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# Why do Consumers Adopt E-Grocery? A Systematic Literature Review

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**Abstrak**

Electronic grocery (e-grocery) is currently the most emerging subset of online shopping. Every week, 28.3% of people buy grocery products online. The value of e-grocery sales in Indonesia is predicted to continue to rise and will reach around US $5.6 trillion by 2026. This indicates that e-grocery is an important potential market for quick-commerce online shopping services in the future. A Systematic Literature Review research in the field of e-grocery has existed before. A Systematic Literature Review research in the field of e-grocery has existed before. However, to date, the author has not found SLR research that focuses on exploring the driving factors of e-grocery adoption. To bridge the gap, the purpose of this study is to provide a comprehensive overview of the factors that influence consumers to adopt e-grocery or online grocery shopping. The method used was Systematic Literature Review. The process of searching and selecting scientific articles through Scopus with various criteria resulted in 25 primary studies. The results showed that the most common driving factors found among the 25 studies were Perceived Ease of Use and Perceived Usefulness adapted from TAM theory, delivery time factor, and demographic factors such as age, gender, income, and education level. Despite the numerous factors mentioned in the primary studies, no factor has been able to represent the phenomenon of deals and promotions that are often found in various e-commerce applications, including e-grocery service providers.

**Keywords:** e-grocery, online grocery shopping, quick-commerce, e-grocery adoption

## I. INTRODUCTION

The adoption of e-commerce in the world is growing rapidly. COVID-19 pandemic is also one of the reasons the number of e-commerce users is increasing. The practice of social distancing and the restriction of movement encourages consumers around the world to use e-commerce as a means of online shopping [1]. In 2021, 58.4% of internet users between the ages of 16 to 64 years stated that they buy something online every months [2]. In a report published by We are Social & Hootsuite in 2021, Indonesia occupied the top position as the country with the most internet users who has done online shopping at least once in the preceding months, which amounted to 87% of the total population of internet users in Indonesia [3].

Product categories that are mostly purchased through online shopping inlude electronics, fashion, furniture, toys and hobbies, personal care, and also food & beverages. Overall, the global revenue from the sales of these products reached US$ 3.85 trillion in 2021 [2]. Rakuten Insight conducted an online shopping behavior survey in June 2022. They reported that 65% of respondents in Indonesia stated that they had purchased clothing and other fashion products in the past three months. Other popular product categories in online shopping are beauty products as well as food and groceries [4].

Presently, countless people are doing their grocery shopping online [5]. This phenomenon is known as e-grocery or online grocery shopping (OGS). OGS is a form of Quick-commerce (also known as q-commerce).

According to Huang and Yen[6], Quick-commerce is defined as "a fast form of an on-demand delivery that deliver products ordered online to customers in less than an hour". In Q-commerce, delivery time is a the priority. Therefore, most e-grocery service providers utilize the microhub concept and couriers at the last mile delivery stage [6], [7].

In general, an e-grocery is a retailer or supermarket which sells its products online through a mobile platform or website[5]. Some notable examples of e-grocery service providers in Indonesia are HappyFresh, Hypermart Online, Sayurbox, AlloFresh, and ASTRO. Each company has different standards in terms of delivery time. AlloFresh claims that the company will deliver incoming orders within 3 hours [8]. ASTRO promises that orders received by ASTRO will be shipped within 15 minutes [9], [10]. Meanwhile, Sayurbox offers a selection of time slots that can be chosen by its customers [11], [12]. Other e-grocery companies are Amazon Fresh (based in USA) [13] and Delivery Hero (based in Germany)[14]. The demand for speedy or quick delivery in online shopping, especially in the grocery category is driven by busy urban lifestyles, small families, and age factors [6].

