The Effect of ChatGPT Factors & Innovativeness on Switching Intention : Using Theory of Reasoned Action (TRA)

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Abstract

Purpose: This study examined the relationship between the factors (Credibility, Usability) and user Innovativeness of the ChatGPT on TRA (Theory of Reasoned Action; Subjective Norm, Attitude) and Switching Intention. TRA and Innovation Diffusion Theory (IDT) were used. **Research design, data and methodology:** From April 26 to 27, 2023, an online panel survey agency was commissioned to conduct a survey of GhatGPT users in their 20s and 40s in Korea, and a total of 210 people were used for the final analysis. Verification of the research model was performed using SPSS and AMOS. **Results:** First, ChatGPT factors (Credibility, Usability) were found to have positive effects on TRA (Subjective Norm, Attitude). Second, ChatGPT user Innovativeness was found to have a positive effect on TRA (Subjective Norm, Attitude). Third, ChatGPT users' TRA (Subjective Norm, Attitude) were found to have positive effects on Switching Intention. **Conclusions:** These results mean that the superior Usability and Credibility of ChatGPT and the Innovativeness of users have a significant effect on the Switching Intention from existing Portal Service (Naver, Google, Daum, etc.) to ChatGPT. Generative AI such as ChatGPT should strive to develop various services such as improving the convenience of functions so that innovative users can use them easily and conveniently in order to provide services that meet expectations.

Keywords : Retail Industry, Online Platform, ChatGPT, Innovativeness, Switching Intention

JEL Classification Code : L17, L81, L86, M31

1. Introduction

Along with the development of artificial intelligence (AI) technology, the introduction of new services that combine AI is being promoted in the retail and distribution industry. The retail and distribution industry needs to pursue maximization of productivity and efficiency through data analysis using AI technology because of the nature of a large amount of data being generated every day. Due to these characteristics, various types of AI-based platforms have been developed and utilized (Gesing et al., 2018; Shin et al., 2019). In general, among AI technologies, Chatbot are widely used in retail and distribution industry, centering on Service and e-Commerce (Brandtzaeg & Følstad, 2018). ChatGPT is in the limelight as a new chatbot service.

ChatGPT is based on GPT-3.5, a modified version of GPT-3 announced by OpenAI in 2020 (Ray, 2023). Anyone can use ChatGPT for free and easily, and with its powerful

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performance compared to existing Artificial Intelligence (AI) services, it has attracted explosive interest, exceeding 1 million users within 5 days of starting the service and exceeding 100 million users within 2 months (Zhang, 2023). And users who want faster response times and improved access can purchase a paid subscription called ChatGPT Plus (Murugesan & Cherukuri, 2023; Yu, 2023). Now, innovative AI technologies such as ChatGPT, designed to generate sophisticated text indistinguishable from human-generated text, can be applied in a variety of contexts (Dwivedi et al., 2023).

Platform include Online marketplace, App store, Search service, and Social media (Gawer, 2021). Search service play an important role in Internet marketing and commerce. Search is the center of Portal Service strategy (Green, 2003). In Korea, there are Naver, Google, and Daum search services that occupy a large market share (Kwon, 2022). As the size of the web exploded, search services became faster and more accurate (Heaven, 2022). We have been dependent on search services like Google for decades (Hill-Yardin et al., 2023).

Using GPT is no more difficult than retrieving information through a search service (Floridi & Chiriatti, 2020). It should be noted how the existing search service, which only collects and posts information, differs from the new type of search service (Heaven, 2022). This new technology has the potential to transform the search service landscape by providing an interactive, intuitive and personalized search approach (Liu et al., 2023).

Incumbent business firms are at risk when platforms evolve rapidly and gain large market shares (Kovalenko et al., 2020). ChatGPT will be a potential threat to Google, an existing search service (Hoppner & Streatfeild, 2023). This is because platforms have a huge impact on individual users and businesses, reshaping the relationship between customers, advertisers, workers and employers (Gawer & Srnicek, 2021).

Technical research on AI in relation to ChatGPT is rapidly increasing. On the other hand, there are not many empirical studies on the factors influencing consumer behavior so far. Although ChatGPT has a short commercialization period, it is different from expressing various concerns. Numerous generative AIs have already been released, but since ChatGPT, which interacts and provides responses based on chat, is currently receiving the most attention, this study focused on the SI to ChatGPT for existing portal service users. In the current situation where competition for innovative technology development with AI is intensifying, exploring the factors that ChatGPT affects consumer behavior will broaden the academic scope of AI and retail industry (Online Platform, etc.) research from the consumer behavior perspective. It is also judged to have practical implications.

For example, operators will be able to identify who is active in switching services and who is not, so they can implement various strategies to target or keep these users.

This study aims to empirically explain the customer's Switching Intention (SI) to GhatGPT (Chat Generative Pre-trained Transfomer) at the Platform service point of view. Specifically, using the Theory of Reasoned Action (TRA) and and Innovation Diffusion Theory (IDT), we closely study the factors that can affect the Switching Intention to ChatGPT targeting Search Portal Service (Naver, Google, Daum, etc.) users among Online Platform.

