Research Exposé:

The role of health consciousness, and application design quality on users' continuous intention to use Food delivery apps.

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Abstract

Title: The role of health consciousness, and application design quality on users' continuous intention to use Food delivery apps.

Background: In the last years, especially during the COVID-19 global pandemic emergency, restaurant companies and customers have adopted food delivery applications. Previous research looked into the determinants of continuous intention on Food Delivery Apps, while others looked into consumer perceptions of nutrition food quality and how health consciousness and health claims could influence food choice, another one had explained the effect of mobile app design features on student buying behavior for online food ordering and delivery.

Purpose: The aim of this study is to determine how health consciousness, influenced by nutrition health (NH) claims and information quality, as well as app design quality, can affect the long-term intention to use food delivery apps.

Methodology: The research will be based on a quantitative study, conducted by an online survey. The target selected for the study is composed by Italian student, male and female, between 16 and 30 years old. All items were measured on a five-point Likert scale. The Structural Equation Modelling (SEM) will be used. Particularly, SmartPLS will assess the relationships among the variables.

Contributions: This study will help to understand the differences in purchase and continuing intention to use food delivery apps between men and women. According to the literature, the purpose of this study is to determine whether or if there are variations in the ongoing desire to use food delivery apps between single-person and multi-person households, and if so, why. This study will assist practitioners develop more complete marketing strategies for food apps service providers and restaurant businesses, and it will help consumers make better food choices and consumption decisions when they order through food apps services.

Keywords: Nutrition, Claims, Quality, Food Apps, Design quality, Households, Gender, Continuous Intention.

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List of Abbreviations

NH	Nutrition Health
HBM	Health Belief Model

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1. Introduction

Smartphone adoption is accelerating, and online goods and service purchases via mobile apps are increasing at an even faster rate (Prabhu et al., 2020). Furthermore, as an emerging offline-to-online mobile technology, catering companies and customers have adopted food delivery applications. Particularly because, during the COVID-19 global pandemic emergency, they provided two-way helpful catering delivery services in rescuing catering firms and meeting clients' technological and mental needs (Zhao, et al., 2020). Food delivery applications have changed the way people order and enjoy food, especially given the mobility limits imposed by the COVID-19 epidemic. During the pandemic, the hospitality industry, notably restaurants, depended heavily on mobile technology to improve critical online to offline food delivery, helping a large number of people. Kumar et al. (Kumar et al., 2021). In order to mention some numbers about the industry we can take the example of Indian market: Food ordering and delivery generates $7,092 million in revenue in India, with the restaurant to customer delivery market accounting for $5,825 million in revenue (Statista 2019).

Previous research looked into the determinants of continuous intention on Food Delivery Apps (Lee et al., 2019; Rasli et al., 2020), while others looked into consumer perceptions of nutrition food quality and how health claims could influence food choice (Van Trijp et al., 2007; Deanet al., 2011; Cranage et al., 2005; Baltas 2001), another one had explained the effect of mobile app design features on student buying behavior for online food ordering and delivery (Prabhu et al., 2020). One purpose of this study is to add to the existing literature by investigating how the aforementioned concept may influence the continued intention to use food delivery applications.

The research will be conducted from the perspective of Italian customers in order to add to the existing literature and to expand some previous quantitative studies that were limited to other countries (Lee et al., 2019), as well as to establish a multi-country relationship regarding the continuous intention to use food delivery apps. As a result, in order to build on prior research on food delivery apps, this study will investigate the relationship between male and female behavioral intentions in food applications (Rasli et al., 2020). Furthermore, this study would examine the disparities between single-person and multi-person households in order to develop more complete marketing strategies for service providers and restaurant businesses (Lee et al., 2019). Despite there are several academic studies that underlined the importance of Design Quality in the Mobile Apps and Website (Prabhu et al., 2020; Lin et al.,

2009; Al-Qeisi et al., 2014).) and the importance of NH Claims and information quality in health consciousness and food choices (Cranage et al., 2005; Baltas 2001: Wahyuni 2017, August), there is a shortage of quantitative studies that identify how apps Design Quality and health consciousness, could influence the continuous intention to use Food delivery apps by consumers. With this research we aim to contribute to fill this knowledge gap.

