Impact of Economic Value in the O2O Distribution Channel on Brand Attractiveness and Performance*

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Abstract

Purpose: With the unique feature of O2O, consumers are now able to check the profile of the services and products online and then consume them in offline venues or vice versa. This study provides motivation and practical implications about online-to-offline (O2O) distribution channels and investigates the relationship between economic values, service consistency and brand identity attractiveness in the O2O distribution channel. Then identify the impact of brand identity attractiveness on the performance (reputation and reuse intention). **Research design, data, and methodology:** Structural equation modeling (SEM) has been used to investigate the relationship between economic value and brand identity attractiveness, which affects the reputation and reuse intention of services in O2O. **Results:** Empirical results show the positive and significant impact of economic value and service consistency on brand identity attractiveness which results the positive and significant impact on performance (reputation and reuse intention) in O2O. **Conclusion:** In the O2O distribution channel, economic value is an important aspect for the attractive image and brand identity. On the other side, brand identity attractiveness is important for the bright future of O2O services, continuous growth, achieving the distinct goal, keeping good promises with customers, and a better reputation of O2O services in distribution channels.

Keywords : Online-to-offline, Distribution Channel, Economic Value, Brand Identity Attractiveness, Reuse Intention, Structural Equation Modeling.

JEL Classification Code : L81, M30, M31, M37

1. Introduction

With the development of mobile communication technologies, customers are no longer restricted to a certain location or device to remain connected. Customers can utilize their mobile devices to access a wide range of internet-based services whenever and wherever they want due to wireless mobile internet. The concept of O2O commerce was first proposed by Rampell (2010), as "finds consumers online and brings them into real-world stores, a combination of payment model and foot traffic generator for merchants, as well as a discovery mechanism for consumers

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that creates offline purchases." O2O services are among the most frequently employed mobile business models. Through the use of information and communication technology, O2O services distribution channels combine the benefits of online and offline trade. With the unique feature of O2O, consumers are now able to check the profile of the services and products online and then consume them in offline venues or vice versa. O2O commerce is a business strategy that encourages people to visit physical establishments to make purchases after first researching products online. It locates customers online, for example through emails and online advertising, and then uses a variety of strategies and technologies to persuade them to leave the online environment. O2O commerce enterprises may use strategies such as in-store pickup of things purchased online, enabling returns of items purchased online at a physical store, and allowing customers to complete online orders while visiting a physical store.

Electronic commerce (e-commerce), sometimes known as online shopping, and the rise of the internet have profoundly altered consumer behavior over the past two decades (Liang et al., 2021). Previously, retailers worried that they wouldn't be able to compete with online retailers, especially when it came to price and selection. Physical stores could not provide a selection of products extensively due to space constraints, fixed expenses, and the need for some personnel. Online retailers just required access to shipping companies to sell their products, which allowed them to provide a wide assortment without having to pay for as many people. Some businesses that have both an offline and online presence treat the two channels differently, treating them more as complements than as competitors. The objective of the O2O distribution channel is to raise consumer awareness of goods and services, enabling interested parties to compare their advantages and disadvantages before visiting the local brick-and-mortar store to make a purchase. Information on the goods and services of offline vendors is the main purpose of the O2O service. It is projected that O2O services with a high level of informativeness will increase customer satisfaction. O2O commerce, according to Rampell (2010), involves bringing online customers into "real-world" stores; however, Phang et al. (2014) demonstrate that O2O commerce uses the internet channel to drive offline sales.

Managers are concerned about how the internet environment will affect customer satisfaction, loyalty, brand identity attractiveness, performance, relationship between them and how these factors impact on the O2O service distribution channel. Online customers typically find it simpler to compare options than physical shoppers, especially for useful distribution channel. On the internet, a rival offer is only a few clicks away to use the O2O distribution channels. Because of these characteristics of the Web, many managers feel that compared to offline media, the online medium may result in poorer consumer satisfaction and loyalty, performance, and that higher contentment with a service may not translate into higher loyalty when that service is chosen online.

Some significant IT companies in Korea, such as Kakao, the leading mobile instant messaging (MIM) service provider in the country with its Kakao talk brand, run their O2O services. Kakao has been passionate about converting from a chat app to an integrated digital platform giving numerous value-added services, and capitalizing on the sizable domestic user base. For instance, Kakao, an integrated mobility service that provides taxi booking, driver hailing, and parking spot sharing services, and Kakao Hair shop, a booking service for hair salons, are included in its service portfolio. In addition to the local IT giants, a significant number of startups have entered the O2O market in Korea. Woowa Brothers, the owner of Baedal-ui-Minjok (hereafter referred to as "Baemin"), is now the most aggressive and active in business diversification among Korean first-generation O2O companies. The Baemin Chan home meal replacement (HMR) delivery service and the Baemin Riders upscale restaurant food delivery service were both introduced by Baemin, the top food delivery aggregator app in Korea. It aims to develop into an integrative "food-tech" enterprise by growing its operations into related fields. For the O2O model connecting online and offline, it is necessary to understand how consumers evaluate the O2O distribution channels and influencing factors to coordinate O2O distribution channels. After the literature review, we propose the working mechanism of the O2O distribution channels and consumers' overall evaluation in the model. Subsequently, we extract the factors influencing variables like service economic value and service consistency on brand identity attractiveness. Further, we present the impact of brand identity attractiveness on the performance (reputation and reuse intention) of O2O service distribution channel. Overall, this study focuses on the impact of economic value and service consistency on the brand identity attractiveness in O2O service distribution channels. Finally, we make conclusions and present some suggestions for future studies. The remainder of this study is organized as follows. First, the theoretical background of the study is reviewed. We then propose a research model and present our hypotheses, followed by the research methodology and data analysis results for the study model. Based on the results, we then discuss the key findings and implications. Finally, we conclude this study by describing its limitations and outlining possible future research directions. The following table shows a list of previous research that has attempted to investigate the impact of different variables on the performance of O2O distribution channels.