According to Bauerova and Klepek[15], electronic grocery (e-grocery) is currently the most emerging subset of online shopping. As reported on the Digital Report 2022 released by We are Social & Hootsuite, 28.3% of people buy groceries online every week. The number of online grocery shoppers was also recorded to increase by 10% in the first 6 months of 2021[2]. It means that almost 3 out of 10 people choose to shop for groceries over the internet instead of going to the supermarket or conventional market. In the United States, 36% of online grocery shoppers spend an average of $50 to $100 per week[16]. Online grocery shopping users in Indonesia have also increased [17]. Every week, 36% of total internet users in Indonesia shop for grocery products online. This figure is above the global or worldwide average percentage of 28.3% [2]. The existence of Large-Scale Social Restrictions (known as PSBB in Indonesia) during the COVID-19 pandemic has led to an increase in e-grocery adoption in Indonesia. Based on a survey of online grocery shopping in Indonesia in 2020, almost 60% of respondents stated that they had used online groceries[18]. Convenience and the desire to avoid crowds are among the reasons why many Indonesians are switching to online grocery shopping [17].

The rapid development of quick-commerce in the field of e-grocery is an opportunity for researchers to conduct research in this area. Statista[19] even predicts the value of e-grocery sales in Indonesia will continue to escalate and reach around US$ 5.6 trillion by 2026. Based on the report and the discussion that has been presented, it shows that e-grocery is an important potential market for online shopping services in the future. This phenomenon requires greater attention from academics and practitioners.

Through this research, the authors conducted a systematic literature review (SLR) to provide a comprehensive overview of existing research. SLR research in the field of e-grocery has been carried out several times before. Martin et al. [20] discusses the variety of topics covered in the e-grocery research area. Prabowo et al. [21] also conducted an SLR in the e-grocery field in 2020. The research explored the topic of e-grocery research from the seller's perspective (retailer or supermarket) and the consumer's perspective. To date, the authors has not found an SLR research that focuses on exploring the driving factors of e-grocery use and adoption. This indicates a research gap which is an opportunity for the authors to conduct an SLR in this study.

Based on the problems discussed earlier, the purpose of this study is to conduct a systematic literature review (SLR) related to the factors that encourage consumers to adopt e-grocery or online grocery shopping. The research questions in this study are as follows:

1. What theories and methods are mostly used in the literatures?
2. What factors can encourage or influence consumers to use and adopt e-grocery?

The use of more recent scientific articles compared to previous SLR research is expected to provide broader and more recent insights for academics and practitioners regarding the driving factors or determinants of the use of e-grocery or online grocery shopping (OGS).

## II. LITERATURE REVIEW

This section contains the theories used as a reference in this research, as well as related studies that has been conducted related to this research. The chapter consists of theoretical basis related to e-grocery and related studies that contains previous research that has been conducted related to this research.

### A. *Electronic Commerce, Quick Commerce and E-Grocery*

Turban et al.[22] defines electronic commerce (e-commerce) as the use of the internet or other networks such as intranets to buy, sell, or exchange data, products (goods) and services (services). A form of e-commerce that has recently experienced an increase in users is e-grocery. E-grocery is a retailer or supermarket that sells its products online through a mobile platform or website[5]. E-grocery is part of quick commerce (q-commerce). Huang and Yen [6] defines Quick-commerce as a fast form of on-demand delivery that can deliver products ordered online to customers in less than an hour. In Q-commerce, delivery time is a the priority. The following are some notable e-groceries service providers in Indonesia.

1) *HappyFresh:* An e-grocery service provider that offers express delivery (priority slot; delivered within 1-2 hours of ordering) and regular delivery (delivered within 3 days of ordering) [23], [24].
2) *Hypermart Online:* Hypermart offers a click and collect option at the nearest Hypermart branch. In addition, Hypermart also offers delivery services which are divided into Express Same Day and Next Day delivery[25], [26].
3) *SayurBox:* Offers Sayurbox Kilat service that will deliver orders within 2 hours exclusively in Jabodetabek and Bali. Sayurbox makes it easy for customers to shop for fresh fruits and vegetables sourced from local farmers [11], [12].
4) *AlloFresh:* An e-grocery service that delivers incoming orders within 3 hours of the order being received by AlloFresh[8].
5) *ASTRO:* An e-grocery service that currently guarantees the fastest delivery time, which is within 15 minutes after the order is received by ASTRO[9], [10].

### B. *Related Studies*

This research is a Systematic Literature Review research. So it is important for the author to learn in advance what kind of SLR has been conducted, especially in the field of e-grocery. That way, the author can find out the research gap in SLR research that has existed before.

