generated content (Reed, 2022).

Addressing Privacy and Security Concerns: ChatGPT's integration raises privacy and security concerns among consumers. Marketers and organizations need to prioritize data security, implement transparent data handling practices, and provide clear privacy policies to build trust and alleviate consumer concerns related to ChatGPT usage (Thorp, 2023).

Ethical Implementation of ChatGPT: The ethical implications of using ChatGPT in the online purchase domain cannot be overlooked. Organizations should adopt ethical guidelines and frameworks to ensure the responsible and accountable use of ChatGPT, mitigating potential biases and discriminatory practices associated with AI technologies (Else, 2023).

Adapting Marketing Strategies to Cultural and Regional Contexts: Given the influence of culture and geography on online purchase determinants, marketers should tailor their strategies to specific cultural and regional contexts. Understanding the preferences, values, and expectations of consumers in different markets can help optimize marketing campaigns and enhance customer engagement.

Continuous Monitoring and Improvement: As ChatGPT technology evolves and new versions are released, it is essential for marketers and practitioners to stay updated and adapt accordingly. Continuous monitoring and improvement of ChatGPT-based systems will ensure that they align with changing consumer

expectations, technological advancements, and regulatory requirements.

By incorporating these practical implications, organizations can effectively leverage the potential of ChatGPT while addressing the associated challenges and ethical considerations. Striking the right balance between AI-driven technologies and human touchpoints is crucial to deliver enhanced online purchase experiences that resonate with consumers.

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