A Systematic Review on Theory of Planned Behavior Model Towards Online Food Delivery Applications in the Business Management Sector

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Abstract. Food consumption patterns have changed significantly as a result of the development of e-commerce, and an increasing number of consumers choose to order food through online platforms. However, there is a gap in the literature that prevents a comprehensive analysis of these factors. Hence, the purpose of this paper is to systematically review the existing literature on online food delivery applications. The literature on online food delivery applications is synthesised in terms of theories, contexts, methods adopted, and analytical techniques used. To conduct the Systematic Literature Review (SLR), this paper uses three phases. The first step is finding the review approach where a search string is produced. From three major academic databases, Scopus, Website of Science (WOS) and Springer, a total of 7925 papers from 2018 to 2022 were retrieved. Fifteen papers were eligible for the analysis after using the quality assessment criteria. Thematic analysis was then applied to categorise the identified effect thematically. Three factors were identified in the literature. The identified factors were classified under three main themes. These themes are attitude, subjective norm and perceived behavioral. This paper contributes theoretically by comprehensively identifying the effect of attitudes towards online food delivery applications in business management. The findings also contribute empirically, particularly to the food provider, to help them improve the OFDAs in expanding their food businesses.

Keywords: Attitude · Online Food Delivery Applications · Systematic Literature Review · Theory of Planned Behavior Model

1 Introduction

The consumer lifestyle has significantly changed as a result of the development of the digital world and the use of smartphones [1]. The online platform allows customers to buy food from a variety of restaurants and has it delivered at their convenience with only a few clicks. This industry is no exception [2]. Through the logistics network, online food delivery (OFD) has made it possible for consumers to order prepared food from restaurants and have it delivered directly to them [3]. According to [4], OFD is a term

used to describe a consumer's use of an online channel to purchase food from restaurants and fast-food outlets. The OFD system gives customers more options for restaurants and food [5]. Through OFD, restaurants and fast-food outlets may reach more customers while saving money, and customers can order the food of their choice without spending much time and effort [6]. OFD has recently experienced some technological advances. For instance, restaurants have made the shift from offline to online platforms by creating their websites and enabling clients to place food orders using restaurants' websites [7]. Additionally, due to the growing popularity of smartphone applications, restaurants have released applications that consumers may use to purchase food online [6]. However, not all restaurants employ their delivery routes for food delivery due to operational and economic concerns [8]. Moreover, restaurants use third-party platforms and food aggregators to support online food delivery, enabling them to efficiently reach a larger market [9]. Examples of third-party meal delivery platforms include Foodpanda, Swiggy, Zomato, and Uber Eats [10]. These platforms, or outside food delivery services, are typically only available in major cities. Thus, restaurants used AI and drone-based channels for food delivery, another type of OFD, to geographically increase the availability of OFD services [11]. Accordingly, all the platforms mentioned above, including OFD, online to offline delivery, mobile application-based food delivery, and drone-based food delivery, are categorised as OFD services.

To provide results that are supported by evidence, this study will undertake a systematic literature review that will identify and analyse the pertinent evidence [12]. This study determines how the Theory of Planned Behavior (TPB) Model affects online food delivery applications (OFDAs) in the business management sector and reviews the literature on OFDAs in pertinent studies. This work makes a theoretical contribution by highlighting the variables that might be further developed into a model with measurements to evaluate the TPB Model towards OFDAs. Hence, this paper addresses the theoretical gap where there is a lack of study on the TPB model towards OFDAs.

2 Literature Review

OFD is a food delivery service based on the Internet and mobile apps where customers may order food using smartphones and have it delivered to their door [6, 13]. According to [14], increasing smartphone use and expanding mobile applications are the main drivers of electronic food ordering methods like text messages and mobile applications. Mobile food delivery applications (MFDAs) allow customers to search for restaurants, browse menus for their favourite foods, place orders, and conveniently pay through the applications without having to interact with restaurant workers in person [15]. These applications make it simple for customers to get their favourite foods from various restaurants at a time and location that suits them [16]. The food delivery applications also offer the most recent menu updates and information on newly introduced foods [9]. Additionally, MFDAs include several cutting-edge features that benefit both customers and eateries. For instance, consumers may use the applications to track their orders, complain about delivery delays, and rate the food, service, and taste [6].

