

Social Network Applications' Trend for Future Business Competitive Advantages

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Abstract

Objectives: To explore the possible ways to lengthen the life cycle of Social Network Applications used in Thailand, especially in business areas. **Methods/Statistical Analysis:** The structured interviews are conducted to gather ideas and factors affecting the use and development of Social Network Applications in Thailand. The questions are developed based on the concepts of product life cycle, technology diffusion, knowledge management, and business strategy. Answers by seven experts in Information Technology area are analyzed using content analysis with investigator triangulation. **Findings:** The experts mentioned that differentiation concept must be considered to lengthen Social Network Applications' life cycle. Most applications used predefined tools and functions to develop. Users use only the provided functions or services. No policy, regulations, and funds clearly support developing Social Network Applications which may be used as a competition weapon for business, and for supporting knowledge management activities in Thailand. **Application/Improvement:** There is no concern about data or information security clearly mentioned. It is very interesting to study more on security of sharing information.

Keywords: Business Competitive Advantages, Information Technology Life Cycle, Knowledge Management, Social Network Application, Technology Strategies

1. Introduction

Technologies are now used in our life to support many activities. Most of them are Information Technology. One important role of them is to make people catch up about social news, information, and even knowledge easily. They play an important role to increase people's quality of life by creating and maintaining the attachment among family members, friends, and society's members. This means that Information Technology provide some tools to support the relationship management for people. While being a part of the society, information sharing is an important aspect to make people keeping in touch to each other. One sends a message to another people for receiving, and then waits for a respond. A message can contain information, news, knowledge, etc. People who have the same interest creating a group, then a small society are now generated and it can be called social network⁵.

While there are many kinds of activities in social networks, Information Technology, called social network applications, are developed to include functions that support all kinds of activities in social networks. There are many social network applications for using nowadays. It seems like the life time of these social network applications is short. This may be because the functions provided by the applications are not suitable for social activities anymore or may be because of application administration issues. Changing to use new social network applications may cause data and knowledge losing. The data and knowledge generated by group discussion, discovery, or recall may be valuable for successors in the society. Considering using these social network applications as one of collaborative tools in any company, it will provide a repository to keep the history of the company, so that we can search for the sources or the root ideas for any products and services or even the tactics used in the company in the past⁵. For this reason, social network applications can become one

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of strategic Information Systems in the company. It can be identified as knowledge management systems, which collect, manage and provide a lot of knowledge generated by every staffs worked in the company⁶.

To lengthen the life time of social network applications for companies and social's benefits; it is interesting to study the factors that affect the use of these applications. Even though these are many studies mentioned about how to develop Information Systems or how to manage Information Systems¹⁷, but only few people consider using it formally in the companies as a strategic Information Systems⁶. The results from this study can be empowered the social network applications developed for using in companies. It also can be another choice to be use as a Collaborative Systems and Knowledge Management Systems.

2. Social Networks

There are many definitions about Social Networks. All of definitions can be concluded as each social network must consist of many people. One of them will be a sender of a message while others will be receivers. This communication is mainly for sharing useful information, so the message will be an interested data or information. There are some rules, norms, or agreements which everyone who is in the networks accepts. The members of the social network set up the relationships or objectives to make sure that all members receive some benefits and provide no harm to others.^{10,12,18,23} So the social networks can grow and contain more and more people who have the same interest.

2.1 Online Social Network or Social Network Applications

As the objectives and activities of the social network, Social Network Applications that are developed for supporting social networks contain many functions, for example, finding the members in the network, managing friends, sending and receiving a message, and searching for information. Now most of the social network applications are web-based. They act as a mediator to connect peoples together by letting them do their social activities via functions provided. All messages which may be data, sound, or video are kept and managed for relationship management and the benefits of the members

of the social network for searching data, information, and knowledge later^{2,22,23}.

2.2 Information Technology Life Cycle

Information Technology can be considered as one kind of regular products. Generally, every product has its life cycle, which separated into 4 stages. All stages of product life cycle are product introduction, market growth, market maturity and sales decline. When applying to be technology life cycle by accumulating sales amount based on time, the life cycle still contains 4 stages as mentioned by Luecke¹¹ as S-curve Technology and by Rogers¹⁶ as Diffusion of Innovation Theory (DOI). Each Social Network Applications as one kind of Information Technology also has its own life cycle. Most of them have short length of product life time and there are news other social network applications launched to replace the old ones. However, developing any applications, especially large-scale application, takes very long time and effort. Also, it needs a lot of IT resources to develop, manage, and maintain the applications. As mentioned about the benefits of the social network applications, changing the applications may lose important data, information and knowledge. Also, there must be more functions needed to be developed to support human relationship management and other social activities.