TABLE I
RELATED STUDIES

| Related Studies | Overview |
|---|---|
| Martin et al, 2019 [20] | SLR on understanding the topic of e-groceries, key methodologies in e-groceries research, and challenges and gaps in the literature. |
| Prabowo et al, 2020 [21] | SLR on overview of e-grocery from the perspectives of seller and buyer. |
| Zeng et al, 2017 [27] | SLR on e-commerce adoption in the Agri-food sector. |

## III. RESEARCH METHOD

In this study, the identification of consumer drivers in adopting e-grocery is carried out using the Systematic Literature Review (SLR) method. Systematic literature review is defined as the process of identifying, assessing, and interpreting all existing research evidence with the aim of answering research questions[28]. The method used in this study is based on the SLR method proposed by Kitchenham & Charters[29]. The modification of the current SLR method refers to the study of [28] and [30]. Based on those researches, SLR is conducted through three stages, namely the planning stage, the implementation stage and the reporting stage. Each of these stages is depicted in Fig. 1.

The planning stage is the preparatory stage before the review is conducted. This stage consists of identifying the purpose of the literature review and developing a literature search strategy. In the second stage, the authors searches for literature, selects literature based on the pre-determined inclusion and exclusion criteria, extracts data from the literature, and synthesizes and analyzes based on the findings from the primary studies. The stages of literature search and selection in detail are presented in Fig. 2. The last stage in the Systematic Literature Review is reporting, which is presenting the results of the analysis in a scientific article or journal.

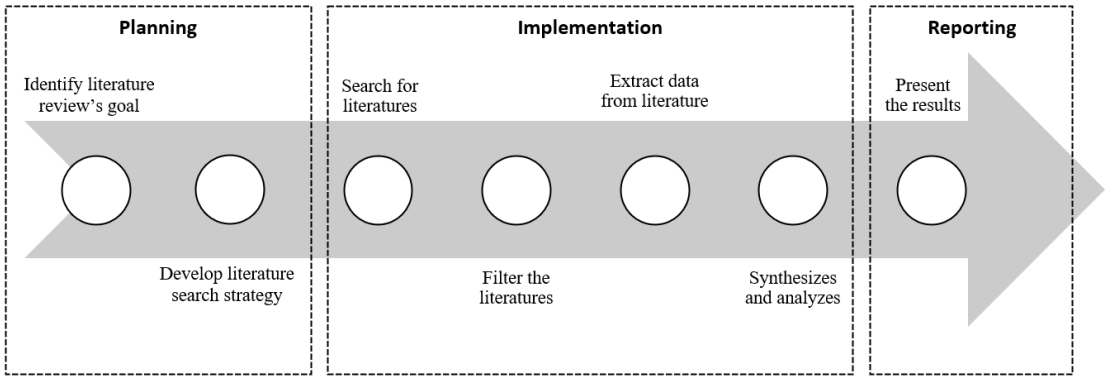


Fig. 1. Research Method

A. *Literature Search Strategy*

Based on the stages shown in Fig. 2, literature search is executed by selecting the digital libraries of the scientific article and specifying the keywords for the search. In this study, the authors chose scopus.com. This is due to the fact that scopus.com has indexed journal articles from various publisher databases such as sciencedirect, MDPI, Taylor & Francis, Emerald Publishing, IEEE, Growing Science (International Journal of Data Science - Q2) and Equilibrium (Quarterly Journal of Economics and Economic Policy - Q1). Conducting a search on scopus.com also prevent duplication of filtered scientific articles. Therefore, the authors believe that the scientific articles filtered in the search results will be of good quality and reliable.

The main keywords used in this SLR are quick commerce and e-grocery. Quick commerce has a synonym, namely fast commerce. Some people also write quick commerce as q-commerce. While e-grocery has a synonym, namely online grocery shopping. It may also be written in its plural form, i.e. online groceries and e-groceries. The program code generated from searching scientific articles on Scopus is TITLE-ABS-KEY ( "fast commerce" OR "q-commerce" OR "quick-commerce" OR "online groceries" OR "online grocery" OR "e-groceries" OR "e-grocery"). The search was conducted based on the title, abstract and keywords section of each scientific article. In addition, the search was also limited to articles written in english. The number of scientific articles found at this stage of the search was 578.