Using TRA, to study the influence relationship that ChatGPT Factors (Credibility, Usability) and personal characteristics (Innovativeness) can have on the SI from existing Search Portal Service to ChatGPT through factors such as Subjective Norm (SN) and Attitude will be.

The contents of this study are as follows. Step 1, to identify the theoretical background, prior studies on ChatGPT, service factors (Credibility, Usability), personal characteristics (Innovativeness), Theory of Reasoned Action (TRA), and Switching Intention (SI) are identified. Step 2, a research model is presented, and research hypotheses are derived. Step 3 describes the research method, research content, and analyzed research results. Step 4 describes the conclusions and implications of the research results and the need for follow-up research.

2. Literature Review

2.1. Theory of Reasoned Action (TRA)

Theory of Reasoned Action (TRA) is a theoretical framework for predicting consumers' actual behavior, and is composed of attitude toward behavior, subjective norms, and behavioral intention (Ajzen & Madden, 1986). TRA proposed by Fishbein and Ajzen (1975) to explain human behavior has been widely used in research on technology acceptance in the field of information and communication technology and has become a theoretical foundation for research on technology acceptance. According to the TRA, actual behavior is directly affected by behavioral intention, and behavioral intention are determined by individual attitude and subjective beliefs (Ajzen & Fishbein, 1980; Davis, 1989; Fishbein & Ajzen, 1975).

Subjective Norm (SN) is a variable related to social factors and refers to the extent to which the thoughts and opinions of people around you affect products and services that are new alternatives (Ajzen, 1991). This has been studied as a key variable that determines technology acceptance as well as a variable that significantly affects the behavior of voluntarily choosing and converting to a new alternative (Bansal et al., 2005; Hou et al., 2011; Sun et al.,

2017). It was said that the positive thoughts and opinions of people around the new alternative can have a positive effect on the behavioral will to switch to the new alternative (Wu et al., 2017). Sun et al. (2017) revealed that SN can have a positive effect on service Switching. Accordingly, this study defines SN as 'the extent to which the opinions of people around and social influence on new alternatives'.

Attitude is a learned psychological tendency to express the overall evaluation of a product or brand, or a specific entity such as price, design, origin, etc. am. And it is a learned predisposition to respond favorably or unfavorably to a certain object consistently (Fishbein & Ajzen, 1975). In addition, Attitude are formed through the process of evaluating whether an individual believes a certain event or idea through education or experience and whether the event or idea is an acceptable category (Ajzen & Fishbein, 1980; Taylor & Todd, 1995). Eagly and Chaiken (1993) defined beliefs formed as the sum of evaluations of an object formed through memory and an individual's evaluation of liking or disliking toward an object and was defined as an expression of belief.

Mun and Cho (2017) said that Behavioral Intention in the relationship between consumers and companies are largely classified into two types: favorable Behavioral Intention and Unfavorable Behavior. In this study, based on previous studies, the Behavioral Intention was composed of the Switching Intention and the research was conducted.

2.2. ChatGPT

Among AI technologies, Chatbot are widely used in retail and distribution industry, centering on Service and e-Commerce (Brandtzaeg & Følstad, 2018). ChatGPT is in the limelight as a new chatbot service. ChatGPT is a generative AI Chatbot developed by OpenAI, and GPT is short for Generative Pre-trained Transformer (Zhang, 2023; Borji, 2023; Ventayen, 2023). Based on a large amount of natural language processing data, it is an AI technology that pre-trains by applying a Transformer algorithm and generates new contents like existing contents based on this (Ray, 2023). Here, GPT is an AI tool that generates human-like text, allowing users to interact with the AI as if they were talking to someone else. People use GPT by entering prompts (text instructions in the form of questions or commands). GPT can be used like a search service (Haupt & Marks, 2023).

ChatGPT is the future of search service optimization. ChatGPT is a new chatbot from AI company OpenAI and has grown aggressively since its launch in late 2022 (Cutler, 2023). ChatGPT has been expanding to an extent incomparable to other big tech services, with more than 1 million subscribers within 5 days of starting the service. Considering that Facebook took 10 months and Apple

iPhone took 74 days, it must be an innovative service (Milmo, 2023). The launch of ChatGPT sparked a global development frenzy, with companies in the technology and internet sectors as well as physical and traditional enterprises all joining the ranks of developing various application products based on ChatGPT (Yu, 2023).

ChatGPT presents information back to the querying user in a clear and understandable structure. This skill can be used for a variety of purposes, including writing code, writing business propositions, writing stories, and answering complex questions (Cutler, 2023). Compared to existing search engines and intelligent chatbots that provide mechanical answers only by keyword search, ChatGPT breaks free from the limitations of traditional indexing, searching, and sorting models by accurately understanding the meaning and intent of questions (Deng & Lin, 2023).

Above all, the biggest difference that ChatGPT has compared to existing search services is contents creation. Based on GPT-3.5, a Large Language Model (LLM), ChatGPT can write various genres and types of writing such as novels, articles, dialogues, essays, blogs, and contracts by entering the conditions of the contents to be created. In addition, it supports the creation and review of programming codes such as Python, consulting, travel planning, and evaluation item creation (Dowling & Lucey, 2023; Patel & Lam, 2023; Thorp, 2023; Van Dis et al., 2023). ChatGPT's wide range of use cases and its potential to improve user productivity in almost every industry inspire new users when it comes to this cutting-edge AI application (Xames & Shefa, 2023). Services such as Chat GPT demonstrate the ability to think and answer questions like humans, demonstrating creative abilities previously unavailable to AI, making a qualitative leap from quantitative change (Kosinski, 2023).