Table 1: Literature Review for the performance of O2O distribution channel in Tabular form.

Author(s) and Year	The focus of the paper	Techniques Applied	Parameter's Analyzed	Research Gaps
Aaker and Keller (1990)	Consumer's attitude toward brand extensions.	Factorial design.	Original brand quality cue and brand extension attribute elaboration.	Predicting attribute transfer and positioning strategies extensions
Chu et al. (2012).	Examine the relationships between service quality, customer satisfaction, customer trust and loyalty to e-banks.	Partial least squares structural equation modelling (PLS-SEM).	Service quality, customer satisfaction, customer trust and loyalty.	Impact of service quality, customer satisfaction customer trust & loyalty on performance of O2O.
Chang et al. (2018)	Investigates O2O integration between the different business entities of hoteliers and online travel agencies.		System quality, information quality and service quality of online satisfaction	Examine customers actual behaviors toward online and offline channels.
Hwang and Kim (2018)	Investigates the extent to which mobile instant massaging (MIM) user satisfaction affects loyalty toward and satisfaction with O2O services.		Responsiveness, reliability, privacy, efficiency, satisfaction with MIM and O2O, behavioral loyalty and attitudinal loyalty.	Evaluate MIM and O2O services by developing concrete dimensions that specifically fit each service.
Chen et al. (2019)	Explores whether consumers' experience and behavior can be transferred between physical and virtual channels to create O2O behavior patterns.		Consumers' behavior, trust, perceived risk, service quality, satisfaction, social interaction, convenience," and behavioral intention.	Factors effecting on the consumers behavior in O2O.
Roh and Park (2019)	Adoption of O2O food delivery services moderating role of moral obligation in meal preparation.		Convenience orientation, subjective norm, compatibility, eases use, usefulness, intention.	Conduct this type survey in other parts of South Korea with different variables also.
Ryu et al. (2020).	A new service blueprint, called the O2O Service visualizing and analyzing the service processes of the O2O integration	Visualization technique.	O2O integration, service process visualization, service process analysis, O2O Service blueprint.	Analyze the customer oriented service blueprint and compare with O2O blueprint.
Yoon (2021)	Role of Social Capital and Consumer Citizenship on Sharing Economy Participation on O2O Retail Platforms.	Structural equation modelling (SEM).	Social capital, consumer citizenship, social identity, corporate image, sharing economic participation.	Impact of a firm or product-specific effects on an individual's decision to use or reuse sharing economy products.
Myung and Kim (2022)	Effects of service quality of Medical Information O2O Platform on continuous use intention in South Korea.		Context-based affordability, immediacy of connection, reliability, safety, usefulness, convenience, and continuous use intention.	To analyze the factors affecting the improvement of the intention and attitude of non-users of O2O in medical information platform.

2. Theoretical Background

O2O commerce highlights the integration of online and offline channels, working together, taking advantage of both e-commerce and traditional retailing, and providing consumers with a customized physical experience. The different factors and stages are involved in the overall mechanism of the O2O distribution channel, such as service quality, the economic value of the product, brand identity attractiveness, product information, customer satisfaction, revisit/reuse intention, trust/loyalty, etc. In this study, we have five measurement models with different indicators to estimate the indicator reliability/validity of five latent variables, economic value, service consistency, brand identity attractiveness, reputation, and reuse intention of the O2O distribution channel. The structural model is used to estimate the impact of economic value and service consistency on brand identity attractiveness and performance in O2O services.

2.1. Characteristics of O2O Distribution Channel

Online to offline is described as "e-commerce that integrates online browsing and ordering of goods or services with consumption in physical stores" (Wan & Chen, 2019). Customers can benefit from its flexibility, ease, availability, and increased security while business owners may advertise their products and satisfy their customers through improved hybrid O2O distribution channels. According to Goa et al. (2016), the value proposition comes from combining the online and offline features in many different ways, such as a customer can use online stores to seek information about products and services, order and pay online or order and pay offline after they have observed and checked their chosen products or services at the physical stores, or they can

acquire information by scanning a QR code at a physical store and check goods and services offline and make on the spot payments for their chosen goods and services. To notify prospective clients about products or services and the physical store location where they can observe or purchase the products/services, O2O uses methods like short message/messaging service (SMS), emailing, and social media platforms (Phang et al., 2014). As a result, excellent online service contributes to the relationship established by strong physical or offline service. The expansion of e-commerce and the requirement for physical businesses to keep up with the rate of changes in online commerce have been the key drivers of the O2O distribution channel development.