The aim of this study is to determine how health consciousness, as influenced by nutrition health (NH) claims and information quality, as well as app design quality, can affect the long-term intention to use food delivery apps.

The Unified theory of acceptance and use of technology 2 (UTAUT2) model will be used in this study to analyze the determinants that either drive or impede user continual desire to use food delivery applications (Lee et al., 2019). This research will expand the original UTAUT2 model, which has already been enhanced with the addition of information quality, with the supplemented of two more external variables: Design Quality and health consciousness. Moreover the Health Belief Model (HBM) is being used to better understand the relationship between health consciousness and the continuous intention to use food delivery apps (Wahyuni 2017).

2. Theoretical Framing

A brief literature review will be used to clarify the basic themes in this section. Starting with the general argument of food delivery apps, the UTAUT2 Theory's historical progression, the health belief model approach, and finally theories application to the Food Delivery Apps sector are discussed.

2.1 Food delivery apps

The rapid expansion of mobile commerce, which connects suppliers and users via smartphone apps, has been fueled by accessibility and the capacity to transmit information quickly (Kim et Al., 2019). The rapid rise of e-commerce has generated new business models, such as online to offline (O2O) services. O2O services have emerged in a variety of industries, including food services, and users benefit from the convenience and speed of food delivery apps on mobile devices thanks to their real-time connectivity (Lee. et al., 2019; Lee et al., 2017). The change in how people order food has extended around the world, and the apps are projected to become a substantial part of the restaurant industry in the United States, alongside

fast food. More than a fifth of the population in China has used a food delivery app (Lee. et al., 2019). With the current m-commerce boom in India, the development of food and beverage businesses has gotten a lot of attention, thanks to the increased need for food ordering and delivery apps. In India, revenue from the food ordering and delivery segment is currently $7,092m and largest market segment is restaurant to consumer delivery market with business volume of $5,825m (Statista 2019). Restaurants in India have off late tied up with several food ordering and delivery apps as an option for market development and to retain frequent and loyal customer. Restaurants in India have recently partnered with a number of food ordering and delivery apps as a means of expanding their market and retaining frequent and loyal customers (Prabhu et al., 2020). Customers of food delivery services can use apps to search through a variety of products and compare prices. Delivery applications are a practical and extremely efficient sales and marketing tool for small-scale restaurants with limited advertising and marketing capabilities (Lee. et al., 2019).

2.2 Utaut2 Theory and Health Belief Model

The TAM was created by Davis (1986), and it is the most extensively used model of consumer acceptance and use of information technology (Venkatesh, 2000). Several scholars have expanded the TAM's application by including external variables to influence the attitude, behavioral intention, and actual use of technology of users (Pikkarainen, et Al., 2004). Because e-commerce has expanded to include mobile devices, the TAM has been modified to accommodate this new category of mobile commerce (Prabhu, et Al., 2020, July). The technology acceptance model (TAM), theory of planned behavior (TPB), and unified theory of acceptance and use of technology (UTAUT) are just a few of the research that have looked into consumer acceptance and adoption of technology (Prabhu, et Al., 2020, July).

According to UTAUT, the direct determinants of behavioral intention and use are performance expectancy, effort expectancy, social influence, and facilitation conditions. While the UTAUT model considers only variables such as performance expectancy and effort expectancy, that are mainly related to services and views on the functional features of technology in organizational contexts (Lee et al., 2019). As a result, the model does not account for the cognitive or psychological states that impact technology acceptance intentions (Chen et al., 2013). To address this issue, Venkatesh, Thong, and Xu developed the expanded UTAUT model (UTAUT2), which included psychological and cognitive elements such as hedonic motivation, price value, and habit to the UTAUT model (Venkatesh et al., 2012). Researchers

have used this model to explain users' behavioral intentions toward various information technologies, which has been found to perform better than the TAM (Technology Acceptance Model) and UTAUT original models.

