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The Feasibility of Beacon as New Media Marketing Communication Media in O2O Marketing ERA

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ABSTRACT

This study examined the features and growth potential of beacon as a means of marketing communication. In detail, it examined characteristics and uses of beacon, and analyzed O2O marketing and IoT related to beacon as a means of marketing communication. Based on the analysis, it scrutinized growth potential of beacon as a means of marketing communication in O2O marketing era.

Beacon is considered to have high growth potential as a means of marketing communication in that it provides new services based on new technologies such as location-based service and IoT, offers customized services based on big data, and provides services combining online and offline.

Keywords: Beacon, Consumer, O2O Marketing, IoT, Marketing Communication.

1. INTRODUCTION

Recently with the spread of O2O marketing and Internet of Things (IoT), beacon is used widely in various sectors of society. Walking down the street, you get to see on your smart phone the messages with free coupons and discount messages from nearby restaurants and cafes. When you get into the stores, you are introduced about events and provided help with your shopping through your smart phone. After finishing order and payment using beacon, you can get your coffee right away without the need to wait in line. Like this, beacon helps receiving information and services automatically in various places such as cafes, department stores, exhibition halls, and stadiums, providing smarter consumption and life.

Beacon is a Wireless local area network technology based on bluetooth low-electricity technology and beacon service is a kind of smart phone local area communication technology and a location-based service that makes it possible to find the location of a user within short range and makes mobile payment

available threats (Lee & Kim, 2016). The beacon device installed indoors sends out radio wave, tracks a smart phone with a beacon app installed on it within 50~70m radius, and exchanges information with each other. Beacon realizes not only finding location, but other functions such as marketing, location information, automation, and automatic payment.

Especially, beacon is a kind of O2O(Online to Offline) platform that connects online and offline, and it is used as a means of marketing that starts promotion when a user of a smart phone with beacon app installed on it walks into a store that is registered for the service. In the relevant industry, beacon is considered to become the core of O2O marketing based on the organic combination of smart phone and finding location and it is expected to be the motive power in the growth of O2O platform in the future.

Beacon is especially more welcomed in the environment of IoT where all the daily objects (offline) such as TVs, refrigerators, and cars are connected to the internet (online). Beacon is the next-generation IoT technology that is based on an innovative location-based service and it will be widely used not only in marketing based on accurate positioning but in various areas such as home automation, healthcare, and connected cars that consolidate internet functions at home.

Recently with the rapid changes in ICT environment and media environment, the area of marketing communication including advertising is experiencing a big change. Due to such environmental change, traditional advertising and marketing communication markets are facing crisis and it is urgent to pioneer markets in new areas. Beacon is an unprecedented, ICT-based means of marketing communication that combines location-based service, IoT, and O2O marketing, and recently it is growing rapidly. In this context, this paper tries to understand the identity of beacon as a means of marketing communication and its characteristics and find out its potential of growth as a means of marketing communication in the future. For this, it will first examine the growth of O2O marketing and IoT. Then, it will review the characteristics and use of beacon. Based on the study results, it will consider the theme of this paper, the use and growth potential of beacon as a means of marketing communication.

This study intends to establish the theoretical foundation of marketing communication using beacon, O2O marketing, and IoT. Beacon is the core of O2O service and the central technology of IoT, which are thought to change the paradigm of life in the future. However, in the sector of marketing communication, studies are conducted actively neither on beacon nor on O2O service or IoT. Against this backdrop, this study will be able to establish theoretical ground in this area and contribute to promoting follow-up studies. Also, this study will raise the effect of using beacon in the actual field of marketing communication and search ways to promote the use of beacon.

2. GROWTH OF O2O MARKETING

Concept and Status of O2O Marketing

In the past, online and offline were different areas that delivered different values but now, the boundary between them are disappearing as ICT and mobile environment is generalized. Companies view, among ways to respond to such new consumption environment, O2O marketing as the most innovative business issue and are competitively entering O2O commerce to expand and strengthen their business. Online companies are already entering offline market, which take 80% of online business transaction, and offline companies are offering O2O services for omni-channel by actively introducing mobile technology (Kim, 2016).