According to [5], food delivery applications (FDAs) are mobile apps-based OFDs that offer services for ordering, paying, and tracking orders but are not involved in food

production. Due to its support for more effective service and ability to increase the target population, FDAs are one of the e-commerce categories that is expanding the fastest [17, 18]. FDAs serve as an intermediary service that both major and small restaurants utilise to provide delivery services [7]. In addition to FDAs [6, 17], other terms, such as online food delivery platforms [19], OFDAs [20–22], and O2O (Online-to-Offline) food delivery services, have been used in previous studies to describe internet and app-based food delivery services [23]. The term "food delivery applications" is used in this study (FDAs). According to [24], online food delivery applications (OFDAs) have numerous functions. For example, searching by food categories, ordering and tracking, submitting a review, and getting discounts using coupons and points enable customers to order meals more conveniently than paper-based flyers. Similar studies by [25] also highlighted the characteristics of OFDAs. The attributes of OFDAs include search filters, live tracking, chat or call support, payment methods, scheduled delivery and pick-up, and dine-in options. Besides that, [26] also mentioned the additional functions of OFDAs, such as clear menus with prices, comprehensive information about services, real-time delivery tracking, push notifications, a variety of payment methods, GPS-based restaurant searches, an improved user interface, discounts and deals offered.

The extent to which an individual makes a positive and negative evaluation of engaging in the behaviour is referred to as attitude [27]. According to the literature, factors related to service providers, interpersonal factors, and psychological factors affect consumers' attitudes toward OFD, which in turn affects consumer responses like intention to use OFD services [7, 28]. There is a limited number of studies in extending technology acceptance theories to theoretically analyze the Theory of Planned Behavior Model's effect on OFDAs in the business management sector. For example, both the Theory of Planned Behavior (TPB) and the Social Cognitive Theory (SCT) is well-liked and recognised as useful models for examining people's behaviour from the perspectives of their own, their environments, and their behaviour [29]. TPB offers a theoretical framework for systematically analysing pro-environmental behaviours. According to the theory, a person's behaviour is dictated by their intention or their preparedness to engage in a behaviour. The intention is affected by attitude, perceived behaviour control, and subjective norm [27].

However, very little research has applied the TPB model to explore customers' intention to use OFD services [30, 31] especially, in the context of OFDAs [31]. This paper aims to contribute to the development of an extended TPB and to gain some insight into the motives for customers' intentions to use the OFDAs.

3 Methodology

The systematic literature review (SLR) methodology is used in this paper because it is appropriate for fully addressing the research question and achieving the study's objective, which is to determine the effect of the Theory of Planned Behavior Model on OFDAs in the business management sector. The current state of knowledge in a field can be usefully summarised by SLR [32, 33]. They can also help identify gaps in the field's knowledge, opening up new directions for future research [34, 35]. To discover any perceptive gaps that advance the study of OFDAs, this research uses the SLR method to
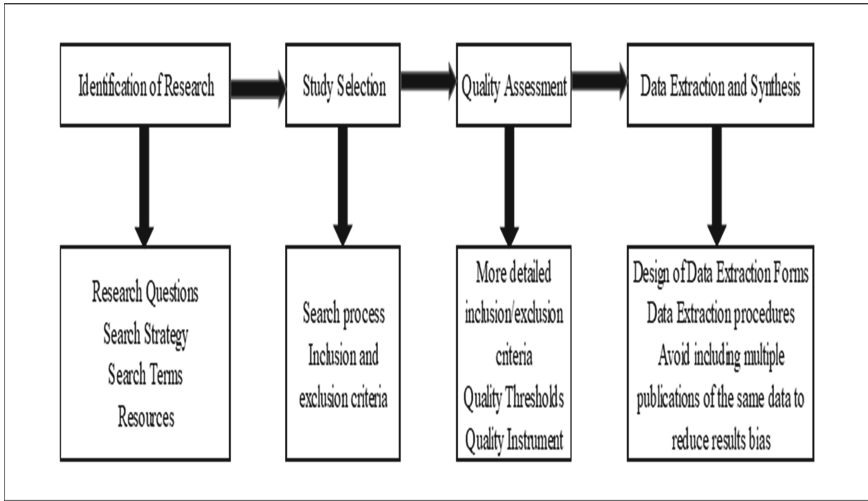
Fig. 1. Stages of Systematic Literature Review