The relationship between how the seven variables of the UTAUT2 model "performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, and habit" could affect the intention to use, have empirically analysed in previous studies (Singh et Al., 2017). Another study adds to the general UTAUT2 Theory how the information quality will affect, combined with the other 7 variables, the continuous intention to use food delivery apps and this study (cutting out habit, social influence and price value since they are not linked on my 2 variables and there are also another paper which has already investigate on it) wants to add how nutrition quality claim could influence the information quality and as a consequence the continuous intention to use food delivery app services. Moreover this study wants to add another external variable, which is design quality, and studies how it could influence the consumer's continuous intention to use with a particular focus on performance expectancy, effort expectancy, facilitating conditions, hedonic motivation.

Therefore, in this study, to explore determinants of health from the individual perspective have been used the HBM (Health Belief Model) model developed by M Rosenstock (1996) (Wahyuni, R. 2017). The four key components of the Health Belief Model are perceived seriousness, perceived vulnerability, perceived benefits, and perceived barrier. The perceived seriousness of an illness refers to one's belief in its seriousness (Ahadzadeh et al., 2015). Perceived susceptibility to illness refers to a person's belief in the potential of contracting a disease or condition (Ahadzadeh et al., 2015). It, on the other hand, relates to thoughts about the seriousness of getting the disease or leaving it untreated, as well as the potential repercussions (Ahadzadeh et al., 2015). These two main contracts drive an individual to adopt health treatment and change their lifestyle (Wahyuni, R. 2017).

2.3 UTAUT2 applied in food delivery apps

Keeping up with taste, fashion, and ease of access are all challenges for the food service industry because customers are notoriously fickle (Lee et al., 2017). Food service businesses now rely on technology as a major information source and marketing tool, because of the rapid expansion of wireless communication technology and Internet penetration. (Bickerton, 2015). With accelerated competition in the food service industry and the popularity of food delivery

apps, it is useful to have an understanding of the factors that entice consumers to use these apps (Lee et al., 2017). Therefore, we used the Unified theory of acceptance and use of technology 2 model (UTAUT2) to investigate the determinants that either drive or impede user continuous intention to use food delivery apps.

Previous studies conducted in mobile food delivery apps have focused on adoption and only one of them has explored on design attributes of mobile delivery apps and its influence on decision stages of consumer in order to understand the effect of mobile food delivery apps design features on buying behavior (Prabhu et al., 2020). Design quality is an exogenous variable that has a strong effect in the application of the TAM (Peiet al., 2007) and since the UTAUT2 is an extension of the TAM, the design quality should be considered an exogenous variable influencing the application of the UTAUT 2 Theory as well. In the existing theory we have the proof of this since Al-Qeisi (2014) has demonstrated the website design quality importance using UTAUT model to study the behavioural intention of users. According to the NH claims, in a world dominated by the Internet, the perceived quality of the information may influence a customer's decision to purchase (M. Jeong & Lambert, 2001) and NH claims are a clear source of quality information. Kim et al. (2013) affirms that the quality of information between buyers and sellers affirm can be considered as a foundational determinant for building trust (Kiem et al., 2013). According to Demoulin et al. (2018), information quality means the information contains content that is accurate, trustworthy, and complete. The relevance, usefulness, and currency of information have also been important factors in determining information quality (Demoulin et al., 2018).

Only few studies focus their relevance about food apps in general but many of them speak about how NH claims are trustworthy. Using these claims allows consumers to gain knowledge about food content (e.g. low sodium) and health benefits (e.g. fits with a heart-healthy diet) that would otherwise be hidden (Van Trijp et al., 2007). By providing relevant information, they can facilitate consumers' choices of healthy foods, which may have a beneficial impact on overall public health. As a result of this, consumers' perceptions and understanding of NH claims play a fundamental role in their choice of functional and healthy foods. Despite the fact that several academic studies have highlighted the importance of Design Quality in Mobile Apps and Websites (Prabhu et al., 2020; Lin et al., 2009; Al-Qeisi et al., 2014) and the importance of NH Claims and information quality in health consciousness and

food choices (Cranage et al., 2005; Baltas 2001: Wahyuni, R. 2017, August), there is a scarcity of quantitative studies and we hope that this study will help to close this information gap.

This study uses a UTAUT2 model that includes, in addition to the original model, design quality and health consciousness in order to expand previous research on food delivery apps consumers' behaviors. Besides identifying the factors that influence health consciousness and consumers' continuous intentions to use food delivery app services, this study adds to previous research by considering multiple perspectives. This study examines consumer behavior in food e-commerce through food delivery apps. The results could help service providers and restaurants develop marketing strategies for their services.