ChatGPT is attracting attention among web users because it has the potential to become a next-generation search service replacing Google (Singh & Singh, 2023). The next-generation AI represented by ChatGPT is leading the innovative development of intelligent technology to a new historical stage. This technology will not only have a profound impact on the way society produces, lives and communicates, but will also fundamentally reshape society and humanity (Hill-Yardin et al., 2023). Over the past 20 years, people have turned to search engines for information, news articles, images, videos, and answers to everyday, complex questions. These technological advances through chatbots represent important shifts, particularly regarding the way we think about web searches. In fact, Microsoft's decision to invest in ChatGPT and include it in the search engine Bing has already caused waves in the search service ecosystem (Cutler, 2023). Microsoft replaced the existing technology by integrating ChatGPT into Bing. Through the combination of ChatGPT and Bing, Microsoft is redefining

search services (Wang et al., 2023). The development of ChatGPT technology will completely overturn human lifestyles, providing unprecedented digital experiences and enriching people's lives (Yu, 2023).

2.2.1. Credibility

Credibility means believability. In other words, a credible person refers to a believable person, and credible information refers to believable information (Tseng & Fogg, 1999). Credibility of information is an important issue in the world of interactive information systems where people post and share information through various web-based services such as websites, blogs, and SNS (Social Networking Sites) (Choi & Stvilia, 2015). Credibility refers to the degree to which information and functions of the system can be trusted when using the system (Seo, 2013). Credibility is not an inherent characteristic of a source, but a user's own judgment (Choi & Stvilia, 2015). Thus, one factor that affects Credibility is what motivates individuals to visit the site (Johnson & Kaye, 2009).

The evaluation of user's Credibility mainly appears as website properties (design, contents, complexity, etc.) rather than familiarity with websites (Flanagin & Metzger, 2007). ChatGPT can respond in a variety of styles and languages. If you didn't know there was an AI behind it, it could easily be mistaken for a chat with a real human (Wang et al., 2023). These interactive services have the characteristics of having a significant impact on customer trust, satisfaction, repurchase, and word-of-mouth intention through interactive communication (Mero, 2018). Johnson and Kaye (2004) argued that Credibility is the main factor in the continuous development of websites, and that Credibility in information increases as the quality and reputation of websites are perceived highly. The purpose of ChatGPT is to interact through a conversation involving a series of questions from the user and responses from the app (Rospigliosi, 2023). With the exponential growth of algorithms, establishing a relationship of trust between humans and AI becomes increasingly important. Algorithmic systems such as Chatbot play an important role in evaluating users' trust in algorithms. Unless the user believes that the Chatbot's information can be trusted, they are unlikely to act as suggested (Shin, 2022).

2.2.2. Usability

Venkatesh (1996) defined usability as the degree to which users can use the system comfortably, and information systems that are easy to use have a higher rate of being used by users than systems that do not (Davis, 1989; Segars & Grover, 1993; Venkatesh, 2000). In addition, usability can be defined as 'the ability of a software product to be understood, learned, used, and attractive to users when used under specified conditions' (Abran et al., 2003).

Usability is one of the important factors to consider in a product or service designed to provide a good user experience and refers to the degree to which a user can complete a specific task while using a service (Albert & Tullis, 2022). Rogers (1995) pointed out that the faster a user learns how to use a product, the faster the new product is accepted in the market.

Usability is also referred to as 'ease-of-use' because it is related to convenience. To increase usability, only the minimum possible steps are required to achieve what you want. As a result, it can be used without looking at the written instructions, and contradictions should not be discovered while using it. In addition, usability is ergonomic to the user along with the service factor in use and makes it possible to communicate with the product. On the other hand, usability can be treated as an element that can most sensitively feel satisfaction when using the web. The contents can be searching convenience, consistency, attention, menu organization, process organization, movement convenience, and search function convenience (Kim & Jeong, 2016).

2.3. Innovativeness

Previous studies, including the study by Rogers (1995), explained the growth in demand for new products and proposed the Diffusion of Innovation theory, which states that there is a certain pattern in the phenomenon of people accepting new technologies from the viewpoint of the recipients of technological innovation. Innovativeness is a personal characteristic of how easily and quickly a product is accepted before other consumers. People with high innovativeness also explore innovative products and ideas or show an active and positive attitude toward perceived risks. Therefore, people with high innovativeness have a strong positive desire to prioritize new experiences and adoption of new products, and these characteristics affect consumption behavior (Rogers, 2003).