B. *Literature Selection*

The Scopus search results were then filtered using inclusion and exclusion criteria. The criteria used in this study are presented in TABLE 1. The inclusion criteria were applied when the selection was made using the scopus.com, while the exclusion criteria were applied manually by reading the abstracts one-by-one. The screening of each stage is presented in Fig. 2. In the end, this filtering and elimination process resulted in 25 articles for the literature review.

TABLE 1
INCLUSION AND EXCLUSION CRITERIA

| Inclusion Criteria | Eksklusion Criteria |
|---|---|
| • Diterbitkan pada tahun 2018 sampai 2022<br>• Berupa jurnal atau prosiding<br>• Dapat diakses secara gratis (open access)<br>• Ditulis dalam Bahasa Inggris | • Konteks penelitian tidak membahas terkait faktor pendorong penggunaan e-grocery berdasarkan abstrak.<br>• Membahas penggunaan e-grocery dari sudut pandang selain konsumen. |

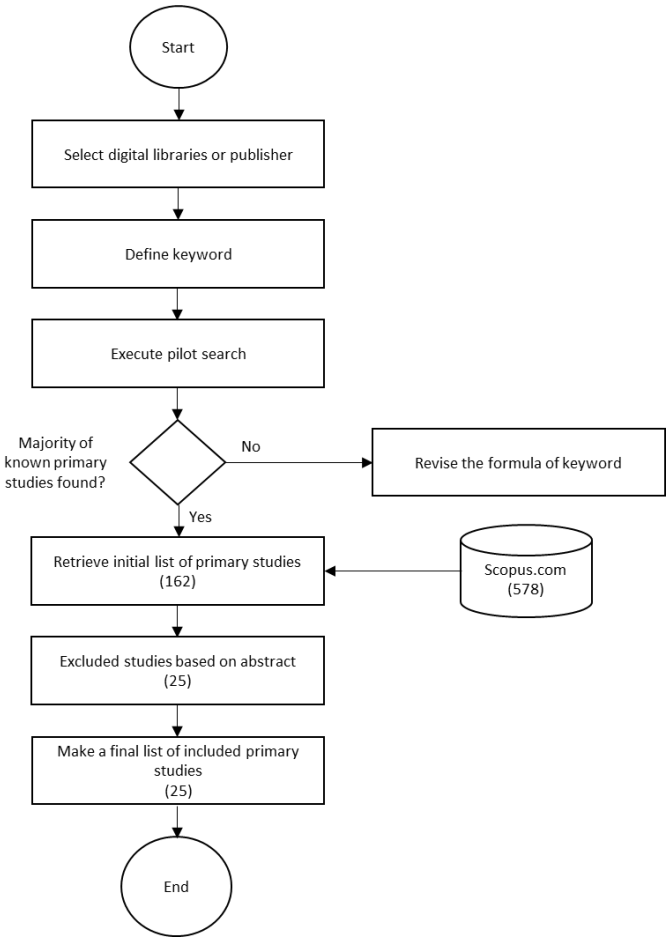


Fig. 2. Search and Selection Method of Scientific Articles

### C. *Data Extraction*

Scientific articles that have passed the selection stage are then subjected to data extraction. This stage aims to collect data from each article in order to answer the research question. The data collected consists of author, year of publication, theory and research methodology, proposed factors and the key findings of each articles. The results of this data extraction will be used as material in synthesizing and analyzing in the next section.

## IV. RESULTS AND DISCUSSION

### A. *Significant Journal Publications*

In this literature review, 25 primary studies that analyzed the drivers of e-grocery adoption were included. The distribution number of the studies from 2018 to 2022 is depicted in Fig. 3. to show the development of research interest in this area. There has been a significant increase in the past three years. The number of e-grocery researches in 2022 increased by 4 times compared to 2019. This can be associated with the COVID-19 pandemic conditions that have begun to spread since the end of 2019. The increase in the number of users of e-grocery services over the years is one of the drivers for researchers around the world to investigate this phenomenon [2], [17], [18].