2.4 HBM applied in food delivery apps

The HBM is one of the most extensively used models for analysing and forecasting individual changes in health behaviors. The HBM elements concentrate on individual ideas about health issues in order to predict individual health-related behaviors (Abraham et al., 2014). The model identifies the important elements influencing health behaviors. Individuals' perceived threat to disease (perceived susceptibility), belief of consequence (perceived severity), potential positive rewards of action (perceived benefits), perceived barriers to action, and exposure to stimuli that inspire action are examples of these (Jeong et al., 2018).

Self-protective behavior can also be described as a function of the customer's perception of a threat (Taylor 1974). When humans recognize a risk, they create self-protective behavior. Customers do not exhibit self-protective behavior when making a purchasing decision under typical circumstances. During disease epidemics, such as COVID-19, this self-protective behavior is amplified (Mehrolia, et al., 2021). The fear of contracting the sickness spreads quicker than the disease itself (Addo et al., 2020; Wen et al., 2020). As a result, any rise in fear might cause anxiety and a shift in behavior intention. Although the perceived risk of catching COVID 19 through the usage of food delivery apps has a negative impact on purchasing decisions, many people were compelled to stay inside their homes owing to the statewide lockdown, and they preferred to buy food through food delivery apps (Mehrolia, et al., 2021). Local governments also encouraged people to buy things online in order to limit disease spread (Chang et al., 2020), and this debate clarifies the positive effects of food delivery apps perceived benefits. Individuals prefer food delivery apps to hotels and restaurants because they are more convenient, safe, and cost-effective. During the COVID-19 circumstance, the

perceived benefits of online grocery delivery had a beneficial impact on purchasing decisions, which the researchers recorded (Aldaco et al., 2020). Food delivery applications are thought to have advantages such as contact-free delivery and e-wallet payments, which can lower the danger of COVID-19 spread (Nguyen et al., 2020).

Because only existing Food delivery app consumers are considered in this survey. It is apparent that clients who do not see a barrier to using food delivery apps find them convenient and affordable (Mehrolia, et al., 2021).

3. Literature Review

During the process of papers' selection it was decided to maintain, as main literature base, papers no older than 2010 even if they were used side citations from paper older than 2010 to keep the historical overview of the theory used. Moreover it was decided to cut papers which are not inside the SJR site to maintain a consistent literature structure. In this section according to the inclusion and exclusion criteria, are listed the main articles used in my study.

Table 1

Literature Review

| Author	Title	Year	Contribution
Lee et al.	Determinants of Continuous Intention on Food Delivery Apps: Extending UTAUT2 with Information Quality.	2019	This study empirically analyses an extended Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model that augments information quality to identify the determinants of continuous use intention for food delivery software applications. These findings expand previous research in online-to-offline business in the field of food services and suggest practical implications.
Alessi et al.	Conducting an internet-based survey: Benefits, pitfalls, and lessons learned.	2010	In this article, it was examined some advantages and challenges associated with the internet use in social work research. It was also discussed the problems we experienced, the mistakes we made, and the solutions we discovered when using Internet methods to recruit participants and collect data for the first time, with a focus on sample recruitment, the use of incentives, and ethical issues. Our goal is to assist social work researchers in understanding how preparing and conducting a survey using Internet methods differs from doing so using traditional methods, and how taking specific measures can help to prevent the challenges we faced.
Hessler et al.	Qualitative research on adolescent risk using e-mail: A methodological assessment.	2003	This article focuses on respondent reactions to the use of e-mail as the main data gathering tool in a qualitative study of adolescent risk behavior.