O2O e-commerce in the community has the following characteristics in comparison to other e-commerce platforms: (1) it has a certain regional identity; (2) it interacts more closely with consumers, who can use the platform to exchange information, and bring neighbors together, create value, and enhance community identity (Chen et al., 2009; Zhao et al., 2019). Even though it is similar to Business-to-business (B2B), Business-to-consumer (B2C), and Customer to customer (C2C) techniques, O2O supports the fusion of virtual and real stores that attract online shoppers to local and other offline retailers, setting it apart from other e-commerce methods. Local physical stores in an area can be advertised to and paid for online. Following the acquisition, offline businesses employ the products and services. Recent research suggests that customers' attitudes and behavior may alter systematically while choosing items and services online as compared to offline. The elements influencing customer behavior in e-commerce from the individual, website, and environmental dimensions were reviewed in a review paper by (Hwang et al., 2021), who also noted that several frameworks had been employed to investigate online consumer behavior. Alex Rampell, the CEO and founder of Trial Pay, first used the term in 2010 in a Tech Crunch article. Although the name "O2O" has its origin in the United States, it has primarily been utilized in Asia, particularly in China and Korea, where O2O firms are flourishing. In the United States and Europe, O2O is also frequently referred to as the "on-demand economy." O2O commerce can also be thought of as an improvement or expansion of conventional e-commerce (Xiao et al., 2019; Ji et al., 2018; Wu et al., 2015). O2O commerce and conventional e-commerce are distinct in several ways. O2O commerce is first and foremost location-based (Tsai et al., 2015), concentrating on regional retail and life service sectors including restaurants, lodging, and entertainment. Along with the actual transactions, O2O commerce frequently uses both online and offline channels (Huang et al., 2020; Lin et al., 2019). Additionally, consumers find it

more challenging to return items in O2O commerce than they do in traditional e-commerce (Xiao et al., 2019). Last but not least, there are more participants in O2O commerce, including customers, physical retailers, online platforms, and third-party service providers (Shen et al., 2019). The range of conventional e-commerce operations is expanded from online to offline commerce (Wang et al., 2021).

As reservations or purchases are made online via mobile internet and the actual product or service is delivered physically, users' assessments of the O2O distribution channel may be based on a combination of online and offline experiences. Although Moon (2016) examined the service quality attributes for an O2O service in terms of both online and offline distribution channels experience, no studies included any empirical testing.

2.2. Economic Value and Service Consistency as an Exogenous Variables

In the field of e-marketing and supply chain management, Chen et al. (2016) establish several game models to obtain the optimal economic value service and maximum profits in an O2O mixed distribution channel, which brings insights into managerial practice for supply chain members under different power structures. He et al. (2016) propose an agent-based competitive O2O model to optimize the joint economic value for service merchants, and they find that the optimal decision depends on customers' social networks. Long and Shi (2017) study the optimal economic value strategies for a tour operator and an online travel agency. They find that service level and unit sale commission have different influences on their pricing decisions and give some suggestions for developing cooperation contract in an O2O business model. Gu and Tayi (2017) examine optimal value of service and product placement strategies for an O2O retailer. Their analysis shows that, for two horizontally differentiated products, selling only one product through the dual channel and the other product through the online channel exclusively can generate greater profit than selling both products through the dual channel under certain market conditions. The above studies on economic value of service in O2O business model do not consider the consumer choice behavior. However, in some cases, the customer's choice may not only affect the both distribution channels of O2O retailers but also the manufacturers. Therefore, it is necessary to take consumer's choices as evidenced by their behavior into account. Service consistency is very much important in O2O commerce than offline commerce.

Service consistency means holding strong experience and applying them to every customer service interaction, whether it is online or offline. When customers find they receive the same high-quality service no matter which avenue the service is offered, the company will present itself

as the reliable choice they can always count on. Customers will never have to question whether they will have an issue regarding purchases, making them more confident when choosing your company rather than your competition. Customer relationships are amazingly fragile, especially since there are likely a number of competitors that will welcome them with open arms. It is much easier to lose a client due to poor relations than it is to earn their loyalty in the first place. That is why it is so important to make sure all clients have positive experiences, all the time. Customers would base their expectations on previous interactions, so it is necessary to make sure that their first experience is great, and that every subsequent encounter is just as good. DeLone and McLean (1992) suggested the original information systems success model as consisting of two primary inputs: "information quality" and "system quality". This model was further developed by incorporating "service consistence and quality" to apply the changes in the role and management of information systems and marketing (DeLone & McLean, 2003). Chen et al. (2019) modified this model to suit the O2O platform as "system service quality" and "service quality". According to Chen et al. (2019), "system service quality" means the degree to which an O2O business model platform can effectively improve the merchandise inquiries and efficiency of the purchase process, whereas "service quality" applies only to offline services conducted in physical stores.

2.3. Brand Identity Attractiveness as Antecedent Variable of O2O

According to a recent study, customer loyalty to mobile instant messaging (MIM) services, which are run by the same MIM service provider, is influenced by customer satisfaction with the O2O distribution channel (Hwang & Kim, 2018) Just a few studies have looked at its connections to O2O service quality variables. Information and communications technology (ICT) applications of loyalty theory include e-commerce (Gommans et al., 2001; Chu et al., 2012), and mobile instant messaging services (Deng et al., 2010). Other factors that make the O2O distribution channel appealing and motivating include time savings, simplicity of purchasing, the use of QR scanning code terminals, and third-party online payments. Goolsbee and Klenow (2018) assert that the booms in mobile Internet and smartphones have aided in the expansion of e-commerce.

An integrative definition of satisfaction states that it is "an emotional reaction to the discrepancy between what customers expect and what they receive, relating to the fulfillment of some requirement, aim, or desire" (Hansemark & Albinsson, 2004). Many multivariate models of loyalty have demonstrated its relationship results (Deng et al., 2010; Hallowell, 1996). Every customer uses the internet and many of them like to see, experience, and use a product or service before deciding to buy it; as a result, having a physical store to complement an online presence is helpful. This idea is supported by a PWC analysis that claims Chinese customer's value convenience and shopping experiences online-offline significantly more than consumers globally. The availability of enabling technology infrastructure is what fuels O2O motivation. O2O adoption is being driven by mobile payment and communication technologies. Customers' interest in O2O is positively impacted by improved online-offline integration capabilities, according to (Li et al., 2018). However, Chang, et al. (2018) observed that customer loyalty dimensions for online and offline mediums varied, therefore businesses must account for these variations when adopting O2O.