O2O marketing is a new business model that promotes consumers' purchase through the marketing that combines online and offline consumption channel. That is, it induces consumption through offline channel via online services on the internet or it ultimately induces online purchases by providing information to customers at offline stores (Kim & Kim, 2015). With the advantage that it has both the advantage of excellent experience with customers at offline stores and price competitiveness of online stores, it is spreading rapidly (Chi, Kang, & Han, 2015). O2O marketing is closely related to omni-channel in distribution. It is a system that provides shopping experience through the customer-centered perspective by organically combining various shopping channels such as offline stores, mobile, and catalogues, and it is a shopping environment by combining the features of each distribution channel and making it feel like using the same channel no matter which channel a consumer is using.

Companies view, among ways to respond to such new consumption environment, O2O service as the most innovative business issue, and are competitively entering O2O commerce to expand and strengthen their business. Online companies are already entering offline market, which take 80% of online business transaction, and offline companies are offering O2O services for omni-channel by actively introducing mobile technology (Kim, 2016).

Background of Growth of O2O Marketing and its Future

The background of growth of O2O marketing can be seen in two aspects. The first is the aspect of the growth in mobile and ICT technology. First of all, as daily life proceeds with smart phone, many parts of life that used to be done offline is being done through smart phone, and this phenomenon is especially outstanding in shopping. Also, the appearance of IoT is contributing to the growth of O2O marketing, and O2O marketing that uses IoT-based technology is emerging as the most potential business in the era of IoT based on the improved internet access. Also, until now, companies have been distinguishing offline and online and conducted separate marketing but with the recent emergence of near field communication like beacon, they are facing a new environment where the boundary between offline and online is disappearing. The increase in the use of big data is also contributing to the growth of O2O marketing. Companies have been pursuing information-filtering business strategy focused on online that finds out the interest of individuals through big data analysis, but recently there has been a new phenomenon that filtering of consumers' information goes beyond online and is organically combined with offline.

Another aspect that contributes to the growth of O2O marketing is the combination of advantages of online and offline shopping. O2O marketing can be said that it has both the excellent experience with customers at offline stores and price competitiveness of online stores. That is, it became possible to leave the simple purchase inducement online that has been used until now and deliver new experiential values to consumers. As the internet generation took the central role of the society, the boundary between online and offline shopping is disappearing, and more and more customers are not bound by the limitations of time and space, companies are competitively launching O2O marketing. Individualized curation service, which tries to deliver new values based on big data, is combined with the new marketing environment, O2O, in the process of consumption, and makes innovative business possible.

In the future, it is expected that O2O industry, in conjunction with IoT, location-based service, big data technology and industry, will change our daily life and continue to grow as an industry. Around the globe, O2O market is in its initial stage and is rapidly growing and changing. As there have not been a

leading technology or pioneering company in the market, it is likely that there will be fierce competition between companies aiming to enter the market and companies already in the market and trying to expand their market share.

Considerations in O2O Marketing

O2O marketing is expected to grow continuously for consumers' convenience but the followings should be considered. First of all, it is the problem of privacy. Concerns over privacy refer to concerns about the possibility of one's information being exposed and losing privacy (Dinev & Hart, 2006). In O2O marketing which has both the features of online and offline and offers individually customized curation service, concerns over privacy are pointed as an important factor that hinders customers' final purchase and use of service. There is also the problem that customers may feel bothered. The excessive information in product ads and promotions that arise in O2O commerce may feel like it bothers customers rather than offer them necessary information, causing negative attitude or intention about purchase. Resistance against innovation is the factor that obstructs the spread of O2O marketing. According to the study of Lapointe and Rivard, users of information system get to have threatening opinions in the interaction between online and offline environment and system and this leads to users' resistance behavior.