Prabhu et al.	The Effect of Mobile App Design Features on Student Buying Behavior for Online Food Ordering and Delivery.	2020	This study is an initiative to study the effect of mobile app design features on decision making stages of consumers pertaining for online food ordering and delivery sector. This study could be used as a base by organizations to enhance the design features of mobile apps in food ordering sector for engaging customers and enhancing their business.
Lin et al.	Factors influencing satisfaction and loyalty in online shopping: an integrated model.	2009	This paper aims to explore how internet customer satisfaction and loyalty can be associated with each other and how they are affected by different factor such as design quality.
Al-Qeisi et al.	Website design quality and usage behavior: Unified Theory of Acceptance and Use of Technology.	2014	This paper proposes that website design quality is a multi-dimensional construct with a higher-order structure that, when successfully incorporated into the UTAUT model, outperforms existing models.
Cavaliere et al.	Nutrition and health claims: Who is interested? An empirical analysis of consumer preferences in Italy.	2015	This paper focuses on nutrition and health claims with the aim of verifying if these claims are of interest to different types of consumers, analysing the key variables that characterise their profiles.
Wahyuni, R.	Explaining acceptance of e-health services: An extension of TAM and health belief model approach.	2017	This study explains factors in terms of intention to use e-health services: consumer informatics e-health type. For this purpose, the original version of Technology Acceptance Model (TAM), which included perceived usefulness, perceived ease of use, and intention to use, is extended with Health Belief Model approach (perceived health risk, health consciousness).

Zhao et al.	What factors determining customer continuingly using food delivery apps during 2019 novel coronavirus pandemic period?	2020	This study proposes a comprehensive model integrating UTAUT, ECM and TTF with the trust factor and examines 532 valid FDA users' continuance intention of using Food Delivery Apps during the COVID-19 pandemic period in China.
Kumar et al.	Revisiting food delivery apps during COVID-19 pandemic? Investigating the role of emotions.	2021	This study investigates the role of app aesthetics in evoking emotions which predict continued usage intentions for Food Delivery Apps using the theoretical lens of the pleasure arousal dominance (PAD) framework.
Urala et al.,	Consumers' changing attitudes towards functional foods.	2007	In previous research, researchers found that seven characteristics reflected consumers' expressed desire to use functional foods. The aims of this project were to refine these attitude measurements into a more manageable format, to investigate whether these shorter attitude scales predict customers' reported willingness to use functional products, and to track consumers' attitudes toward functional foods over a 2.5-year period.

4. Research Model and Hypotheses

Figure 1

Research Model
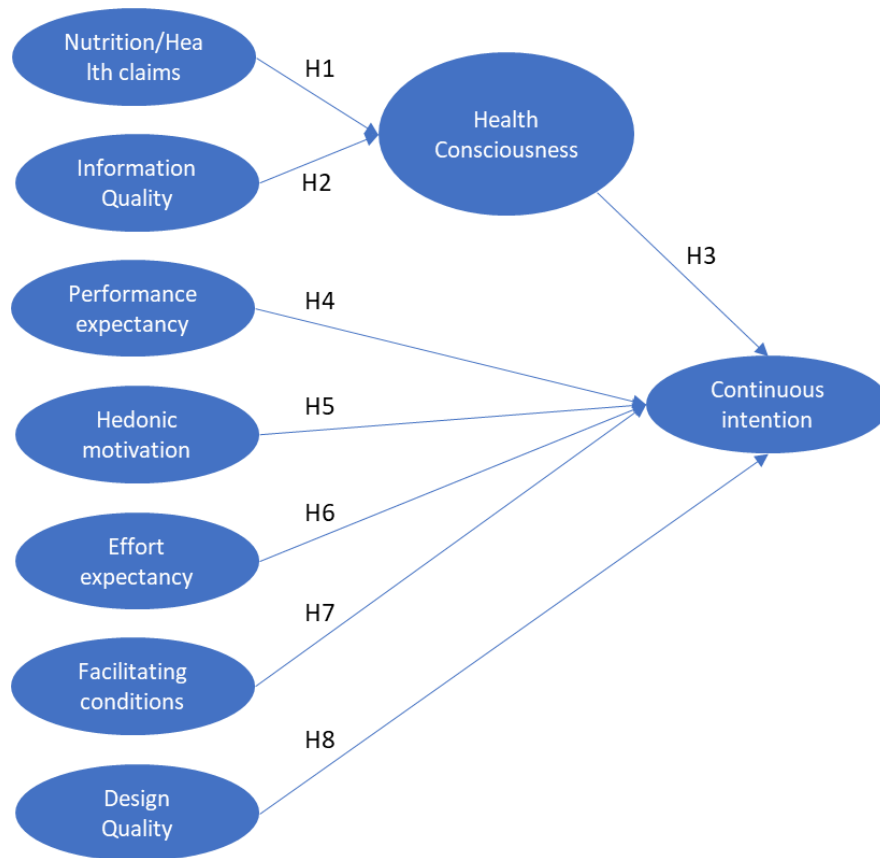
NH claims have become a well-established method of expressing the healthiness of goods that contain extra or decreased components to the consumer. They convey to the consumer relevant information on food content and health benefits that would otherwise be hidden. As a result, they make it easier for customers to make well-informed food choices, which may benefit public health more broadly (Van Trijp et al., 2007). Significant number of studies demonstrated the strong connection between the NH claims and how they impact in the health consciousness of consumers and food choices (Van Trijp et al., 2007; Cranage et al., 2005, Baltas, G. 2001). Based on that the first hypothesis will be done:

H1: *The different nutrition and health claims inside food delivery apps will significantly influence the users' health consciousness.*

Moreover, according on what the literature explained, A buyer-seller's ability to communicate effectively, through information quality, is considered the most fundamental aspect of trust (Kim et al., 2013). Behavioral intentions are determined by trust in information (Venkatesh et al., 2012; Luo et al., 2010) as revealed by a review of technology acceptance literature. This study determined health consciousness based on the information quality of food mobile app services based on the literature.

H2: *The information quality of food delivery apps will significantly influence the users' health consciousness.*

Health consciousness refers to a person's integration of health considerations into their daily lives (Jayanti et al., 1998). It has been demonstrated that people, who are health-conscious worry about their wellbeing and want to maintain or improve it, use communication channels to obtain health information (Jayanti et al., 1998). In a world where health consciousness is growing, more information about health is available from a variety of media, such as newspapers, magazines, television shows, and book ads (Moorman et al., 1993). The Internet has become a primary source of health information due to a positive attitude toward it.

It is interesting to note that functional foods are being advertised as having health benefits, which is why in this study, in order to better understand them, we will refer to them as healthy foods including them in this major category. Further, individuals who concern about their own health when they believe that the food apps can provide health information to manage their health are likely to have a positive attitude toward continuous intentions to use the food apps. The following hypothesis can be derived from the above explanation:

H3: *The heath consciousness of users will significantly influence continuous intention.*

Based on the existing literature we already know that the design quality of an application effects the intention to use the app itself, more in the details a recent study has underlined the importance of the design quality inside the food apps delivery and the student buying behavior of them related to the design quality (Prabhu et al., 2020. Starting with this assumption in this study it will be demonstrate the relationship between the app Design Quality and the continuous intention to use a food delivery app.

H4-1: *The design quality of food delivery apps will significantly influence continuous intention.*

Users' behavioral intentions are heavily influenced by their performance expectations. It has been validated numerous times in studies on the factors influencing the acceptability and use of new products and technology (San Martn et al., 2012). Effort expectancy refers to a system's ease of use and corresponds to perceived ease of use in the TAM model. A higher perception of ease of use will result in a higher intention to employ the technology (Venkatesh et al., 2016). Individual beliefs about the existence of organized technical support for the usage of a system are described as facilitating conditions (San Martn et al., 2012). This comprises a user's expectation of receiving guidance, training, and support while seeking to acquire a technology (Shao, et al., 2011). Hedonic motivation is defined as the pleasure obtained from using technology and plays a key role in technology acceptance and use (Brown et al., 2005), directly impacting technology acceptance and use (Van der Heijden 2004). Previous studies have empirically analysed how the variables of the UTAUT2 model— performance expectancy, effort expectancy, facilitating conditions, hedonic motivation, — were related to intention to use (Singh, et al., 2017; Shaw et al., 2019). This study posits some of these seven variables as factors influencing the continuous use intention for delivery app services. As such, we propose the following hypotheses.