2.4. Brand Identity Attractiveness as Outcome Variable for O2O Distribution Channel

Numerous local businesses or retailers enter the O2O industry because of the tremendous potential output and profit (Zhang & Wang, 2021). The O2O distribution channel also offers consumers tremendous convenience. Among them, one of the most visible examples is the online to offline food delivery services (Talwar et al., 2021), which have been widely discussed, especially during the COVID-19 pandemic (Shah et al., 2021; Yang et al., 2021). Additionally, several traditional brick-and-mortar businesses are now offering home delivery services through O2O platforms as a result of the "stay-at-home order" strategy during the pandemic (He et al., 2016). Moreover, Chen et al. 2019claimed that by keeping an online presence, business owners may stay competitive in the shifting market and avoid are being cut off from significant advancements in e-Commerce because of the cheaper cost of online advertising.

Firms with established brand names may seek to expand their businesses to different industries or markets. One important strategy is a brand extension where firms anchor on strong and healthy brands to enter a new product or service category (Aaker & Keller, 1990). Instead of taking the risk of launching innovations from scratch, extensions promise greater profits and lower costs in promoting the new product (Taylor, 2006).

Consumers may consider the O2O distribution channel, like traditional e-commerce, as an innovative information technology service; therefore, the literature on technology use is important to understanding consumer behavior toward O2O services (Bhattacherjee, 2001). According to (Chen et al., 2019; Prassida et al., 2021), the TAM (Technical Acceptance Model) and service quality have received the greatest attention from previous models or constructs used to describe consumer behavior in the O2O distribution channel. The elements influencing customers' O2O behavior have, however, only been irregularly and sparsely theorized.

For instance, different O2O scenarios may not apply to the food choice incentives addressed in O2O food delivery (Wang & Scrimgeour, 2021). In addition, more information is required to show that the models and theories used in earlier e-commerce research are capable of explaining customer behavior Online to Offline.

2.5. Reputation and Reuse Intention as an Endogenous Variable

Research on O2O e-commerce consumer behavior intention is currently developing. It primarily focuses on the two following aspects; first, based on the study of O2O e-commerce consumer behavior under a single scenario, the sharing intent and repurchase intent of consumers in the O2O model must be investigated from the perspective of the relationship, followed by regression analysis to confirm the establishment of the trust relationship and the influence of platform commitment factors on consumer behavior (Xiao et al., 2019). The second step is to do research on O2O e-commerce consumer behavior from a particular theoretical angle. Hidden semi-Markov model-based reputation management system for the O2O distributions channel to estimate the performance us applied by Xiao and Dong (2015).

The concept of reputation has been studied by researchers in the subject of marketing, economics, and organizational theory. Economists analyse issues of reputation in relation with product quality and economic value (Shapiro, 1983; Wilson, 1985). Organizational researchers examine reputation as being a social identity and portray it as an important and intangible resource which may significantly contribute to an organization's performance, and even to its survival (Fombrun & Shanley, 1990; Hall, 1993; Rao, 1994). In this study, we consider reputation under the rubric of brand equity and associate it with the credibility of the firm (Herbig et al., 1994). Herbig and Milewicz (1993) define reputation as an estimation of the consistency over time of an attribute of an entity. A firm can have, therefore, numerous reputations -one for each attribute such as price, product quality, innovativeness, management quality -or a global reputation.

2.6. Research Hypotheses

The study is based on the five-measurement model with different indicators. The overall structure of the model is shown in figure 1. To estimate the impact of economic value and service consistency on brand identity attractiveness and performance, we are testing the following set of hypotheses:

H1: The economic value of the O2O distribution channel will have a positive (+) effect on brand identity attractiveness.

H2: The service consistency of the O2O distribution channel will have a positive (+) effect on brand identity attractiveness.

H3: The brand identity attractiveness of the O2O distribution channel will have a positive (+) effect on the reputation of the O2O service.

H4: The brand identity attractiveness of the O2O distribution channel will have a positive (+) effect on the intention to reuse the O2O service.

H5: The O2O service reputation will have a positive (+) effect on the intention to reuse the O2O distribution channel.

3. Research Methods and Materials

The O2O distribution channel highlights the integration of online and offline commerce, working together, taking advantage of both e-commerce and traditional retailing, and providing consumers with a customized physical experience. An O2O distribution channel has both a technological and economic nature. In this study, we are estimating the impact of economic value service/product and service consistency on the brand identity attractiveness, which affects the service reputation and reuse intention.

3.1. Study Model

In this study, we use the extension of a general linear model called the structural equation model (SEM) to determine the complex relationship between the groups of dependent variables with the group of independent variables. The different factors and stages are involved in the overall function of the O2O distribution channel, such as service quality, the economic value of the product, brand identity attractiveness, product information, customer satisfaction, revisit/reuse intention, and trust/loyalty.
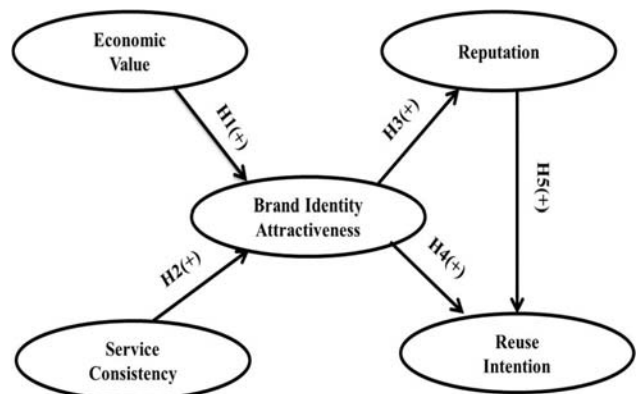

Figure 1: Study Model for the O2O distribution channel

In this study, we have five measurement models with different indicators to estimate the indicator reliability/validity of five latent variables, economic value, service consistency, brand identity attractiveness, reputation, and reuse intention of products and services in the O2O distribution channel. Overall, structural model is used to estimate the impact of economic value and service consistency on brand identity attractiveness and performance in the O2O distribution channel. The structure of the study model is shown in Figure 1.