There is also the realistic problem of profitability of companies related to O2O marketing. In a situation where most of the O2O start-up companies have deficit, there is the tendency that such companies, even though they have technology, fall apart when conglomerates enter the market. Therefore, there should be considerations and support in the aspect of policy for the long-term development of O2O as a realistic industry.

3. GROWTH OF IOT

As ICT technology develops around the globe, communication infrastructure is progressing centering on mobile. Along with the flow of time, IoT, one of the advanced technologies, is gaining attention. It is expected that our society will soon become a hyper-connected society, where advanced IC technology enters our daily life and is used for acquiring and using information. John T. Chambers of CISCO said the era of mobile is over and the era of IoT is coming (Lee & Cho, 2015).

According to Wikipedia, IoT is defined as 'a network between agents that have connectivity that makes it possible to get better values and services through the exchange of data with the internet or other devices' (Wikipedia, 2016). IoT is made up of 3 components, people, things, and service and there can be the maximum effect when there is smooth interaction between people and things, things and things, things and service, service and service (Lee & Lee, 2016). In the mobile era, smart phones and tablets have brought changes to life but in the era of IoT, the internet will be used not only on the devices like PC but be connected to cars, home appliances, and all kinds of areas, bringing about the second digital revolution. Like this, the IoT market is recognized as a field that has the possibility of growing to be the blue ocean in IT market.

In the existing traditional advertisements before the age of smart phone, 'one-way' advertising and consumption took a large portion but in the age of mobile, advertisements and businesses started using personal information, which developed individually customized ads. In the age of IoT, it is expected that

beyond figuring out the needs of customers, companies will be more aggressively find out what customers need, develop products accordingly, and will make customized ads. 'Google', which has the biggest influence in the age of mobile, has a strong platform as the world's first advertiser. It offers user's information to companies and provides various services and permits searching for users in exchange for personal information. Google offered such information to companies and received commission for advertising (Pyun, Jin, & Yim, 2014). Such use of personal information is called 'physical graph' and it can be defined as 'the pattern of measuring and analyzing the movement of an individual using various smart devices' and it examines individual internet use, predicts their behavior, and makes marketing available accordingly.

IoT refers to various objects that people use being connected online and it makes it possible to provide services that deliver various information instantly. As a way to provide such services, beacon appeared. Beacon is a technology that can make communications between things and things, people and things more organic, and its influence is growing in creating the current IoT environment. Beacon is rising as a device that serves as a medium between smart devices and makes IoT possible.

The recent advertising market is welcoming ads with a lot more advanced interaction using advanced ICT-based technologies. It is expected that ads based on ICT technology will have a huge effect and as a core technology among them, IoT is drawing attention. When you download a beacon app on your smart phone and pass by a store that is registered in beacon service, events and free coupons of the store are automatically sent to your smart phone. So it can be said that beacon, the IoT-based service and advertisement, has the advantage of offering customized ads to customers regardless of time and space.

4. CHARACTERISTICS AND USAGE OF BEACON

In 2013, Apple presented iBeacon as one of the main functions of iOS 7 in the Apple Worldwide Developers Conference and in 2014, Korea displayed various beacon services. Since then, various services by beacon are rapidly developed and are provided. Previously the environment was where users searched for information but now it is where users are provided with information and get to make a choice themselves. With this change, beacon is getting attention as something that can instantly deliver various information to users, revive the technology of bluetooth that was becoming extinct in the age of IoT, and revive offline market.

Beacon is near field communication technology that is based on bluetooth 4.0, detects the location of users within 50m radius, and provides guidance services and mobile coupons. It was mainly used in vessels and military sector but got to be known widely in the world as iBeacon, which was released in Apple Worldwide Developers Conference (WWDC) in June, 2013, attracted the attention of the industry and technology experts (Heo, Cho, & Kim, 2015). Bluetooth low power technology that is applied to beacon is good at finding position. While with NFC, another location-based service, a device has to be within 10cm from the NFC reader for communication to be possible, beacon has the benefit that it can transmit customized data to users in long distance and has low battery usage in smart devices as it uses bluetooth low energy.