It should be noted that the primary studies included in this literature review are only those indexed by Scopus. Hence, it is possible that the research numbers for this topic area are higher than what is shown in Fig. 3 if non-Scopus indexed research is also included.

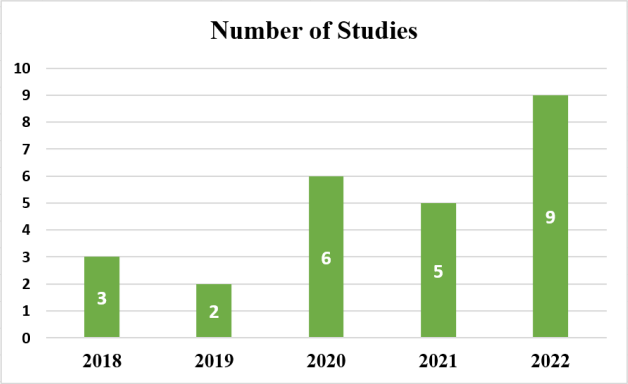


Fig. 3. Number of Studies over the Years

B. *Theory and Method Used for Investigating the Drivers of E-Grocery Adoption and Use*

Based on the results of a literature review conducted on 25 primary studies, the three most widely used theories are Techonoloy Acceptance Model (TAM), Theory of Planned Behaviour (TPB), and Unified Theory of Acceptance and Use of Technology (UTAUT2). Some of the other theories identified are Protection Motivation Theory (PMT), Theory of Belief-Attitude-Behaviour, Theory of Reasoned Action (TRA), Theory of Innovation Adoption, Theory of Online Grocey Shopping Behaviour, Theory of Uses & Gratifications (U&G), and Attitude Theory. Some studies combine several theories as the basis used in building the theoretical framework or conceptual model. A summary of the theories and the studies that use these theories is summarized in TABLE 2.

TABLE 2
THEORY AND PRIMARY STUDIES

| No | Theory | Primary Studies |
|---|---|---|
| 1. | Technology Acceptance Model (TAM) | [15], [31]–[37] |
| 2. | Theory of Planned Behaviour (TPB) | [38]–[40] |
| 3. | UTAUT or UTAUT2 | [41]–[43] |
| 4. | Protection Motivation Theory (PMT) | [32] |
| 5. | Theory of Belief-Attitude-Behaviour | [44] |
| 6. | Theory of Reasoned Action (TRA) | [44] |
| 7. | Theory of Innovation Adoption | [45] |
| 8. | Theory of Online Grocery Shopping Behaviour | [5], [45] |
| 9. | Theory of Uses & Gratifications (U&G) | [40] |
| 10. | Attitude Theory | [46] |

Meanwhile, in terms of research methodology, quantitative methods are most widely used. The quantitative study collected data by distributing Likert-scale questionnaires which will later be analyzed using PLS-SEM, CB-SEM, Exploratory Factor Analysis (EFA), or Confirmatory Factor Analysis (CFA). From the results of the review, the authors found that most studies include the indicators used in the data collection instruments. These indicators may be utilized as a reference for the future researchers. In addition to quantitative methods, some studies also use qualitative methods by conducting in-depth interviews directly with the respondents. The interview data was analyzed using the content-analysis method as conducted by Blitstein et al.[47].

C. *Driving Factors of Online Grocery Shopping (e-grocery)*

Electronic grocery (e-grocery) or online grocery market is predicted to become a major retail sector in e-commerce. [17], [19], [40]. Researchers and business practitioners in the field of e-grocery need to understand what consumers expect from an e-grocery service. According to Francis Buttle, when consumers' expectations are met, consumers will be encouraged to remain loyal [48], in this case remain loyal to using e-grocery services to fulfill their daily grocery shopping needs. This encourages the authors to conduct a literature review that aims

to provide an overview of the driving factors that can influence consumers to use and adopt online grocery shopping or e-grocery. A summary of the results of the literature review on the factors proposed and the key findings of each primary study is presented in TABLE 3.