H5: *The performance expectancy of delivery apps will significantly influence continuous intention.*

H6: *The effort expectancy of delivery apps will significantly influence continuous intention.*

H7: *The facilitating conditions regarding delivery apps will significantly influence continuous intention.*

H8: *The hedonic motivation regarding delivery apps will significantly influence continuous intention*

Table 2

Table of Constructs and items

Construct	Original Items	Adapted Items	Source
Nutrition/health claims	(5-point scale unimportant = 1, very important = 5) 1. Rating of importance of claims on energy like 'low energy, energy-reduced, energy free' 2. Rating of importance of claims on fat like 'low fat, fat-free, low saturated fat, saturated fat-free' 3. Rating of importance of claims on sugar like 'low sugars, sugars-free, with no added sugars' 4. Rating of importance of claims on vitamin like 'source of ..., high ....., contains ....' 5. Rating of importance of claims on fibre like 'source of fibre, high fibre' 6. Rating of importance of claims on sodium like 'low sodium/salt, very low sodium/salt, sodium-free/salt free' 7. Rating of importance of health claims in general 8. Rating of importance of claims related to cholesterol	(5-point scale unimportant = 1, very important = 5) When you select a food: 1. Rating of importance of claims on energy like 'low energy, energy-reduced, energy free' 2. Rating of importance of claims on fat like 'low fat, fat-free, low saturated fat, saturated fat-free' 3. Rating of importance of claims on sugar like 'low sugars, sugars-free, with no added sugars' 4. Rating of importance of claims on vitamin like 'source of ..., high ....., contains ....' 5. Rating of importance of claims on fibre like 'source of fibre, high fibre' 6. Rating of importance of claims on sodium like 'low sodium/salt, very low sodium/salt, sodium-free/salt free' 7. Rating of importance of health claims in general 8. Rating of importance of claims related to cholesterol	Cavaliere, A., Ricci, E. C., & Banterle, A. (2015)
Information quality	(5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree) 1. Using food delivery apps provides accurate information 2. Using food delivery apps provides believable information 3. Using food delivery apps provides information at the right level of detail 4. Using food delivery apps presents the information in an appropriate format	SAME	Lee, S. W., Sung, H. J., & Jeon, H. M. (2019)
Health Consciousness	(7-point Likert scale in which 1 = completely disagree and 7 = completely agree) 1. Functional foods make it easier to follow a healthy lifestyle 2. Functional foods can repair the damage caused by an unhealthy diet	(5-point Likert scale in which 1 = completely disagree and 5 = completely agree) 1. Healthy foods make it easier to follow a healthy lifestyle 2. Healthy foods can repair the damage caused by an unhealthy diet	Urala, N., & Lähteenmäki, L. (2007)

	3. I am prepared to compromise on the taste of a food if the product is functional 4. I actively seek out information about functional foods 5. I believe that functional foods fulfil their promises	3. I am prepared to compromise on the taste of a food if the product is healthy 4. I actively seek out information about healthy foods 5. I believe that healthy foods fulfil their promises	
Performance expectancy	(5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree) 1. I find food delivery apps useful in my daily life. 2. Using food delivery apps increases my chances of purchasing foods that are important to me. 3. Using food delivery apps enables me to accomplish the purchasing process more quickly. 4. I can save time when I use food delivery apps for purchasing foods	SAME	Lee, S. W., Sung, H. J., & Jeon, H. M. (2019)
Effort expectancy	(5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree) 1. Learning how to use food delivery apps for purchasing foods is easy for me 2. My interaction with food delivery apps for the purchase of foods is clear and understandable. 3. Using food delivery apps is easy for me 4. It is easy for me to become skilful at using food delivery apps for purchasing foods.	SAME	Lee, S. W., Sung, H. J., & Jeon, H. M. (2019)
Design Quality	(5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree) 1. In order to understand how to use the shopping website, I have already spent time and effort to learn <u>Organization</u> 2. The bank website (food delivery apps you have tried): looks organized 3. The bank website (food delivery apps you have tried): is easy to read 4. I like the content and layout of this shopping website (food delivery app) <u>Clear design</u>	(5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree) 1. In order to understand how to use a food delivery apps, I have already spent time and effort to learn <u>Organization</u> 2. Food delivery apps you have tried: looks organized 3. Food delivery apps you have tried: is easy to read 4. I like the content and layout of food delivery app <u>Clear design</u> 5. I feel that the operations of the Food delivery apps are easy to understand and convenient to use 6. Food delivery apps you have tried: looks attractive. 7. Food delivery apps you have tried: uses appropriate colours.	Lee, E. Y., Lee, S. B., & Jeon, Y. J. J. (2017). Lin, G. T., & Sun, C. C. (2009). Al-Qeisi, K., Dennis, C., Alamanos, E., & Jayawardhena, C. (2014).