The strength of beacon is that it not only enables positioning but realizes functions such as marketing, location information, automation, and wireless payment. It started gaining attention in 2013 when Apple, beyond offering positioning service, started offering discount coupons of nearby stores to iphone users through iBeacon. Afterwards, global IT companies such as Qualcomm, Paypal, and Google released beacon

and its popularity is growing around the world. Currently, various companies around the world are trying to establish positioning and supplementary services and it is expected that beacon will continue to grow in the future.

Such beacon technology is gaining attention for its potential at stores. When a user who downloaded a beacon app walks around the street, stores that installed equipment of beacon technology detect the bluetooth of the user's smart phone and send coupons or event info. Furthermore, when a user buys a product at a store, he or she can use the beacon app for mobile payment. Beacon is thought to be widely used in O2O market as it stimulates consumer's desire to purchase using mobile coupons and makes them go into stores.

In Korea, where beacon services started to be introduced in 2014, beacon is providing convenience for consumers with location-based technology and connecting online and offline market. Services that commercialized beacon successfully and made it as a solid O2O platform include Syrup of SK planet, Yap of Yap Company, and Clip of KT. They not only offer discounts, point accumulation but enable cellphone payment through micropayment, NFC (near field communication), and barcode system. Syrup gained more than 14 million users by 2015 and has the most number of users among beacon services in Korea. Clip reached more than 110,000 in the number of its franchises by August, 2015 and is offering discounts in various sectors such as convenience store, restaurant, beauty, fashion, stationery, and leisure (Yun, 2016).

However, as beacon service spreads, problems arise as well. The fact that beacon apps are location-based services means both the advantage of providing personalized ad messages and the disadvantage of privacy issue about personal information. Also, users can get tired of reckless push notifications and additional behavior inducement using this. One-sided and reckless push notifications can give users the impression of spam messages.

5. USE OF BEACON AS MEANS OF MARKETING COMMUNICATION AND ITS GROWTH POTENTIAL

In the circle of advertisement and marketing, beacon is raising interest as a technology that creates new user experience in online and offline setting and is a new technology that is expected to have high potential for applicability and values. Especially, beacon service that connects smart phones and beacon at stores is bringing a big change to shopping patterns of consumers and such trend is likely to continue in the future (Burdick, 2015). Also, beacon service is utilized in various ways as it reduces inconvenience of consumers who search and use information themselves and lower the cost of promotion and printed materials for offline stores, and satisfies both consumers and offline market.

Beacon as a means of marketing is a service that combines online and offline, that is, smart phones and stores. In other words, as a form of O2O(Online to Offline) platform, it is used as a way of marketing that starts promotion when a smart phone user who installed a beacon app on his or her phone enters a certain radius from a store that is registered for the service. In the relevant industry, beacon is emerging as the core of O2O marketing and is expected to be the driving force in the growth of domestic O2O platform.

Recently, beacon is growing fast as a location-based service using smart phone and a means of advertisement and promotion for companies. Beacon service is an unprecedented ICT-based marketing

communication media and it serves both the function of delivering messages as ads and the function of sales promotion such as coupons and discounts. Especially, beacon as an advertising media has the feature of delivering personalized ad messages through elaborate targeting. This is possible because beacon apps, as location-based services, provides services based on the location information of consumers and offers customized information based on the purchase history or records of visiting stores. Such elaborate targeting is possible as location-based service takes the form of context-aware computing. Context-aware computing refers to apps installed on mobile devices detecting information in the nearby environment and using it in information processing (Barkhuus & Dey, 2003). It means that mobile can offer information that is appropriate for the context that the user is placed in.