TABLE 3
THE LIST OF PRIMARY STUDIES, PROPOSED FACTORS, AND THE KEY FINDINGS

| No | Primary Studies | Proposed Factors | Key Findings |
|---|---|---|---|
| 1. | Zamkova et al (2022) [49] | Gender, Age, Education, Household income, Number of children in the household, number of household members. | Education, income and number of household members were found to influence e-grocery adoption siginificantly. |
| 2. | Gruntkowski & Martinez, 2022 [1] | Perceived Risk, Perceived Usefulness, Perceived Ease of Use, Perceived Trust, Online Shopping Convenience, Situational Factors (COVID-19) | Perceived usefulness, perceived ease of use, perceived trust, convenience, and situational factors have a positive effect on the intention to use e-grocery for consumers. |
| 3. | Gomes & Lopes. 2022 [50] | Gender, age, education level, annual income, | Age (younger), education level, annual income ditemukan memiliki hubungan positif dengan adopsi e-grocery. |
| 4. | Kvalsvik, 2022 [51] | health, mobility, price, distance to store, delivery time, and social interaction | Health, mobility, price, distance to store, delivery time, and social interaction. Yang paling mempengaruhi adalah health, mobility issues, and distance to a store. |
| 5. | Gumasing et al, 2022 [41] | Performance expectancy, Effort expectancy, Social influence Hedonic motivation, The facilitating conditions , Perceived benefit, Perceived barriers, Perceived severity, Perceived susceptibility | Faktor yang berpengaruh signifikan adalah behavioral intentions and cues. Faktor yang berpengaruh secara positif performance expectancy, perceived benefits, cues to action, and perceived severity. Faktor yang berpengaruh secara negative adalah perceived barriers |
| 6. | Warganegara & Hendijani, 2022 [31] | Perceived Ease of Use, Perceived Usefulness, Price, Reference Group, Perceived Health Risk | Ease of use, usefulness, attitude, and reference group had a significant relationship with intention and actual use of online platforms to purchase groceries in Indonesia. |
| 7. | Vasudevan et al, 2022 [38] | Convenience, Service Quality, and Social Factors | Convenience and service quality were found to influence intention to use OGS positively. |
| 8. | Rout et al, 2022 [32] | Perceived Severity, Self-isolation Intention, Perceived Usefulness, Perceived Ease of Use, Sustomer Perceived Value | Self-isolation intention, perceived ease of use, perceived usefulness, and customer perceived value were found to influence consumer's intention to do OGS. |
| 9. | Bauerova & Klepek, 2018 [15] | Perceived Usefulness, Perceived Ease of Use | PU has a positive effect on the intention to use OGS. PU was found to have a positive relationship with PEOU. |
| 10. | Khan & Khan, 2020 [44] | E-Convenience, Perceived Security, Product Variety, Attitude, Social norms (SNs) | E-convenience positively influences Attitude. Perceived security and product variety positively influence attitude and Social Norms. Attitude and Social Norms were found to influence intention positively and significantly. |
| 11. | Driedriger (2019) | Subjective Norm, Visibility, Perceived Risk, Enjoyment, Perceived Ease of Use, Perceived Usefulness | Perceived ease of use, perceived usefulness, subjective norm, and perceived enjoyment positively and significantly affect the acceptance of OGS in Thailand. |
| 12. | Ahmed & Shafighi, 2022 [52] | Pricing, Convenience, Security | Pricing, Convenience, and Security factors positively and significantly influence customer decisions to use quick-commerce. |
| 13. | Handayani et al, 2020 [5] | Perceived channel-risk (PCR), Perceived Search Efforts (PSE), Perceived Price-Search Intentions | PCR, PPS, MOB, and PDT were found to have a positive and significant effect on OGS. The |