	5. I feel that the operations of the (Food delivery apps) shopping website are easy to understand and convenient to use 6. The bank website (food delivery apps you have tried): looks attractive. 7. The bank website (food delivery apps you have tried): uses appropriate colours.		
Facilitating conditions	(5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree) 1. I have the knowledge necessary to use food delivery apps for purchasing foods. 2. I feel comfortable using food delivery apps for purchasing foods.	SAME	Lee, S. W., Sung, H. J., & Jeon, H. M. (2019)
Hedonic motivation	(5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree) 1. Using food delivery apps for purchasing foods is fun. 2. Using food delivery apps for purchasing foods is enjoyable. 3. Using food delivery apps for purchasing foods is very entertaining.	SAME	Lee, S. W., Sung, H. J., & Jeon, H. M. (2019)
Continuous intention	(5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree) 1. I intend to continue using food delivery apps in the future. 2. I will always try to use food delivery apps in my daily life. 3. I plan to continue to use food delivery apps frequently. 4. I have decided to use food delivery apps for purchasing foods the next time	SAME	Lee, S. W., Sung, H. J., & Jeon, H. M. (2019)

5. Methodology

The research will be based on a quantitative study, conducted by an online survey. The mainly reason why the quantitative method has been preferred is because through a questionnaire it can be reached as many people as possible and hence get help with sampling and data collection (Alessi et al., 2010) to contribute the literature with a study based on gender differences and household components. The online methos has been preferred rather than an offline one due to the cost advantage and the time efficiency (De Leeuw 2012; Hessler et al., 2003). Another important issue it can solve is the possibility to reach a well-defined target, to add to some previous quantitative studies that were limited among a single country, like said previously, another prospective of another country which is Italy in this case.

The survey has been developed in English and then translated in Italian, to facilitate the respondents. The translations will be performed by a native speaker for each of the mentioned languages and will be checked by another native speaker.

The target selected for the study is composed by Italian student, male and female, between 16 and 30 years old, who have used food delivery apps at least once per month. Data collection took place over a 20-day period from October 31, 2021, to November 20, 2021, via an on-line survey. In the first part of the survey were asked whether they had ever logged into delivery apps, searched for a food item, and placed an order at least once per month. Of the prospective respondents, only those who responded positively were selected for the survey.

All items were measured on a five-point Likert scale ranging from "strongly disagree" to "strongly agree" with the exception of the Nutrition/health claims items which follow the five-point Likert scale as well but from unimportant = 1 to very important = 5.

Firstly, a pilot questionnaire will be used to assess the potential flaws, the possible errors, and the comprehensibility of the questions. After the eventual adjustments, the survey will be distributed online through social network like WhatsApp, LinkedIn, Instagram, Facebook, and university channels, mainly to student or students' groups interested in food apps.

In order to conduct the data analysis, the Structural Equation Modelling (SEM) will be used. Particularly, SmartPLS will assess the relationships among the variables.

6. Expected Contributions

6.1 Scholarly Contributions

The study aims to clarify some of the gaps evidenced in the introduction, as well as in the theoretical framing, in particular this research will contribute to understand the different behavior, in terms of purchasing and continuous intention to use food delivery apps, between male and female (Rasli et al., 2020). Therefore, according with the literature, this study wants to discover if there are differences between single-person and multi-person households in terms of continuous intention to use food delivery apps and why (Lee et al., 2019).

6.2 Implications for Business and Society

This study will contribute to practitioners to formulate more comprehensive marketing strategies (Lee et al., 2019) for food apps service providers and restaurant businesses and in terms of society contribution, it will help consumers to take healthier decision in food choices and consumption when they order through food apps services.

7. Chapters Overview

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Task	Date
Exposé	4 October
Instrument Development	4 October – 20 October
Instrument Pilot Test & Improvements	21 October – 30 October
Data Collection	31 October – 20 November
Data Analysis	21 November – 5 December
Thesis Writing	11 December – 13 January
Thesis Hand-In	13 January

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