2.3 Lengthening the Technology

Companies must seek strategies that provide their competitive advantages to gain benefits and market shares¹⁴. Also their products and services must respond to the market requirements or needs. As long as their products and services are needed by the customers, the companies can survive and continue their businesses¹⁵. Companies need to develop new products or to improve their own products to make sure that they respond to the customers' requirements or needs. It takes a long time for the companies to develop any products, especially the ones whose products are the first mover in the market. The companies must learn from mistakes and change the products gradually and continuously^{19,24}. It costs a lot of money. With this reason the first-moved companies still perform incremental innovation for developing a new product to provide in the market. While the followers learn from the prior ones, they can mark the product specifications, use break through innovation as they want,

and develop the product to enter the market within a short period of time¹³. This is the concept of leap-frogging theory as mentioned by Lee and Lim⁹ and Zuev et al.²⁴. Product innovation can lengthen the existing product life cycle. If the new products are developed, it generates a new source of income for the company.

To lengthen the Social Network Applications' life cycle, the market position and target technology specification must also be identified¹³. However, to reach both expected market position and expected target specification, the company must have ability to develop the expected Social Network Applications^{4,19}. This means that all resources of the company must be qualified and sufficient. The company must understand and find the opportunity based on its strengths and weaknesses. At the same time the company needs to evaluate the probability to win the market by considering at the status of economics, social and culture, and laws and politics as its strategic opportunity and threads¹⁵. All of information required for evaluating opportunity to develop a new technology and opportunity to win the market are the trend of the market or market needs, the current specification of Social Network Applications, technology trend, the company's strategic status or competitive strategy, and all related resources.^{1,20,21} The relationships are shown in Figure 1, as we adopted the idea from Lee and Lim⁹.

3. Research Methodology

As concepts and prospective factors described above, Social Network Applications' specifications and its development in Thailand may be different from in other countries due to the effect of country's strategy, culture, and politics. Moreover, the characteristics of each factor can be collected to help Social Network Applications' developers to lengthen the life cycle in Thailand's market. Eight experts, who have a lot of experience in Information Technology development, IT product marketing, or IT professors, were interviewed. All questions developed for structured interviews are tested for content validity, face validity and reliability by Information Systems and Computer Sciences professors and practitioners. After each interviews, the interviewees' voice and notes were sent to three other researchers who earned a degree in Information Systems Management for analyzing and getting the answer for each question independently. After that for each question, analyzing results or the answers from each researcher are collected and evaluated to find the consensus answer. If there was a contradiction about the answer, all researchers discussed together and made a conclusion about the answer. This methodology is followed the content analysis with investigator triangulation⁷, which should reduce the bias from each researchers.

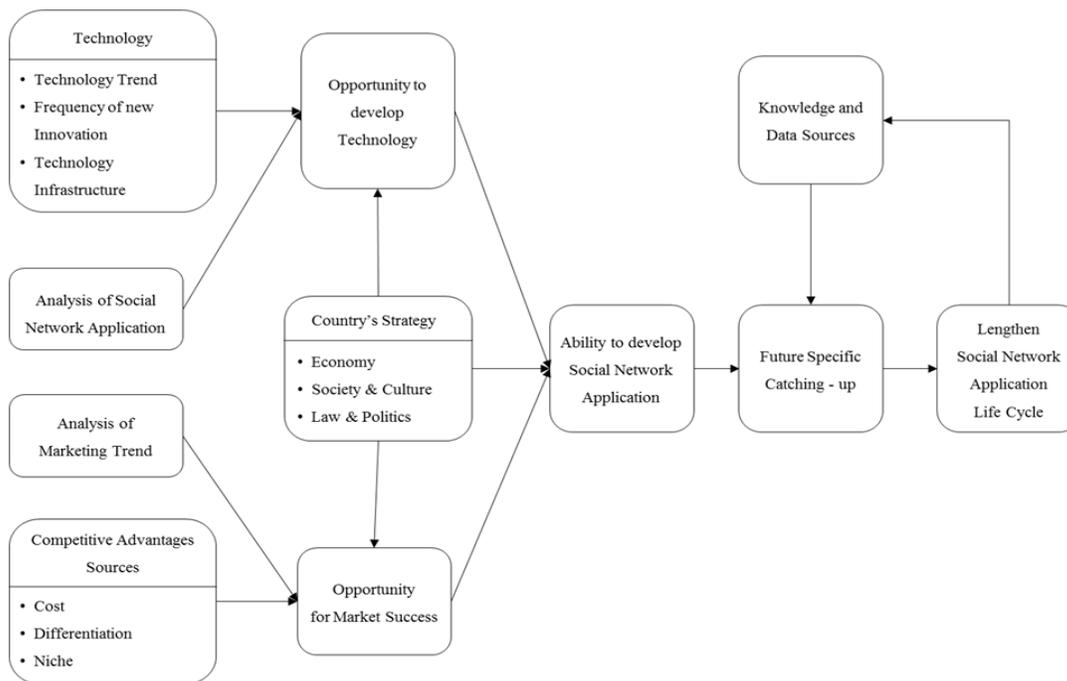


Figure 1. Research Framework⁹.

4. Interview Results and Analysis

The answer analyzed using content analysis, regarding the research framework, are as follow.