| No | Primary Studies | Proposed Factors | Key Findings |
|---|---|---|---|
| | | (PPS), Consumber Mobility (MOB), Perceived Difference in Delivery Time (PDT) and moderating factor: Gender | moderating factor of gender has a positive and significant effect. |
| 14. | Blitstein et al, 2020 [47] | Economy, Availability and Variety, Comfort, Stressors, Innovation, Physical/Structural Barriers, Food Knowledge, Social Image and Lifestyle | Most frequently mentioned factors by respondents were economy, product availability, stressors, comfort and innovations. |
| 15. | Rayesa et al, 2020 [39] | Attitudes toward Behavior (ATB), Subjective Norms (SN), Perceived Behavioural Control (PCB) | ATB, SN, and PCB were concluded to positively and significantly influence intention to use OGS. |
| 16. | Baureova, 2018 [53] | Services offered<br>Delivery condition | Customer were found to have high sensitivity in delivery time and charge.. |
| 17. | Frank & Peschel, 2020 [45] | Perceived social norm, Perceived Complexity, Compatibility, Relative advantage, Risk, Time saving, independent opening hours, product assortment, correct delivery, fast delivery, price, personal service, choice of best before date, trust mark of retailer, dan brand of retail chain | Perceived social norm, compatibility, dan relative advantage has a positive and significant relationship with e-grocery adoption. |
| 18. | Kim, 2021 [40] | Utilitarian motives, Hedonic motives, Experiential motives. Attitude Subjective Norm, Perceived behavioral control | The utilitarian motives of e-grocery users significantly influence attitudes. Furthermore, attitudes and subjective norms influence user intentions. User intentions influence online grocery purchase behavior. |
| 19. | Bartok et al, 2021 [34] | Age. Income, Preference of groceries | A positive relationship was found between age and income of customers and acceptance of OGS use. The difference in willingness to buy between younger and older generations is due to self-efficacy. |
| 20. | Ali & Naushad, 2021 [42] | Perceived Convenience, Perceived Service Quality, Perceived Value, Perceived Product Quality, Perceived Risk, Value for Time | Perceived Convenience, Perceived Service Quality, Perceived Product Quality, Perceived Risk, Value for Time were found to have a positive and significant relationship with OGS customer satisfaction. |
| 21. | Droogenbroeck & Van Hove, 2021 [43] | Performance expectancy, Effort expectancy, Social influence, Facilitation conditions, Hedonic motivation, Habit, Perceived Risk, Perceived time pressure, Perceived Shopping Enjoyment, Innovativeness | Perceived risk, perceived time pressure, perceived shopping enjoyment, and innovativeness are found to positively influence the intention to adopt or continue to use e-grocery services. |
| 22. | Ruangkanjanases et al, 2021 [35] | Social influence, Perceived usefulness, Perceived ease of use, trust and security. | Perceived usefulness, trust and security are significant factors influencing both Thai and Indonesian consumers' intention to adopt OGS. PEOU has an effect on the intention to adopt OGS only for Thai millennials. Social influence has an effect only on Indonesian millennials' intention to adopt. |
| 23. | Kian et al, 2019 [36] | Perceived usefulness, Perceived ease of use, Perceived risk, Visibility, Social influence | Perceived usefulness, perceived risk, visibility and social influence positively and significantly influence customer intention to use OGS. Social influence is found to be the driving factor that has the strongest influence on the intention to use OGS. |

| No | Primary Studies | Proposed Factors | Key Findings |
|---|---|---|---|
| 24. | Shukla & Sharma, 2018 [37] | Perceived Usefulness (PU, and Perceived Ease of Use (PEOU) | PU dan PEOU is found to have a positive and significant relationship with the use of mobile apps for grocery shopping. Attitude was found to influence intention to use mobile app for grocery shopping. |
| 25. | Brand et al, 2020 [46] | Social Norm, Perceived Behavioural Control, Innovativeness, Attitude, Perceived Benefits, Perceived cost & risks, Personal norm, Knowledge and experience. | Shoppers might be attracted to or repelled from online shopping for reasons of convenience, perceived benefits, costs and risks, technology affect, time pressures and perceived behavioral control, as well as social and environmental dimensions of personal norms and beliefs. |

From the 25 primary studies that have been reviewed, the authors found that the two factors most often discussed in research related to the drivers of adoption and use of e-grocery services are Perceived Ease of Use (PEOU) and Perceived Usefulness (PU), which are adapted from Technology Acceptance Model (TAM). Perceived Usefulness defined as the extent to which a person believes that the use of a technology can increase their productivity. Whereas PEOU is defined as how far a person believes that using technology requires as little effort as possible, including the ease of using the technology itself[1]. In UTAUT, Perceive Usefulness is known as Performance Expectancy. While Perceived Ease of Use is known as Effort Expectancy[41]. Two such factors are discussed in these study [1], [5], [15], [31]–[37], [41], [43], [47].