conduct an extensive analysis of the existing literature on OFDAs. To minimise potential research biases, the authors of this SLR study followed a pre-established protocol, as recommended by [36], much like [37] and [38] did. The procedure was created following the four steps (see Fig. 1). Reference [36] recommended conducting the SLR to analyse pertinent current literature. Before beginning the actual procedure, the research question to be addressed, the search strategy and resources to be used to locate the primary studies, the inclusion and exclusion criteria for choosing the candidate studies, the data extraction strategy, and the assessors who will conduct the review were all decided upon. Figure 1 summarises these stages.

3.1 Stage 1: Identification of Research

A systematic review's objective is to use an objective search method to locate as many primary studies as feasible that address the research topic [36]. Hence, this stage entails decisions about the research question, the search term, the search string, and the data sources. The researchers specialized in the field of business, social science and economics. To determine the search terms and create the search string, the research question was analysed. The search terms, including any equivalent spellings, are chosen following the research question. i.e., American and British spelling. The term is online food delivery applications. To search for alternative terms and spellings, the authors used the Boolean operator "OR" while the Boolean operator "AND" is used to search for no matter how the terms are combined. The final search string was as follows: [(online AND food AND delivery AND applications)]. Academic databases, including Scopus, Web of Science (WOS), and Springer, were used as the data sources for this paper. Using the created search string, searches were done on the titles, abstracts, and keywords of the indexed publications in these academic databases. The search covers publications from 2018 to 2022. A total of 15 studies were obtained as a result.
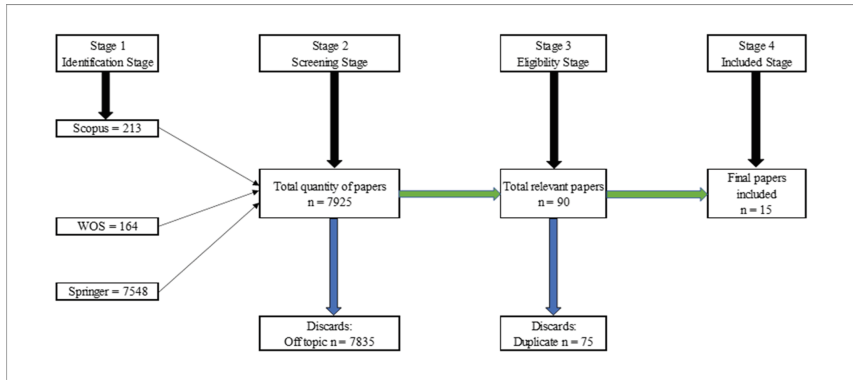
Fig. 2. Search Process

Table 1. Inclusion and Exclusion

Inclusion Criteria	Exclusion Criteria
English paper.	Any none English papers.
Paper published between 2018 and 2022 and has more than three pages.	Patent papers, papers with less than three pages, and papers with the same authors and dataset.
It should be a scholarly article related to the research question.	Not related to the research question, i.e., the effect of attitude towards online food delivery applications in the business management sector.

3.2 Stage 2: Study Selection

Assessing the possible primary studies' actual significance is required after collecting them. The authors used the inclusion and exclusion criteria in this stage before employing the quality assessment criteria to ensure no results were duplicated. A total of 7925 papers were retrieved, as shown in Fig. 2. The list was reduced to 90 papers after the titles of the recovered papers were checked for duplication. The remaining papers were assessed against the inclusion and exclusion criteria (see Table 1). All none English papers were disqualified. Papers that did not explain elements of the effect of attitude towards online food delivery applications in the business management sector were also disqualified. The list gets whittled down to 15 papers as a result of this approach.