The adopters of new technology are divided into 5 types according to the time of acceptance of the innovation, that is, when the technology is accepted, and through the method of classifying the types according to the time of acceptance, it is possible to more easily and accurately understand the target customer group that may change over time. described (Rogers, 1995). Twum et al. (2022) found that individual innovativeness has a significant impact on e-learning platform adoption. Sitar-Taut and Mican (2021) found that individual innovativeness plays an important role in adopting mobile learning during social distancing. In addition, individual innovativeness is related to the level of students' willingness to embrace innovative technological tools such as ChatGPT and their ability to acquire and master new technologies and influences behavioral intention (Strzelecki, 2023).

2.4. Switching Intention (SI)

First, Intention is an intermediate variable between an individual's attitude and behavior that leads to future behavior and refers to the individual's subjective state (Fishbein & Ajzen, 1975). Switching Intention is the intention of a consumer to move to another alternative due to dissatisfaction with the product or service they are currently using. Switching is the opposite of maintenance in terms of changing products and services currently in use (Jones et al., 2002). Frederick et al. (2001) analyzed that customer Switching Behavior is related to business continuity, which not only attracts new customers but also causes customers to be lost to other companies. Lattin and McAlister (1985) said that since products can satisfy only a part of the diverse needs of customers, product Switching Behavior can appear as a complementary concept to satisfy the rest. In this sense, the Switching Intention is the opposite of the Continuous Use Intention.

Keaveney (1995) suggested eight factors for customers to switch suppliers in the service industry: price, inconvenience, core service failure, service contact failure, response to service failure, ethical issues, competition, and involuntary switching.

3. Methodology

3.1. Research Model

Regarding factors affecting the Switching Intention to GhatGPT, the research model of the hypotheses established in this study is as follows (see Figure 1). TRA and Innovation Diffusion Theory (IDT) were used.
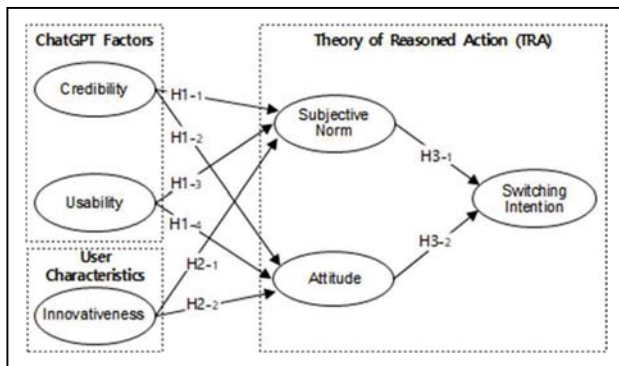

Figure 1: Research Model

3.2. Research Hypotheses

ChatGPT is generating considerable debate about whether it can replace search services like Google (Rachini,

2022). These changes will influence consumers' decision-making for new behaviors. Already, in a study on the intention to use a chatbot using TRA, a significant effect of subjective norm and attitude on the intention to use was confirmed (Huang & Kao, 2021).

In this study, TRA was used to identify factors influencing Switching Intention for users who had experience using ChatGPT, a generative AI, in existing search services (Naver, Google, Daum, etc.). Credibility motivates individuals to visit a site (Johnson & Kaye, 2009). The purpose of ChatGPT is to interact through conversation (Rospigliosi, 2023). Therefore, the Credibility of ChatGPT is a very important issue. Credibility is a factor that enables developers to make user decisions. In this study, Credibility was defined as 'Credibility level of information provided by ChatGPT', and the contents of the Credibility questionnaire were set to the level of credibility in information, accuracy of explanation, and believability in service results.

The faster the user learns how to use it, the faster the new product is accepted in the market (Rogers, 1995). ChatGPT has more than 1 million subscribers within 5 days of service launch (Milmo, 2023). Usability is the most sensitive element to feel satisfaction when using the web (Kim & Jeong, 2016). In this study, Usability was defined as 'the level of feeling comfortable using ChatGPT functions', and the usability questionnaire was set to the convenience of response function, convenience of support function, and overall convenience. As follows, H1 examines the effect of ChatGPT factors on TRA.

H1: The ChatGPT Factors have a significant positive (+) effect on TRA.
H1-1: ChatGPT's Credibility has a significant positive (+) effect on Subjective Norm.
H1-2: ChatGPT's Credibility has a significant positive (+) effect on Attitude.
H1-3: ChatGPT's Usability has a significant positive (+) effect on Subjective Norm.
H1-4: ChatGPT's Usability has a significant positive (+) effect on Attitude.

Innovativeness differs from person to person, and the degree of individual innovation affects the acceptance of products and services (Hirschman, 1980). It can be expected that consumers with high innovativeness will have a high intention to accept new technologies (Agarwa & Prasad, 1998). Therefore, as it is expected that an individual's will to use ChatGPT will have a positive effect on Switching Intention, this study predicted that individual Innovativeness related to ChatGPT has a positive effect on Switching Intention. In this study, innovativeness was defined as 'the level of willingness to use ChatGPT voluntarily' and the contents of the questionnaire about

innovativeness were set to the degree of activeness of use, enjoyment of use, and interest in use.

H2: The User Characteristics have a significant positive (+) effect TRA.
H2-1: User's Innovativeness has a significant positive (+) effect on Subjective Norm.
H2-2: User's Innovativeness has a significant positive (+) effect on Attitude.