3.2. Data Collection and Sampling

The study is based on the primary data collected by using the sample survey in South Korea with a sample of size 168 by using the formula $n = \dfrac{z_\alpha^2 * \hat{p}(1-\hat{p})}{\in^2}$, where confidence level (α)=93%, margin of error($\in = 7\%$) and population proportion have the knowledge of O2O marketing ($\hat{p}$) = 50% or 0.5. The $\hat{p}$ is estimated by using pilot survey, which is conducted in Incheon, South Korea having population size all most 3million. Non-probability sampling called quota sampling technique is used for the selection of sampling units. The study inclusion criteria are customers aged more than 19 years old and knowing using O2O e-commerce. The customers are purchasing and using services like 1) Receiving offline goods after ordering online (Coupang, Amazon, etc.), 2) Order offline store products online (Wal-Mart, E-Mart, etc.), 3) delivery, 4) Accommodation (Hotels.com, etc.), 5) Travel, Taxi, Car, 6) Housekeeping, 7) Service linkage, 8) Car sharing, Home sharing (Airbnb, etc.), 9) Carpool and Asset lease type (Bicycle rental and Fashion rental), etc. are included in the study.

3.3. Pilot Survey

A survey questionnaire was designed to capture all the measures mentioned in the study model. All of the items were recorded on a five-point Likert scale ranging from not at all "1" to very much so "5". To ensure the validity and reliability questionnaire, a pilot survey was conducted with 15 respondents. Based on the pilot survey results, comments and suggestions of respondents, the questionnaire was revised for clarity. An exploratory factor analysis was conducted with SPSS 20, according to the loadings on the corresponding factors; we deleted the items whose loadings were lower than 0.5 (Hair et al., 2006; Nunnally, 1978). Thus, the research scales were improved.

3.4. Formal Survey

The field survey was conducted in offline stores of O2O customers of products/services in South Korea. First, the questionnaire was posted on a professional survey website (www.sojump.com), and a QR code was created from the URL of the questionnaire. The QR code was printed on cards and display racks so that research assistants could present them at the entrances and counters of O2O customers. The O2O customers participating in this research included restaurants, hotels, shopping centers, furniture stores, tourist attractions, fashion stores, and electronic appliance stores, were representing more than 50 stores. Customers who entered the stores were invited to scan the QR code using their cell phones to fill in the questionnaire online. The first screening question was about knowledge and use of O2O commerce; those who had no knowledge or experience of O2O commerce were excluded. Then, the respondents would be asked about their last remembered use of O2O commerce. According to the O2O feature the responses use, the questionnaire was slightly varied automatically to adapt the response's usage settings of the O2O distribution channel.

3.5. Analysis Tools

In this study, we used the SPSS 26.0 statistical package for basic data statistics, reliability analysis, and exploratory factor analysis. The Structural Equation Model (SEM) was used for confirmatory factor analysis and hypothesis testing. The analysis using the structural equation model is in two stages. First, the measurement model was evaluated, and then the structural model was evaluated (Anderson & Gerbing, 1988).

4. Data Analysis and Results

The study is a questionnaire survey based with a sample of size 168. The frequency distributions of the demographic variables are shown in table 2 and reveal that 42.9% of male customers and 57.1% are female customers.

Table 2: Distribution of the demographic variables

Variables		Count.	%
Gender	Male	72	42.85
	Female	96	57.15
Age (in Years)	20-29	133	79.16
	30-39	8	4.76
	40-49	26	15.48
	40-59	1	0.60
	60 and above	0	0.00
Occupation	Student	83	49.40
	Office worker	67	39.88
	Self-employed	18	10.72
	Housewife	0	0.00
	Other	0	0.00

The results reveal that 79.16% of the age group of 20-29 years is using O2O distribution, from that 89.28% of students and office workers. It is observed that 42.3% of the customers use O2O service 2-5 times in a month, whereas 31% of using 6-10 times, and only 6% of the customer use O2O service more than 16 times in a month as reported in figure 2.
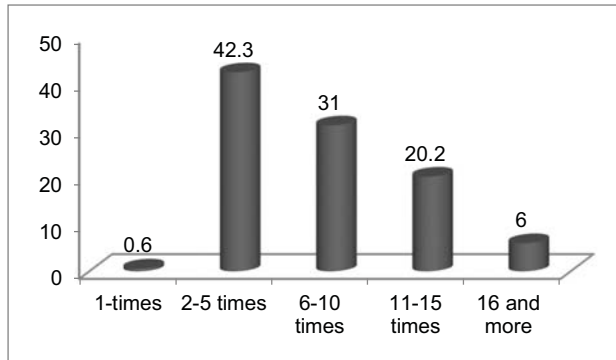

Figure 2: No. of times using O2O Service monthly

4.1. Factor Analysis

In this study, the extension of a general linear model called structural equation modeling (SEM) methodology is used to estimate the impact of O2O service economic value and Service consistency on brand Identity attractiveness which impacts the performance (Reputation and Reuse intention) of O2O products and services. The main step of SEM analysis is to evaluate the measurement model for estimating how well the items/indicators are loaded on the latent variables. The overall, structural model is based on the five measurement models with different indicator variables. The principal component analysis (PCA) is used to extract the information from measured variables by exploratory factor analysis (EFA) and the orthogonal rotation method is adopted to simplify the factor loading. As a result of the exploratory factors analysis, the item section criterion in this study was based on the Eigenvalue of unity or more and the factor load value of 0.70 or more.