Kim[40], Frank & Peschel[45], Ahmed & Shafighi[52], and Droogenbroeck & Van Hove [43] discussed the same factor, which was related to time. Their findings concluded that consumers use e-grocery services to save time. Grocery shopping through e-grocery apps saves consumers time as they do not have to think about the travel time to the market or physical supermarket and consumers do not have to spend time standing in a long queue while grocery shopping. Time-related indicators are measured on factors or variables such as convenience, utilitarian motives and perceived time pressure which can be found in these research [38], [40], [42]–[44], [46], [47], [52].

Apart from the time-saving benefits, the speed of delivery time is also one of the factors driving consumers to use e-grocery services. However, of the 25 primary studies, only five studies discussed the delivery time[5], [45], [47], [51], [53]. Frank[45] found that consumers are willing to pay a premium price for delivery services as long as the delivery process can be completed quickly (quick or fast delivery). The difference in delivery speed between e-commerce and quick-commerce is the reason why quick-commerce is growing rapidly nowadays, especially in e-grocery area[52].

In addition to factors in terms of a person's behavior and motives, some studies conducted analysis in terms of demographic factors or characteristics associated with individuals; such as age, gender, income, and education level. According to Gomes & Lopes [50], technology and innovation tend to be adopted more by men, younger consumer groups, and groups with higher education and income levels. Zamkova[49] found a positive relationship between income factors and intention to use e-grocery services. This is in line with the research findings of Gomes & Lopes[50] and the findings of Bartok et al[34].

In terms of age factor, Gomes & Lopes[50] and Bartok et al[34] found that age has a positive relationship with the willingness and intention to use e-grocery services. Bartok et al[34] discussed that the difference in willingness to adopt e-grocery between younger and older generations is caused by self-efficacy in individuals. Self-efficacy is someone's belief in their ability to complete a task or achieve a goal. In this context, older generation feels they have lower self-efficacy than younger generation when it comes to online grocery shopping.

Despite many factors discussed in this research area, the authors found that factors related to deals and promotion are still under-researched. In fact, promotion-related phenomena such as discount offers and free shipping are common in various e-grocery service provider applications. Several studies mention that the availability or lack of promotion has an impact on consumer decisions to shop online [54], [55]. Nguyen-Puhoc et al [56] and Nagar [57] explored the impact of Perceived Promotion on loyal and non-loyal consumers. They found that non-loyal consumers tend to switch to competitors or other brands to get more benefits from the promotions offered.

## V. CONCLUSION

This study aims to provide a critical review of the drivers of adoption and use of e-grocery services that have grown rapidly in the last 5 years. Based on the inclusion and exclusion criteria at the scientific article search stage, 25 primary studies were finally obtained, which were then subjected to literature review by the authors.

An analysis of 25 primary studies suggests that the three most widely used theories are the Technology Acceptance Model (TAM), Theory of Planned Behaviour (TPB), and the Unified Theory of Acceptance and Use of Technology (UTAUT2). Almost all primary studies use quantitative methods in their research methodology. Data collection is done by distributing questionnaires which are then analyzed using PLS-SEM, CB-SEM, Exploratory Factor Analysis (EFA), or Confirmatory Factor Analysis (CFA). A small number of other studies use qualitative methods by conducting in-depth interviews with respondents.

The results of this study also identify what factors influence consumers to adopt and use e-grocery services. The most common factors found among the 25 primary studies are Perceived Ease of Use and Perceived Usefulness, which are adapted from TAM theory. Another factor that is widely investigated is the time-related factor. The findings of several studies concluded that consumers use e-grocery services to save time. The speed of delivery time is also one of the factor that influence consumers to use e-grocery services.

In addition to factors in terms of a person's behavior and motives, analysis in terms of demographic factors; such as age, gender, income, and education level, is also investigated in several studies. However, despite many factors that have been discussed in the 25 primary studies, the authors found that factors related to deals and promotions are still under-researched. In reality, deals and promotions such as discounts and free shipping are often found in various e-commerce applications, including e-grocery. This is an opportunity and a necessity to investigate the influence of promotions on the use of e-grocery services in future research.

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