Social Network Applications are developed for a few years. These are many Social Network Applications in the market but only one or two of them are used in a period of time. At the beginning period after launching the Social Network Applications, a few people used, so that it led to a small size of social network. Also there was no motivation to switch to the new Social Network Applications. However, after some powerful people in the society such as superstars started to use, number of members used the Social Network Applications increased significantly and rapidly. This is the reason why Social Network Applications used in Thailand are now at the second stage of product life cycle, which is the market growth stage. In another way, the old Social Network Applications, which were left by these people, will enter the third and the fourth stage of product life cycle rapidly and shortly. With this information, it is important for the owners of Social Network Applications to improve the quality or functions of their Social Network Applications for staying in the second stage of product life cycle as long as they can. Moreover, the experts mentioned that it is easy to develop any Social Network Applications because the current technology is supportive for technology transfer, so it is easy to duplicate all the functions developed from the previous Social Network Applications. New applications are developed by using tools and arranging all of them together by coding a program to make them work properly as the older one did and as designed by system analysis to meet users' requirements, such as to promote the organization, to communicate internally in the organization, to advertise products, to be a channel to respond to the customers, or to give information and broadcast the important information.

Even it is easy to develop the new applications, there are still not much Social Network Applications used in Thai market, due to they provide same functions and appearances. Experts agreed that the characteristics of Social Network Applications which motivate people to use are appearance, easy to understand captions, user's private profile or group profile, emotion sign, speed, and connection ability to other programs and other devices. However, all of them mentioned that Thailand is lack of good software research and development, so that it is hard

to state the technology trend used in Thailand. Even there are new virtual reality technology developed or sensory technology developed specifically for health monitoring and exercises and there is a concern about health caring among Thai people, it might not state firmly that it will be used as new function in Social Network Applications or it will be lengthen the Social Network Applications' life cycle in Thailand market. Only the ability to access the Internet can affect the growth of using Social Network Applications in Thailand via any electronic devices.

For being market competitive advantage sources, as the applications development trend is just using a set of predefined tools and coding a program to arrange them to work for a specific purpose, there is no differences among developing costs for each Social Network Applications. It is hard to compete for number of users in Social Network Applications' market in Thailand using price competition. As mentioned before about the motivated characteristics of Social Network Applications, differences of appearance, captions, special functions can be used as competitive weapons for each Social Network Applications. Also the developers need to change Social Network Applications all the time for maintaining their market share. Because of developing technology and languages used for Social Network Applications, small Social Network Applications can be bought by the large scale Social Network Applications. This will reduce the developing time for the powerful function users require. It is important to seek differentiation for Social Network Applications all the time to be in the market.

In Thailand, there are few laws and regulations related to Information Technology, only concerns from the government are about data security or privacy, and improper data and images, due to in the past Thai government did not promote the software industry for developing new programs and applications. Moreover, most Thai peoples and organizations do not trust the software developed by Thai peoples or Thai companies. They like to spend their money for applications developed abroad. They also decide to use the free application developed by foreign companies. For these reasons, developing applications or Social Network Applications are not worth in Thailand, even the number of users increasing rapidly due to the need to be a part and be accepted by the society, considering as belonging needs in Maslow's definition³. There is no investors grant the financial sources to support developing Social Network Applications.

5. Conclusion

Social Network Applications will not be suitable to develop in Thailand due to no fund from investors and the trust on the foreign applications. Also, the government does not set any policies of laws and regulations about developing the applications. Even the functions provided by any Social Network Applications are important; they still not influent any organizations to bring Social Network Applications to use for business purposes or to bring data or information gathered while using Social Network Applications to use as their knowledge sources. The developing technology focused by all experts is predeveloped tools and functions. People used only the functions or services provided by the Social Network Applications. These is no specific functions or services stated clearly based on user requirements, so Thai developers have abilities only for coding a program to connect predefined tools or functions. It is hard to make Social Network Applications to different from each other. The knowledge and data sources contained in the Social Network Applications' servers now do not give any advantages to organizations or societies. It will be lost if the powerful persons in society change their mind to use other Social Network Applications without concerning the values or knowledges provided by analyzing the data. To lengthen the Social Network Applications' life cycle in Thai markets, all people must know the importance or values of data and images, which they put in the Social Network Applications to communicate, sharing, or educate their friends. They should try to find knowledge from their data. It is important to educate and convince people, especially popular persons, to understand and to help promote this concern. The Government should set up the policies to protect data and images in Social Network Applications as valuable sources for studying the history of the country and the culture, living style, or local wisdoms⁸. With these concerns, the Social Network Applications' life cycle should be used as long as the new technology or applications that can transfer all data, images, and knowledges from the existing ones are introduced.

Regarding the result, there is no concern about data or information security clearly mentioned. The only focus of the government is the improper data and images. One characteristic that the experts agreed is user's profile or group profile. It is very interesting to study more on security of sharing information. If the information

security management is clearly stated practically, it should be feasible to use Social Network Applications as on strategic Information Systems in any organization.

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