The Meyer-Olkin (KMO) statistic measure is used to sample adequacy for both the overall variable and its factors/indicators (Kaiser, 1970; Cerny & Kaiser, 1977). The proportions of variance among the variables are caused by the underlying factors. The value of KMO is equal to 0.80 which indicates that the sampling is meritorious. KMO values for independent and dependent variables are 0.80, which indicates that factor analysis may be useful with data. Bartlett's test is used to examine the appropriateness of factor analysis. The approximate Chi-square value is 779.862 with 153 degrees of freedom, which is significant at $\alpha = 0.05$ level of significance. The commonality is the

proportions of each variable's variance that can be explained by the factors and shown in table 3, and the results suggested that the extracted factors explain more of the variance of an individual item. In table 4, Cronbach's alpha value of all the indicators/items is above 0.70, which means a reliable set of variables high consistently loads on the same factor. Where Cronbach's alpha value lies between 0.65-0.70 are considered the items are having good internal consistency. Whereas, a value less than 0.50 suggest that the items are having insignificant internal consistency.

Table 3 : Rotated Component Matrix with communality

Items	Factors					Communality
	1	2	3	4	5	
ECV1	0.500	0.393	0.133	0.270	0.176	0.526
ECV2	0.785	0.060	0.031	0.030	0.088	0.629
ECV3	0.787	0.131	0.075	0.056	0.166	0.673
ECV4	0.761	0.041	0.196	-0.008	0.085	0.626
ECV5	0.632	0.178	0.325	0.086	-0.173	0.574
SCO1	0.002	0.182	0.143	-0.019	0.753	0.577
SCO2	0.011	0.042	-0.110	0.726	0.006	0.541
SCO3	0.165	0.158	0.011	0.724	0.056	0.580
BIA1	0.068	0.153	0.143	-0.019	0.753	0.616
BIA2	0.148	0.069	0.028	0.113	0.723	0.563
REP1	0.145	0.309	0.581	-0.131	-0.028	0.472
REP2	0.245	0.152	0.588	0.019	-0.250	0.492
REP3	0.099	0.061	0.774	0.076	0.223	0.668
REP4	0.110	0.064	0.729	0.047	0.213	0.596
PUI1	0.155	0.770	-0.011	0.035	0.129	0.635
PUI2	0.129	0.746	-0.008	0.108	0.105	0.596
PUI3	0.184	0.714	0.157	0.188	-0.098	0.612
PUI4	0.057	0.645	0.273	0.167	0.125	0.538

4.2. Reliability and Validity

The reliability and validity of the measurement models were tested by using the maximum likelihood estimate (MLE) approach. The CR and Cronbach's alpha are applied to test the scale reliability of the reflective constructs and the results suggested in table 3 and 4, all the values of the CR of the factors are greater than 0.65, with Cronbach's alpha value greater than 0.65 except the latent variable brand identity attractiveness (CR less than 0.40 and Cronbach's alpha is less than 0.50) the reliability of the scales is acceptable. The rotated component matrix (RCM) with communality and Cronbach-α value are reported in table 4. Cronbach alpha values, which ranged from 0.66 to 0.92, exceeded the acceptable threshold of 0.65 recommended by (Vaske et al., 2017), indicating that internal consistency was obtained. Convergent validity was assessed using the guidelines provided by Anderson and Gerbing (1988) and Steenkamp and van Trijp (1991).

Table 4: Results of indicator loading and reliability

	Loadings	S.E.	C.R.	α	P-value
ECV₁←ECV	1.000			0.781	
ECV₂←ECV	1.114	0.169	6.582	0.753	****
ECV₃←ECV	1.232	0.175	7.032	0.737	****
ECV₄←ECV	1.040	0.153	6.796	0.748	****
ECV₅←ECV	0.974	0.155	6.277	0.772	****
SCO₁←SCO	1.000			0.477	
SCO₃←SCO	1.224	0.329	3.719	0.509	****
BIA₁←BIA	1.000			0.311	
BIA₂←BIA	0.832	0.294	2.834	0.311	****
PUI₁←PUI	1.000			0.691	
PUI₂←PUI	0.826	0.122	6.777	0.687	****
PUI₃←PUI	0.920	0.133	6.925	0.680	****
PUI₄←PUI	0.762	0.123	6.196	0.722	****
REP₂←REP	1.000			0.628	
REP₃←REP	1.016	0.229	4.440	0.625	****
REP₄←REP	1.466	0.280	5.231	0.568	****
REP₅←REP	1.225	0.249	4.928	0.610	****

The validity through average variance extracted (AVE) and a comparison of the square roots of AVEs and correlations of constructs. It is observed from the analysis reported in Table 4; all the AVEs are greater than the correlation value. According to Fornell and Larcker (1981), discriminant validity is confirmed when the square root of each construct's AVE has a greater value than correlations between the construct and other latent constructs. As shown in Table 4, all the constructs met the criterion. As indicated in Table 4, all the AVEs are greater than 0.5, demonstrating reasonable convergent validity; the values on the diagonal are greater than the corresponding inter-correlation coefficients of the constructs, indicating that the discriminative validity is also acceptable (Fornell & Larcker, 1981).