3.3 Stage 3: Quality Assessment

The assessment of each source's quality is a way to determine whether it is appropriate for the research question. The criteria for quality assessment are shown in Table 2. Each criterion was scored against each source, with 1 being a perfect fit, 0.5 representing a partial fit, and 0 representing a non-fit. Following the heuristics principles recommended

Table 2. Quality Assessment Criteria

Quality Assessment Questions	Relevant Score
1) Are the objectives of the research detailed?	Yes = 1 Partially = 0.5 No = 0
2) Is the paper studying online food delivery applications in particular?	
3) Is the paper focusing on the effect of attitude towards online food delivery applications in the business management sector?	
4) Are the results and findings of the research reported?	

by [39], the authors divided the total score of each source into three groups, taking into consideration sources with a total score of at least 3.5. The authors calibrated and compared their results for some sample studies using comparable quality assessment scores to confirm the validity of the paper's quality assessment. The failure of 75 studies to meet the minimum quality assessment score led to their exclusion. Hence, the authors found 15 sources that were suitable for this research (see Fig. 2).

3.4 Stage 4: Data Extraction and Synthesis

Fifteen papers were chosen randomly and examined by all authors to guarantee the validity and uniformity of data extraction. The inter-researcher consistency of the analysis was then evaluated through comparison and calibration. The remaining papers were split into two sets and analyzed individually by two authors for each set once it had reached a good consistency level. After comparing the two researchers' extracted data, disagreements between the researchers were settled by consensus or arbitration by a different independent researcher or subject-matter expert. Table 3 describes the data extraction form.

Once the data extraction was complete, thematic analysis was used to determine the effect of attitude toward online food delivery applications in the business management sector and utilise heuristics to pertinent group effects with similar meanings and explain their relationship. The authors carried out the thematic analysis following the guidelines outlined by [40] in the manners listed below: 1) understanding the concept of each collected source, 2) identifying the relevant themes based on existing literature, and 3) documenting the themes systematically. The themes were created using the literature review from Sect. 2 as a guide. The authors carried out the thematic analysis in a methodical manner using Excel.

4 Result and Discussion

The results of the systematic literature review show that there are only 15 papers studying the effect of the TPB model towards OFDAs in the business management sector, which is the total number of research studies on OFDAs after filtration. Figure 3 shows the

Table 3. Data Extraction Form

Item	Description
Title	The title of the paper
Year	The year when the paper was published.
Database	The source of the paper.
Author(s)	The authors of the paper.
Paper type	Item It can be a case study, action research, survey, systematic literature review, systematic mapping, exploratory research, controlled experiments, literature survey, unclear, or a combination of some of them.
Data analysis	It can be qualitative, quantitative, or both.
Data gathering approach	It can be observation, training, workshop, questionnaires, interviews, archival record/existing data sets, or a combination of some of them.
Study focus	The subject of the study, the effect of attitude towards online food delivery applications in the business management sector, details explanation of this effect.

number of studies per year, while Fig. 4 shows the types of publications of the selected studies. Figure 4 indicates that the majority of the paper is articles.
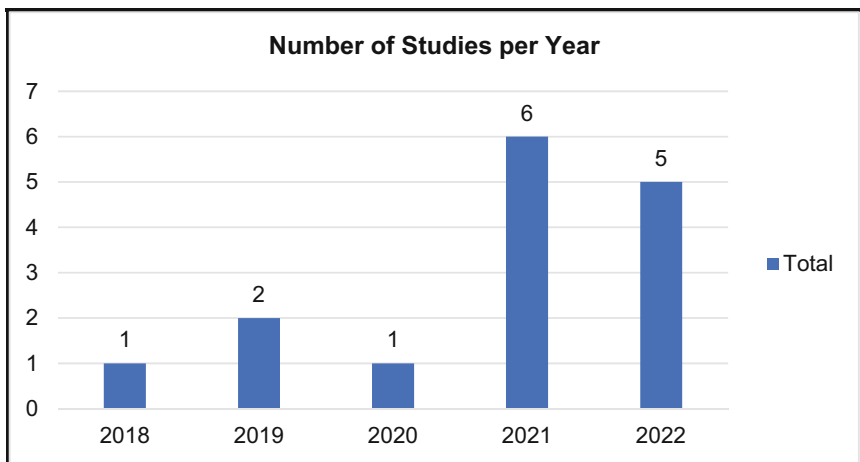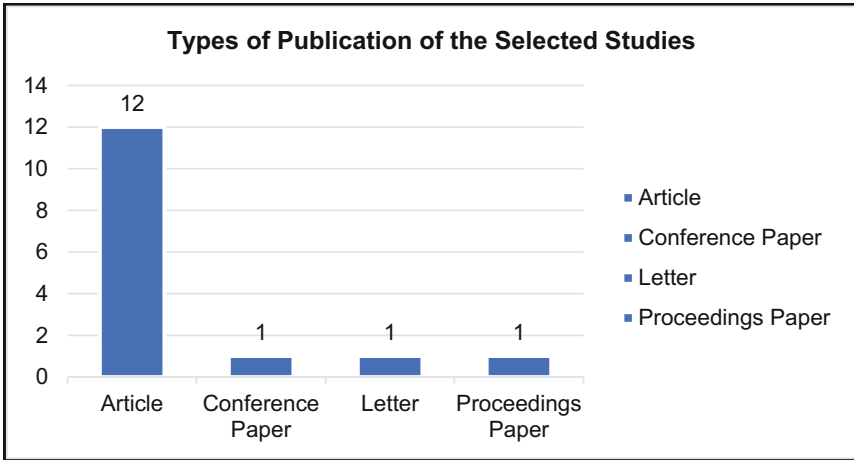