Once the consumer's Switching Intention is identified, the company can form a lasting relationship with the consumer through activities such as marketing and service improvement or use it as an element that induces other service user's switching. Therefore, research on the Switching Intention to GhatGPT, a new service, is also important in practice. This study focuses on the Switching Intention, which is the Behavioral Intention of negative customers, as a variable that can determine switching to ChatGPT. This study defined Switching Intention as 'the will to replace the currently used Search service with ChatGPT'. And the contents of the questionnaire regarding Switching Intention were set to the degree of consideration of switching, switching to ChatGPT, and willingness to switching.

H3: The ChatGPT user's TRA Factors have a significant positive (+) effect TRA.
H3-1: ChatGPT user's Subjective Norm has a significant positive (+) effect on Switching Intention.
H3-2: ChatGPT user's Attitude has a significant positive (+) effect on Switching Intention.

3.3. Research Design

In this study, the questionnaire was divided into 4 concepts to verify the hypotheses established. First, ChatGPT factors consisted of two factors: Credibility (3 indicators) and Usability (3 indicators), and Innovativeness (3 indicators) was composed of one factor of personal characteristics. TRA consisted of Subjective Norm (3 indicators) and Attitude (3 indicators) as factors.

In addition, based on the preceding studies, the consumer's behavioral intention was configured as a single dimension of 'Switching Intention' (3 indicators), a variable that can determine the Switching of existing Portal Service users to ChatGPT. As above, a total of 6 multi-item measurement concepts were set and used, and the measurement tool of this study consisted of a total of 18 indicators. Each item in this study was measured on a 5-point Likert scale of '1 = not at all' and '5 = very much so'. In addition, 3 items related to the experience of using ChatGPT were composed, and demographic characteristics were composed of 5 items.

3.4. Sampling and Data Collection

This study conducted a survey using TRA to verify the effects of ChatGPT factors (Credibility, Usability) and personal characteristics (Innovativeness) on consumers' Subjective Norm, Attitude and Switching Intention.

From April 26 to 27, 2023, an online panel survey agency was commissioned to conduct a survey of GhatGPT users in their 20s and 40s in Korea, and a total of 210 people were used for the final analysis. And the collected sample data were subjected to empirical analysis with SPSS and AMOS statistical programs. The surveyed sample was subjected to frequency analysis to examine demographic characteristics. In addition, reliability analysis, exploratory factor analysis, and confirmatory factor analysis were conducted to confirm the validity and internal consistency of the questionnaire items. Discriminant validity analysis was conducted to determine validity between constructs and Structural Equation Model (SEM) analysis was conducted to check the fit between the research hypothesis and the model. SEM is appropriate for examining and analyzing an existing theory (Hair et al., 2019).

4. Results and Discussion

4.1. Demographic Information

Among the 210 survey respondents in this study, male 76 (36.2%) and female 134 (63.8%). By age group, 96 (45.7%) in their 30s, followed by 65 (31.0%) in their 40s and 49 (23.3%) in their 20s (see Table 1).

Table 1: Respondents' demographic information

Dependent	Category	Frequency	Percent
Gender	Male	76	36.2
	Female	134	63.8
Education level	High school	14	6.7
	University	162	77.1
	Graduate school	34	16.2
Age	20's	49	23.3
	30's	96	45.7
	40's	65	31.0
Marriage status	Single	126	60.0
	Married	84	40.0
Number of families	1	27	12.8
	2~3	94	44.8
	More than 4	89	42.4
How to use ChatGPT	Smartphone	66	31.4
	Laptop/PC	139	66.2
	Tablets	5	2.4

Dependent	Category	Frequency	Percent
Motivation for using ChatGPT	Brand Trust	0	0.0
	Friend's suggestion	23	11.0
	Simple interesting	118	56.1
	Acquiring information	67	31.9
	Others	2	1.0
ChatGPT usage time (Daily average)	1 hours	185	88.0
	2 hours	14	6.7
	More than 3 hours	11	5.3

4.2. Measurement Model

Reliability and validity were confirmed prior to hypothesis testing. To confirm that the internal consistency of the measurement items was secured, Cronbach's Alpha coefficient was verified in terms of reliability between measurement items, and validity between measurement concepts was confirmed through confirmatory factor analysis (see Table 2). Looking at Table 2, since the Cronbach's Alpha values of the seven measured items all show .7 or higher, it can be judged that internal consistency has been secured (Nunnally & Berstein, 1994; Hair et al., 2010; Xia & Yang, 2019). Looking at the results of confirmatory factor analysis (CFA) conducted for single-dimensional verification of the measurement items, χ^2 = 137.930, df = 120, p= .126, χ^2/df = 1.149, RMR = .030, RMSEA = .027, GFI = .932, AGFI = .903, NFI = .948, CFI = .993, NFI = .948, RFI = .934. The χ^2/df value shows the change of χ^2 according to the increase or decrease of the degree of freedom. If it is less than 3, the overall fit is satisfied. The overall fit of the theoretical model established by the set factors can be considered good as the measurement results of all other fit indices show that the standards are acceptable (Bentler & Bonett, 1980).

