

數位家庭發展之初探

Preliminary Research of Digital Home Development

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摘要

近年來，有種無線傳輸與追蹤科技稱為無線射頻辨識者已出現於世。隨著無線射頻辨識之應用，數位家庭系統已在許多國家發展。然而，過去卻較少有關數位家庭系統經營策略規劃之研究，本文想以SWOT分析與相關理論來進行數位家庭發展之初探，並收集與比較數個從網路獲得之國外案例，接著提出數位家庭發展的行銷組合策略並討論之，最後作者提出研究結論與啟示，並以未來研究方向作結。

關鍵詞：無線射頻辨識，數位家庭，SWOT分析，行銷組合策略

Abstract

In recent years, a kind of wireless communication and track technology called the radio frequency identification had been flying below the industrial innovation radar. With the application of radio frequency identification, the digital home system has been developed in many countries. However, there is little research about the business strategic planning of digital home system. This study wants to address an exploratory research of digital home development applying SWOT analysis and related theories. Several foreign cases from the internet are collected and compared. The marketing-mix strategy of digital home development is proposed and discussed. In the end the author provides the implications and conclusion to this research, followed by some future research directions.

Keywords: *Radio frequency identification, digital home, SWOT analysis, marketing-mix strategy*

1. Introduction

Through the business and media promotion, digital home development and service has become a famous issue in the industry. It uses some advanced technology such as radio frequency identification (RFID) to enhance human safety and convenience.

Digital home services include many services such as home healthcare service, information provision service and home entertainment service. It brings business opportunity to the communication common carriers and broadcasters and electronic appliances companies. Lee (2006) described that the world market scale of the digital home industry was predicted about 100 billion dollars in 2007.

Generally speaking, if consumers want to have their own digital home environment, it would not be a problem about technology issue except for personal budget issue. There is literature about the technology issue of digital home system or service (Ida and Sakahira, 2008; Cheung et al., 2011). However, there is little research about the marketing strategic planning of digital home system. This study wants to address an exploratory research of digital home development applying SWOT analysis and related theories.

The structures of the study are described as follows. First, the consumer demand and existing product issues of digital home application are explained by finding the related literature and market information. Second, the research methods are identified and described. Third, the research results are concisely described. Several foreign cases from the internet are collected and compared. At last, the author provides the implications and conclusion to this research, followed by some future research directions.

2. Literature review

This chapter explained the literature review. Section 2.1 described the consumer de-

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mand issues. Section 2.2 described the existing product issues.

2.1 Consumer demand issue

The digital home is a residence with many information appliances and devices consisted with a common internet standard. Every room or space has the AC power outlets in it (PC Magazine, 2008). The digital home uses technology with each side of contemporary human life to offer a comfortable and safe circumstance (Choi and Yeo, 2006).

The total sales of the digital home industry are predicted about 162 billion dollars in 2010 (Noh and Kim, 2010).

People nowadays live in a relative dense population area; therefore, it would use a remote control way to realize consumers' demand. For example, the home security and remote control monitoring services are the critical services in the future. On the other hand, if people want to buy a smart home appliance, the quality and safety would be the major consideration. Thus, the digital home development would fulfill according to the market demand (Topology Research Institute, 2004).

2.2 Existing product issue

The digital home system or services contain many focus aspects such as healthcare, information and entertainment areas. Moreover, some smart home appliances or devices such as electric toothbrush and refrigerator use radio frequency identification technology to enhance their automated monitoring function for people usage (Ho, 2007; Fabian Kreuzer Company, 2011).

Recently, several home network protocols with new technology have been distributed to enhance the functions (Dutta-Roy, 1999).

The general digital home service classification often concentrates on technology or content (Ogawara, Kobayashi and Yoda, 2005). The existing literature on the digital home has contained information about home networks, software development, etc. (Wan et al., 2010). For example, past research has studied home healthcare service and home entertainment service (Lind, Karlsson and Fridlund, 2008; Tsai, 2010). However, there is little research about the marketing strategic planning of digital home system or service. Therefore, this study wants to discover the marketing strategic planning of digital home development and apply SWOT analysis and related theories to do so.

3. Research method

This chapter explained the research methods. Section 3.1 described the SWOT analysis. Section 3.2 described the case study method.

3.1 SWOT analysis

The SWOT (strengths, weaknesses, opportunities and threats) analysis is a critical method to analyze business development. This method let us analyze the industry or company and their business plan and strategy. It presents the negatives and positives of the industry or development itself (Kotler and Keller, 2006; Kumar, 2005).

There are many studies and topics implemented and analyzed by the SWOT analysis including the analysis of global cosmetic industry, the evaluation of environmental protection policy, the evaluation of strategic market development of the solar thermal system and the analysis of XL Airways (Karagiorgas, Tsoutsos and Berkmann, 2003; Paliwal, 2006; Kumar, 2005; Parton and Ryley, 2012).