Table 5: correlation, discriminant validity Cronbach-α

	ECV	SCO	BIA	REP	PUI	α
ECV	1.076					**0.797**
SCO	0.329	1.118				**0.605**
BIA	0.400	0.290	**0.920**			**0.463**
REP	0.511	0.214	0.401	**0.882**		**0.673**
PUI	0.475	0.492	0.376	0.390	1.192	**0.753**

4.3. Hypothesis Testing

The adequate fit criteria for the above model are getting satisfied for all the indices studied under the model. The criteria were used to examine the goodness-of-fit of the model with the given dataset: Pearson's chi-squared test (CMIN/DF and p-value), goodness-of-fit index (GFI), root mean square error of approximation (RMSEA), incremental fit index (IFI), NFI and RFI. The model fit indices were as follows: CMIN/DF = 1.3823, p-value = 0.005 CFI = 0.905, RMSEA = 0.048, IFI = 0.937, RFI = 0.757 and NFI =0.805. The value of χ^2/df a measure of model fit is between 1.0 and 3.0 for an acceptable fit. It has been suggested that RMSEA values less than 0.05 are good, and values between 0.05 and 0.08 are acceptable. Therefore, the RMSEA value of 0.054 in this model indicates an acceptable fit. The CFI value of this model, 0.960, is over 0.9, and the IFI (0.960) and NFI (0.940) are over 0.9. The CFI, IFI and NFI should be equal to or greater than 0.9 for a good fit. According to these model fit indices, this model is acceptable.
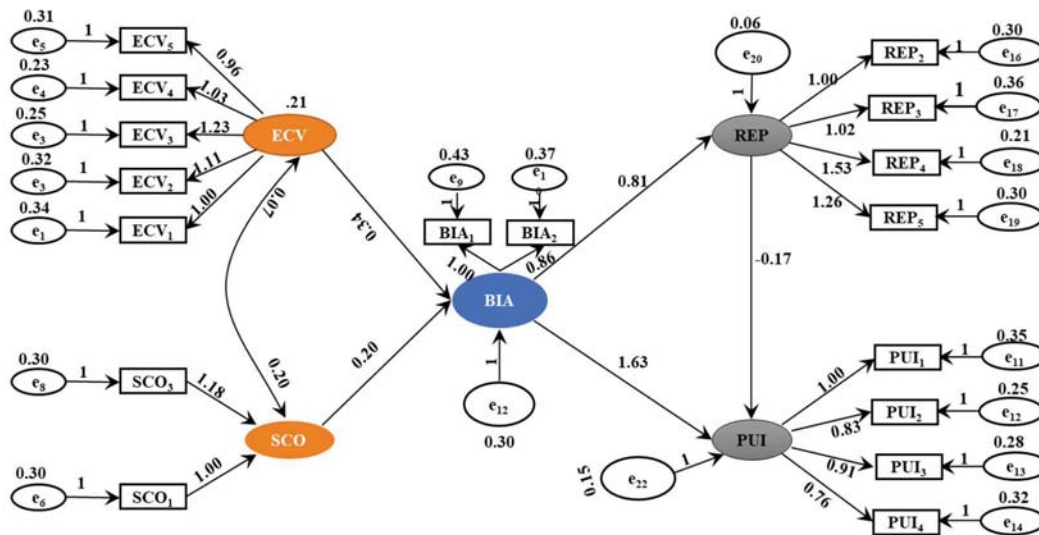
Figure 3: Structure of study model and results

The hypothesis formulated in this study model for the Impact of O2O service economic value and service consistency on brand identity attractiveness and performance is shown in figure 3. The CR statistics of the study model show that it could explain 2.544 of the CR with 0.7 covariance estimate in O2O service economic value with O2O service consistency, 2.694 of CR with 0.74 covariance estimate in O2O service economic value with brand identity attractiveness, CR = 1.840 with an estimate of covariance 0.053 in O2O service consistency with brand identity attractiveness, CR =2.548; covariance estimate =0.085 in case of O2O service reputation with brand identity attractiveness and CR =2.493; covariance estimate =0.056 with O2O service reuse intention and brand identity attractiveness. Five hypotheses were tested and one of the hypotheses was found unsupported by this data. Figure 3 and Table 6 summarize all the results of testing hypotheses of the study model.

Table 4: Hypothesis testing results

	Hypothesis	Estimate	S.E.	C.R	Sig.	Remarks
H_1	ECV → BIA	0.074	0.028	2.694	0.007	Supported
H_2	SCO →BIA	0.053	0.029	1.840	0.066	Unsupported
H_3	BIA →REP	0.085	0.033	2.548	0.011	Supported
H_4	BIA →PUI	0.056	0.022	2.493	0.013	Supported
H_5	REP→ PUI	0.072	0.024	3.039	0.002	Supported

$\chi^2 = 150.678$, df = 109, P =0.005, RMESA =0.048, IFI =0.757, RFI =0.757, NFI =0.805, PNFI =0.645

The results of table 6 on the study model showing a positive significant impact of O2O service economic value on brand identity attractiveness with a path coefficient is 0.074, CR= 2.694 (P-value = 0.007< 0.05). Therefore, H1 is supported, thus there is a positive impact of the economic value of O2O services on brand identity attractiveness. From the perspective of the impact of O2O service consistency on O2O brand identity attractiveness, the path value is 0.053, CR= 1.840 with p-value = 0.066 > 0.05, which is insignificant. Thus the results show that there is a positive impact of impact O2O service consistency on O2O brand identity attractiveness, but insignificant. Therefore, hypothesis H2 is not supported in the data. The path coefficient regarding the influence of brand identity attractiveness O2O service on the reputation of O2O services is 0.085, CR = 2.548 with a significant p-value = 0.01. Thus, H3: The brand identity attractiveness of the O2O service will have a positive significant effect on the reputation of the O2O distribution channel is supported well in the data. As for the impact of brand identity attractiveness O2O service and the O2O distribution channel reputation on the intention to reuse the O2O service, path values are 0.056 & 0.072, CR =2.493 & 3.3039 with p-values = 0013 & 0.002 as shown in table 6. The result shows that there is a positive

impact of brand identity attractiveness of O2O service and O2O service reputation on the intention to reuse the O2O service. Therefore, H4 and H5 also supported well in the data set. The hypothesis test results are summarized in Table 6.