In addition, in order to evaluate whether the measurement scales of this study are representative of the concepts, the composite/construct reliability (CR) and average variance extracted (AVE) values of the constructs were calculated and confirmed. In Table 2, the lowest value of the CR .747 and the lowest value of AVE .505. This satisfies the criteria (CR .6 or more, AVE .5 or more) presented in previous studies (Bagozzi & Yi, 1988).

Table 2: Reliability Test and Confirmatory Factor Analysis Results

Constructs	Items	Std. loading	S.E.	t-value	AVE	CR	Cronbach's α
Credibility	The information provided by ChatGPT is credible	.785	-	-	.673	.860	.860
	ChatGPT's explanation is correct	.845	.095	12.148*			
	I think the ChatGPT's service results are credible	.829	.091	12.007*			
Usability	I think the ChatGPT's response function is convenient	.841	-	-	.756	.903	.901
	I think the ChatGPT's support function is convenient	.908	.064	16.257*			
	Overall, I think the features of ChatGPT are convenient	.857	.062	15.137*			
Innovativeness	I am actively using ChatGPT	.866	-	-	.790	.919	.918
	I tend to enjoy using ChatGPT	.918	.061	17.958*			
	I am very interested in using ChatGPT	.881	.061	16.954*			
Subjective Norm	Attention People will like my use of ChatGPT	.664	-	-	.505	.747	.734
	Attention people tell me about ChatGPT	.555	.145	7.038*			
	Using ChatGPT has a positive effect on me	.874	.138	9.627*			
Attitude	I like ChatGPT	.876	-	-	.725	.888	.886
	ChatGPT is good	.804	.066	14.342*			
	I love ChatGPT	.874	.063	16.336*			
Switching Intention	Considering switching to ChatGPT	.810	-	-	.776	.912	.909
	There is an intention to switch to ChatGPT	.928	.070	16.015*			
	I am willing to switch to ChatGPT and use it primarily	.900	.068	15.539*			

Notes 1: χ^2=137.930, df=120, p= .126, χ^2/ df =1.149, RMR= .030, RMSEA= .027, GFI= .932, AGFI= .903, NFI= .948, CFI= .993, NFI= .948, RFI= .934
Notes 2: * p < .001
Notes 3: AVE: Average Variance Extracted
Notes 4: CR: Composite/Construct Reliability

The discriminant validity and law validity of each research concept were measured, and the results are shown in Table 3. The AVE value, correlation coefficient, and squared value of correlation coefficient were calculated, and discriminant validity and law validity were confirmed based on these values.

In discriminant validity, the AVE value should be greater than the squared value of correlation coefficient, and in law validity, if the correlation between latent variables agrees in the same direction as the research hypothesis, it meets the validity condition (Fornell & Larcker, 1981). Therefore, discriminant validity compares the AVE value and the squared value of correlation coefficient. It is confirmed that the squared values of correlation coefficients in this study are generally lower than the AVE values. And, as suggested in the hypothesis, since the signs of all correlation coefficients are positive (+) result values, it can be seen that the validity of the law has also been secured.

Table 3: Discriminant Validity by Correlation Analysis

Constructs	1	2	3	4	5	6
1. Credibility	**.673**					
2. Usability	.415*** (.172)	**.756**				
3. Innovativeness	.199* (.040)	.491*** (.241)	**.790**			
4. Subjective Norm	.411*** (.169)	.633*** (.401)	.536*** (.287)	**.505**		
5. Attitude	.452*** (.204)	.670*** (.449)	.497*** (.247)	.771*** (.594)	**.725**	
6. Switching Intention	.479*** (.229)	.452*** (.204)	.233** (.054)	.540*** (.292)	.594*** (.353)	**.776**
Mean	2.8778	3.6381	3.8429	3.5143	3.6190	3.0968
Std. Deviation	.77190	.79754	.85477	.70621	0.73700	.88321

Notes 1: The diagonal value is AVE.
Notes 2: * p< .05, ** p< .01, *** p< .001
Notes 3: Parentheses(   ): Squared value of correlation coefficient

4.3. Structural Equation Model (SEM)

Table 4 shows the results obtained through the verification analysis of the overall model for this study. The fitness values of the model were $\chi^2 = 186.079$, df = 124, χ^2/df = 1.501, RMR = .049, RMSEA = .049, GFI = .913, AGFI = .880, NFI = .930, CFI = .975. Comparing the goodness-of-fit values of the structural model derived in this study with the numerical indicators used as the evaluation criteria for structural equations, it was found that the overall measurement results were at a level acceptable to the criteria (Bentler & Bonett, 1980; Hair et al., 2010).

Therefore, the goodness of fit of the structural model in this study is judged to be sufficient to explain the causal relationship between the constructs.

Table 4: Hypotheses testing results

Hypothesis	Path	Std. Estimate	S.E.	t-value	Results
H1-1	Credibility → Subjective Norm	.205	.061	2.737**	Accept
H1-2	Credibility → Attitude	.234	.070	3.504***	Accept
H1-3	Usability → Subjective Norm	.432	.065	4.776***	Accept
H1-4	Usability → Attitude	.487	.072	6.248***	Accept
H2-1	Innovativeness → Subjective Norm	.290	.054	3.729***	Accept
H2-2	Innovativeness → Attitude	.213	.059	3.181**	Accept
H3-1	Subjective Norm → Switching Intention	.226	.124	2.621**	Accept
H3-2	Attitude → Switching Intention	.448	.097	5.236***	Accept

Model Fit: χ^2=186.079, df=124, p=.000, χ^2/df=1.501, RMR= .049, RMSEA= .049, GFI= .913, AGFI= .880, NFI= .930, CFI= .975
Notes 1: *p< .05; **p< .01; ***p< .001

The detailed analysis results on Switching Intention to ChatGPT with TRA and IDT applied are as follows.