Fig. 3. Number of Studies per Year

Fig. 4. Types of Publications of the Selected Studies

4.1 Factor Derived from Systematic Literature Review

The results were classified into three main themes: attitude and subjective norm and perceived behavioral control. The themes were later translated into a set of behavioural factors. Table 4 shows these factors with the gathered evidence.

Attitude

The degree to which a person had a favourable or unfavourable assessment of a certain behaviour was referred to as attitude in this context [20, 41, 42]. When evaluating anything, a person's attitude can be either positive or negative and can be seen in their reactions [43]. A person's attitude toward using technology or a device might be summed up as their preferences in that area [44]. An individual's reaction to the activity of a purchase transaction is referred to as their attitude in terms of online shopping [45]. Attitudes were divided into two, which are implicit attitude and explicit attitude. Implicit attitude tends to stand out more in contexts characterised by routine and a high level of technological familiarity. The implicit attitude develops over time and is shaped by some frequent experiences with technology. Explicit attitudes, on the other hand, manifest

Table 4. Factors that affect of Theory of Planned Behavior Model towards online food delivery applications in the business management sector

Factors Category	Studies
Attitude	[20, 41–46]
Subjective Norm	[42]
Perceived Behavioral Control	[42]

their influence, particularly when users use a system as intended and particularly when people interact with new technologies [46].

Subjective Norm

The subjective norm is regarded as a factor capable of influencing intention because people may choose to adopt a specific behaviour even if they do not have a favourable opinion about it. After all, one or more significant referrals approve of it [42]. Therefore, since it is so simple to obtain customer feedback online, subjective norms are a major component influencing customers' purchase intentions. Thus, in the context of food delivery, the subjective norm might affect customers' intention of using OFDAs. If customers perceived that the social pressure to use OFDAs in daily life is high, he/she would be more likely to intend to do it.

Perceived Behavioral Control

The definition of perceived behavioural control (PBC) is "individuals' expectation regarding the level of competence in performing a specific behaviour" [42]. It deals with one's perception of the ease or difficulty of carrying out a particular behaviour [42]. Moreover, the PBC is also a key factor which affects customers' purchase intentions, it is because when customers think it is not easy to use or it is difficult to find what they want, they would rather buy food by themselves than use an OFDAs.

5 Conclusion

This paper reviewed 15 studies conducted from 2018 up to 2022. Based on themes derived from the systematic literature review, this paper has successfully identified the effect of the TPB model towards OFDAs in the business management sector. Thematic analysis was used to identify factors, understand their concept, and classify them under relevant themes. From the theoretical perspective, this paper addresses the theoretical gap where there is a lack of study on the TPB model towards OFDAs. The identified factors are novel in answering the research question and serve as a foundation for future research opportunities. The findings of this paper are beneficial for business organisations and OFDAs providers who wish to give excellent service and fulfil their customers' wishes.

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