5. Discussion and Implication

With the rapid development mobile industry in the field of information and communication technology, the O2O distribution channel has expanded its business widely for domestic market transition. Under the consideration of the unique feature of the O2O distribution channel, the current study examined the impact of O2O service economic value and service consistency on brand identity attractiveness and performance by using the structural equation modeling technique. In the overall structure of the model, we have five measurement models. The measurement model with indicators; (1) Through the O2O distribution channel, it is possible to purchase the service (product) at a lower price than the general price, (2) Financial savings are possible by using the O2O distribution channel, (3) The O2O service shows reasonable prices compared to the service quality or product quality provided, (4) Low cost (price) is an important consideration when using the O2O distribution channel and (5) The fact that the O2O service is economical (ECV) could be used to estimate the O2O service economic value. The estimate of indicator loading, composite reliability (C.R.) and P-value are reported in table 2. The results of the analysis show that all the items/indicators are having significant loading with the ECV.

In the measurement model second, the two significant indicators/items; O2O service provides the service quality I expected having an estimate with factor loading value (1.00), and I get the service I want through the O2O service (1.224) are used to estimate the O2O service consistency. Brand identity attractiveness (BIA) was estimated by use of two significant indicators: I like the meaning reminiscent of the O2O service brand I use with factor loading (1.00) and the image of the O2O service brand I use is attractive (0.832). Finally, the performance of the O2O services is used the two latent variables O2O service reputation (PUI) and reuse intention (REP), which are the endogenous variable in the structural model. The significant indicators like; (1) the O2O service has a better reputation than other existing services; (2) I think the O2O service is good at keeping promises with customers; (3) O2O services have the potential for continuous growth; and (4) the O2O service has a distinct goal are used as to estimate the reputation (REP) of the O2O distribution channel. Where the indicators like (1) I will continue to use the O2O service, (2) I will use the O2O service before other alternatives, (3) I am willing to use the

O2O service when there is a necessary service (product), and (4) I will continue to use it at the current frequency are used to estimating the value of another endogenous variable reuse intention (PUI) in the structural model. The indicator loading, convergent validity and p-value of every indicator variable of exogenous and endogenous are summarized in Tables 5 and 6.

The results of the hypothesis testing of O2O service economic value on brand identity attractiveness have a significant positive impact and are very important to improve the brand identity attractiveness as compared to service consistency. Brand identity attractiveness is the bridge between the virtual and real world, which determines the extent of the information integration between online and offline operations. O2O service economic value also provides boundless rage. Regarding the O2O service brand identity of using O2O is shown to have a significant impact on both O2O service reputation and reuse intention of O2O service. The O2O service reputation has also a direct impact influence on the reuse intention of O2O service.

The study contributes to the existing literature in five different measurement models. First, the study clarifies which O2O service has economic value and how this value describes the brand identity attractiveness in the O2O service. The study also clarifies the performance of O2O service is related to two factors, O2O service reputation and reuse intention of O2O service, both factors are directly affected by the brand identity attractiveness in the O2O service and indirectly affected by the O2O service economic value. The findings also provide some practical insights for businesses and managers. To a large extent, the success of O2O commerce depends on O2O service value and brand information. Therefore, to prompt consumer use of O2O, merchants should introduce some technological innovations for the economic value of the service and brand information (e.g., artificial intelligence capabilities on less cast) into their operations from both online and offline sides.

6. Conclusion

The object of this study was to examine the link between O2O distribution channel economic value, O2O distribution channel consistency, and brand identity attractiveness with the O2O distribution channel performance (O2O service reputation and reuse intention of O2O service). The O2O service economic value is an important aspect of the attractive image of the O2O service brand identity. Thus O2O distribution channel economic values have a direct positive and significant impact on service brand identity attractiveness. Therefore, product purchases through the O2O distribution channel should have an economic price rather than the general price. This implies that cost (price) is

an important consideration when the consumer uses the O2O distribution channel. On the other side, the service brand identity attractiveness is important for the bright future of O2O services, continuous growth, achieving a distinct goal, keeping good promises with customers, and a better reputation of the O2O distribution channel. The O2O distribution channel brand and attractive O2O distribution channel brand image also have a positive impact on the use of the O2O distribution channel again and again. Finally, the bright future of the O2O distribution channel, continuous growth, achieving a distinct goal, and keeping good promises with customers are attracting customers for the reuse of the O2O distribution channel.

6.1. Limitations and Recommendations

This study has some limitations that should be addressed by future research. First, a major limitation is that the sample used was recruited only from customers using the O2O distribution channel in South Korea. Therefore, the comparison between the uses of O2O with distribution channel would be the interesting for the future research in the marketing and economics field. In this study, we found that the economic value of the O2O distribution channel is important for the brand image and attractiveness as compared to the O2O distribution channel consistency which does not apply to the other data set. Apart from the structural equation modeling used to find the impact of the O2O distribution channel economic value and service consistency on brand identity attractiveness and performance, the other technique may be having more discriminate power than SEM. Finally, future research should explicate the customer decision processes by which alternative forms of customer satisfaction, available service information and loyalty are formed and maintained both online and offline.

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