The H1 research hypothesis was accepted. ChatGPT's factors (Credibility, Usability) found to have a significant positive (+) effect on TRA (Subjective Norm, Attitude). Moreover, Usability was found to have a more positive effect on all sub-factors of TRA than Credibility. Evaluation based on the path coefficient is as follows. Among the TRA

factors, the ChatGPT's Usability show an effect of .487 (t-value = 6.248; p < .001) on Attitude and .432 (t-value = 4.776; p < .001) on Subjective Norm. And, Among the TRA factors, the ChatGPT's Credibility show an effect of .234 (t-value = 3.504; p < .001) on Attitude and .205 (t-value = 2.737; p < .01) on Subjective Norm.

The H2 research hypothesis was accepted. All ChatGPT user characteristics (Innovativeness) had a significant positive (+) effect on TRA (Subjective Norm, Attitude). Evaluation based on the path coefficient is as follows. Among the TRA factors, the ChatGPT user Innovativeness show an effect of .290 (t-value = 3.729; p < .001) on Subjective Norm and .213 (t-value = 3.181; p < .01) on Attitude.

The H3 research hypothesis was accepted. Both Subjective Norm and Attitude of ChatGPT user found to have a significant positive (+) effect on Switching Intention. Evaluation based on the path coefficient is as follows. The ChatGPT user's Attitude .448 (t-value = 5.236; p < .001), and the Subjective Norm .226 (t-value = 2.621; p < .01), show an effect on Switching Intention. Moreover, Among the sub-factors of TRA, ChatGPT user's Attitude found to have a greater influence on the Switching Intention to ChatGPT of existing Portal Service users than Subjective Norm.

4.4. Discussion

Since its official launch in November 2022, ChatGPT has quickly attracted numerous users with extensive media coverage. This unprecedented interest motivates numerous researchers to study GhatGPT from various aspects (Zhang et al., 2023). This study examined the factors influencing the Switching Intention to ChatGPT for users of existing Portal Service (Naver, Google, Daum, etc.)

First, as reviewed above, the factor that had the greatest influence on the Switching Intention to ChatGPT in this study was Usability among the factors of ChatGPT. Next is Credibility. The results of this study mean that the Usability of ChatGPT is a more important factor for users than the Credibility of information in using ChatGPT. This means that ChatGPT users perceive that ChatGPT's response function, support function, and general functions are more convenient than credibility of information provided by ChatGPT, accuracy of explanation, and credibility in service results. Credibility is important in the rational decision-making process of ChatGPT users, but Usability has more influence on the use of ChatGPT. This result is consistent with related previous studies (Albert & Tullis, 2022; Davis, 1989; Segars & Grover, 1993; Venkatesh, 2000). ChatGPT is good at basic information retrieval and concept explanation (Zhu et al., 2023). ChatGPT can be used for free, but a paid version has been released for the Usability of

users, and an iPhone app has recently been released. OpenAI is making various efforts such as adding plug-in functions so that users can use ChatGPT conveniently (Miao & Ahn, 2023; Velazco, 2023; Yu, 2023).

Second, it was found that there was a positive influence relationship between ChatGPT users' Innovativeness and TRA (Subjective Norm, Attitude). According to previous studies, personal characteristics (Innovativeness) are one of the important factors in choosing new technologies and services (Rogers, 2003; Sitar-Taut & Mican, 2021; Strzelecki, 2023; Twum et al., 2022). Through innovation, AI opens new opportunities through personalized and interactive experiences (Firat, 2023). The digital revolution is leading to the emergence of companies using innovative business models represented by Platform. A characteristic of the Platform is that it proposes new and attractive values to users (Kovalenko et al., 2020). And, the success of a platform is highly dependent on the number and quality of its users (Lee et al., 2019). Innovativeness individuals are active, enjoy, and interested in using new technologies and services. This was also confirmed in this study.

Third, as reviewed above, this study confirmed that the existing Portal Service users' Switching Intention to ChatGPT had a positive influence relationship among the factors of ChatGPT, individual Innovativeness, and TRA (Subjective Norm, Attitude) (Huang & Kao, 2021; Mun & Cho, 2017; Sun et al., 2017; Wu et al., 2017). The most important purpose of this study is to confirm the Switching Intention of existing Portal Service users to ChatGPT. The results of this study support this.

In particular, the Attitude of ChatGPT users has a high influence on Switching Intention. It is believed that most users have favorable feelings toward the new technology and service called ChatGPT. This means that the Switching Intention from the existing Portal Service to ChatGPT can be linked to action. ChatGPT is a platform that can expect Network Effect by providing the same interaction service as humans. It is expected that it will be useful for consumers of Online Platform such as e-Commerce in the future.