The following presents a SWOT analysis for the digital home issue:

Strengths:

- Growing strategy
- Gradually mature technology

Weaknesses:

- Cost
- Privacy

Opportunities:

- Growing market
- Increasing public awareness

Threats:

- Effect of economic situation
- Key technology issue (Sky Power Company, 2012)

3.2 Case study method

This study uses a qualitative approach on the basis of the case study method to explore digital home context. Because the main purpose of this paper is to explore how the marketing-mix strategy can be developed in the digital



home context, qualitative approach can be selected.

Qualitative approaches produce descriptive information that is impressionable to topics of this kind. They can discover change procedures over time and adjust to new concepts when they emerge.

However, the point that the conclusions of case study are on the basis of the researchers' comprehension, the results of the case study are not conclusive, actually (Marnburg, 2006; Chen, 2011).

This study uses the case study method because the cases chosen are the important ones (Chan and Hawkins, 2012; Lucia, 2013).

4. Research results

This chapter explained the research results. Section 4.1 described the foreign cases compared. Section 4.2 described the marketing-mix strategy.

4.1 Foreign cases compared

The selected cases are the international cases including Japan, the United States of America and Korea.

-Japan:

The Japan Electronics and Information Technology Industries Association (JEITA) show the level of development of networked appliances in Japan and establish a model IT house in 2002. This IT house displayed 50 types of electronic appliances including networked appliances and the send-e-mail refrigerator (Japan Information Network, 2002; Demented World, 2006).

In the society nowadays, people want to feel convenient in anywhere, anytime. Furthermore, people want to have a safe and comfortable house to enjoy digital home services. Therefore, JEITA IT House provides the remote control service of the electronic devices and relative applications. For example, people can start an electronic device by remote control. If they needed, the home appliance can automatically turn on. The healthcare system can automatically monitor people's physical condition, too.

The author finds that Japanese development focuses more on remote control of the electronic devices and applications.

-the United States of America:

The United States of America forms a digital home working group (DHWG) in 2003 to develop digital home standards specification and relative issues (Lovatt, 2004).

They start to change old R&D process and discover the new consumer demand to satisfy consumer needs.

In the long run, the DHWG hope that everyone can utilize the digital content he bought anytime, anywhere on any devices in his house.

The author finds that American development focuses more on information provision of the digital home services.

-Korea:

'Homevita' is a brand and concept of SAMSUNG's digital home network solutions (Qianjia Company, 2005).

If you want to enjoy TV program or visit your doctor online, the homevita solution integrates several technologies into a panel board to control that.

Other provider such as SKT offers more data switching and communication services. LG electronics provides more housing management and home entertainment services (Noh and Kim, 2010).

The author finds that Korean development focuses more on panel board control of the digital home services.

4.2 Marketing-mix strategy

According to the discussion mentioned above, the author tries to explore some possible marketing-mix strategies of digital home development.

Marketing-mix strategy also called the four Ps of marketing: product, price, promotion and place. The marketing-mix strategies and resolutions have to be made for affecting the final consumers (Wilson and Abel, 2002; Kotler and Keller, 2006; Tseng and Jao, 2012).

The possible marketing-mix strategies of digital home development are as follows:

-Product strategy:

Develop integrated products or services such as using radio frequency identification technology to integrate and communicate mir-



ror with toothbrush so that consumers can brush their teeth and read the news on the mirror in the same time.

It is also critical to develop networked appliances and after-sales services to customers and meet their needs.

-Price strategy:

Because of the relative higher price of digital home appliances and service nowadays, it would develop a discount price strategy in order to attract consumers' adoption.

-Promotion strategy:

1. Providing television advertisements.
2. Providing company's website, i.e., developing internet advertising.

-Place strategy:

1. Developing information appliances store channel.
2. Developing on-line shop strategy.

5. Conclusion and limitations

This research tries to investigate the digital home development such as the marketing strategic planning using SWOT analysis and case study. The main purpose of digital home services is to qualify people for living safely and conveniently. For the goal, this research offers information related with digital home development.

The findings of this research are described as follows. First, the SWOT analysis of the digital home development is implemented. Second, the case study collects and compares data of three foreign cases about digital home development. Third, the marketing-mix strategy of digital home development is also analyzed.

Countries or companies that want to develop their digital home policies can partly utilize the results of this research for their own reference.

This research still has several limitations. The following issues are recommended as future research directions. First, the research can offer future research information about how to develop preliminary marketing strategic planning of the digital home services. However, further development about this kind of business strategic planning is needed to be implemented in the future. Second, future research can use

another quantitative method such as questionnaire survey to understand more user opinions of digital home services that this research does not do yet.

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