Analysis of relevant studies and data shows that beacon as a means of marketing communication has stronger function as a promotional means through price discount using coupons and events than as an advertisement that establishes and strengthens brand images. So concerning the growth potential as a means of marketing communication, we need focus on beacon as a means of sales promotion. Offline paper coupons are recognized as an old fashioned way of promotion in recent advertising and marketing sector. However, as can be seen from beacon apps, mobile coupons are expected to stimulate consumers' desire for purchase and lead them to enter stores. This can be seen as a result of the convenience of not having to carry around paper coupons since the format has changed from paper to mobile device, and of reduced embarrassment that consumers may feel showing a mobile screen compared to handing a paper coupon. Also, considering the customized services of beacon, one can predict the growth potential of beacon as a means of personalized sales promotion in the future.

With the recent rapid change in advertising and marketing environment, traditional advertising and marketing markets are going through crisis and it is urgent to pioneer new markets in new areas. In this situation, beacon is considered to have high growth potential as a means of marketing communication in that it provides new services based on new technologies such as location-based service and IoT, offers customized services based on big data, and provides services combining online and offline.

6. CONCLUSION

This paper is a study that examines the features and growth potential of beacon as a means of marketing communication. For that purpose of the study, it examined characteristics and uses of beacon, and analyzed O2O marketing and IoT related to beacon as a means of marketing communication.

Based on the result of study, an analysis was conducted on what is needed for beacon to record a steady growth as a means of marketing communication. First of all there needs to be combination of technology and convenience of consumers. However, new and excellent a technology, if it does not offer convenience to the actual users, the service will not grow. So using beacon technology based on location-based service and IoT, realistic marketing communication services that can provide convenience to consumers should be developed and provided.

Also, there should be better awareness about beacon and reliability about bluetooth. Push notifications by beacon can make users anxious about the possibility of hacking and information leakage. So considering users who use beacon services, information on the safety of beacon and bluetooth should be provided. Also filtering function by brand should be made available. Reckless push notifications give the users the

image of spam messages (Lee & Kim, 2016). As users age, gender, environment, conditions and situations differ, if senders want to provide customized information, filtering messages will enable users to choose the information they want. That way, users will not consider the notifications as spam messages and will continue to have interest and use beacon.

Also, more specifically customized messages should be delivered. Indiscriminate push notifications can exhaust users. For example, visitors to store and users outside stores should be recognized separately for different services. Services should be different for those who already have the intention of entering stores and for those to be induced to come into stores.

This study is expected to make the following academic contributions. Beacon is a new technology and service that is spreading in the modern society. It is bringing innovation in various sectors of society and is considered to have a big potential as O2O marketing and IoT, which are leading a new paradigm. So it is significant to understand the characteristics and growth potential of beacon as a means of marketing communication. Also, through this study, it will be possible to lay the foundation for beacon-related advertisements and research on marketing. Beacon is a technology and service that is newly spreading in the society and the study on it is in the initial stage. Moreover, studies that have conducted until now are mostly about technological aspects and studies from advertising and marketing perspective are rare in and out of Korea. In this situation, it is expected that studies on beacon will be promoted from the perspective of marketing communication.

The result of this study is expected to make practical contributions as follows. This study will make it possible to understand the identity and features of beacon as a means of marketing communication. Beacon service is an unprecedented ICT-based means of marketing communication and it serves both the function of delivering messages as ads and the function of sales promotion such as coupons and discounts. In this context, it is expected that identity and features of beacon as a means of marketing communication will be understood.

Also, through this study, it will be possible to enhance the effect of using beacon in the field of advertisement and marketing and search ways to promote the use of beacon. Due to the rapid change in advertising and marketing environment, traditional advertising markets are facing crisis and it is urgent to pioneer markets in new sectors. Under the circumstances, it is expected that this study will help promote beacon service, the new area of advertising and marketing.

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