5. Conclusions

AI is one of the most disruptive technologies of the 21st century (Wamba et al., 2021), and ChatGPT is a disruptive innovation (Haque et al., 2022), which is now becoming the new reality (Hamed & Wu, 2023). ChatGPT is taking the technology and business realms by storm, presenting unexpected opportunities, concerns and challenges (Murugesan & Cherukuri, 2023). Along with the spread of mobile, Chatbot have been installed on various platforms in the retail and distribution industry to increase convenience, and the scope of their use has spread widely (Lee & Kim,

2020). The Search service is closely related to the retail and distribution industry and connects consumers and retail and distribution companies through Chatbot and Recommendation System. It is consistent with the claim that the retail and distribution industry is maximizing productivity and efficiency through data analysis using artificial intelligence technology (Gesing et al., 2018; Shin et al., 2019).

5.1. Theoretical Contributions

The theoretical implications of this study are as follows. This study is differentiated in that it confirmed the existing portal service users to switching intention to ChatGPT. This study explored in-depth using TRA (Subjective norm, Attitude) in relation to ChatGPT. Credibility, Usability, and Innovativeness were redefined and analyzed according to the research model by referring to previous studies related to the factors and personal characteristics of ChatGPT. This study will be the basis for continuous academic research related to AI-based products/services that will be released in various ways in the future as AI technology is developing very rapidly. Studies related to ChatGPT are mostly technical studies. Overseas, some studies from the perspective of consumer behavior in the medical and educational fields have begun, but in Korea, related studies are insufficient (Strzelecki, 2023; Shahsavar & Choudhury, 2023; Bonsu & Baffour-Koduah, 2023; Raman et al., 2023). In the future, it is possible to expand research in various directions such as customer experience, technology acceptance, immersion, and relationship quality. In particular, Platforms in the retail and distribution industry are introducing various AI technologies. Chatbot and Recommendation System are typical examples (Brandtzaeg & Følstad, 2018; Smith & Linden, 2017). Research on the acceptance of AI technology from the consumer behavior perspective has great implications for the retail and distribution industry, such as platforms.

5.2. Practical Implications

The practical implications of this study are as follows. This study examined the user experience related to the consumer's Switching Intention from a positive point of view, focusing on ChatGPT. It reviews the direction of related services and suggests a practical approach to increase Usability related to Switching Intention. At the same time, it has the purpose of suggesting alternative development plans that can increase the Usability and Credibility of existing Portal Service (Naver, Google, Daum, etc.). ChatGPT can provide enhanced consumer engagement, enhanced customer service, personalization and shopping, social interaction and communication, cost efficiencies and

insights into consumer behavior, and enhanced marketing efforts (Paul et al., 2023). ChatGPT is a new generative AI Chatbot that is expected to dominate our society along with recommendation systems in the future. Chatbot are one of the technologies that could revolutionize e-Commerce once again. Chatbot are the future of marketing and can be integrated with various SNS and replace mobile applications for shopping (Kasilingam, 2020). In the future, more advanced technology could emerge that could change the shape of Chatbot, or the way people chat to improve the user experience. Based on content creation, GhatGPT can be closely integrated with people's daily lives to build a deep relationship with each individual. And it deeply affects people's behavior patterns and promotes continuous innovation (Yu, 2023).

5.3. Limitations and Future Research Directions

Despite its academic contributions and practical implications, this study has several limitations. This needs to be reviewed in future studies.

First, more diverse analyzes (mediating effects, etc.) using SEM are needed. Second, in addition to the latent variables (Credibility, Usability, Innovativeness) of this study, it is necessary to discover/research various latent variables. Third, it is necessary to understand the influence relationship of consumer behavior according to 'online subscription', which is a general profit model of platform services.

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Appendixes

Appendix: Measurement items

Constructs	Items	sources
Credibility	The information provided by ChatGPT is credible	Tseng & Fogg (1999) Johnson & Kaye (2004) Shin (2022)
	ChatGPT's explanation is correct	
	I think the ChatGPT's service results are credible	
Usability	I think the ChatGPT's response function is convenient	Davis (1989) Segars & Grover (1993) Venkatesh (2000)
	I think the ChatGPT's support function is convenient	
	Overall, I think the features of ChatGPT are convenient	
Innovativeness	I am actively using ChatGPT	Agarwal & Prasad (1998) Sitar-Taut & Mican (2021) Twum et al. (2022)
	I tend to enjoy using ChatGPT	
	I am very interested in using ChatGPT	
Subjective Norm	Attention People will like my use of ChatGPT	Ajzen (1991) Taylor & Todd (1995) Bansal et al. (2005) Sun et al. (2017)
	Attention people tell me about ChatGPT	
	Using ChatGPT has a positive effect on me	
Attitude	I like ChatGPT	Ajzen (1991) Kasilingam (2020) Taylor & Todd (1995)
	ChatGPT is good	
	I love ChatGPT	
Switching Intention	Considering switching to ChatGPT	Keaveney (1995) Bansal et al. (2005) Sun et al. (2017)
	There is an intention to switch to ChatGPT	
	I am willing to switch to ChatGPT and use it primarily	