

Consideration of Model of Service Value Structure for Internet Information Providing Services: Proposed Multi-value Structure Layered Business Model for Services

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Abstract - Service businesses have recently been expanding and economic activities have focused on service value exchanges. The Internet has recently become a crucial infrastructure in our lives and the number of Internet information service companies has increased. They are recognized as being a new industry. Business relations are not simple value exchanges between clients and providers in this area of business and they mutually co-create value by utilizing one another's information. This information exchange process is stored as data and is subject to feedback from third party users. This business activity is not only described by using a simple model of a one-to-one money economy but it is also necessary to consider such factors as reputation and economic business models. As a result, service business companies need to use new management methods that are not based on conventional indices to sustain their service businesses.

We attempted to build a multi-value structure layered business model with variations on the time axis. The model was newly generated in information providing services on the Internet. Here, we propose an effective method of managing the new business model.

I. INTRODUCTION

A. Trends in Japan toward Service Economy

Since the Council on Competitiveness published "Innovate America: Thriving in a World of Challenge and Change" in late 2004, attention has been focused on trends toward service economies worldwide. Furthermore, Service Productivity & Innovation for Growth has transmitted information in Japan about best practice and customer satisfaction indices for productivity growth. The Center for Service Research at the National Institute of Advanced Industrial Science and Technology has been working on research and development that is shifting from experience based services to engineered method based services. The Ministry of Education, Culture, Sports, Science and Technology has consigned the Service Innovation Human Resource Development Program to several universities to cultivate human resources that will become qualified to contribute to service productivity improvements and generate innovations. In 2008, the Japan Advanced Institute of Science and Technology proposed the Service Development of Innovative Human Resources Based on Information Technology and Knowledge Science and offered a Management of Service (MOS) course for a Master's degree program in Service Studies.

B. Service Business Expansion on the Internet

The information, service, and knowledge field has been expanding with the growth of the economy society. Growth in Internet service businesses has been especially remarkable [1].

Services on the Internet have connected existing retail businesses and information services. New economy models have been arriving on the scene and the data accumulated on the Internet. The early hierarchy when the Internet economy was growing in the US had four layers [2].

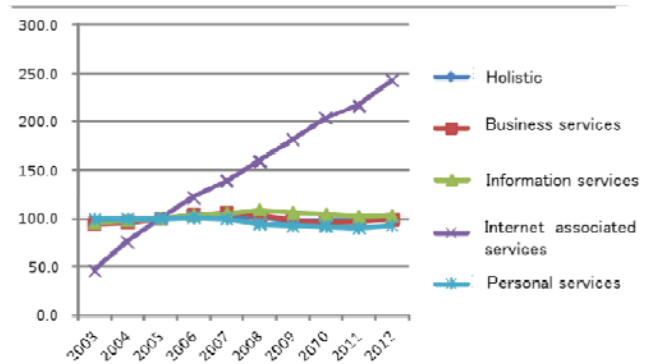


Fig. 1 Transitions in tertiary industry activity indices (2005=100) [1].

1) *Internet Infrastructure Layer*: The Internet infrastructure was on a large economic scale. Per-capita profit reached high levels. It had the highest productivity in the Internet economy.

2) *Application Infrastructure Layer*: Application vendors, Internet consulting companies, and Web productions were in this layer. More than half the profit in the digital economy was generated in this layer and the Internet infrastructure layer.

3) *Intermediate/Market Maker Layer*: Internet brokerage businesses such as online travel agencies and online auctions were in this layer. Profits were at the same level as those in the application infrastructure layer. However, the total revenues were enormous because profits were earned from commissions. Electronic brokers and Internet commission agencies were crucial for electric commerce to succeed.

4) *Internet Commerce Layer*: This layer contributed to increasing job opportunities the most. However, per-capita profit was the lowest in the four layers. Most business categories of vendors in the Internet commerce layer as well as the intermediate market layer were considered to be

traditional and they were newcomers in this area. They could not responsively engage in Internet commerce like Internet native companies did. The information service business layer is currently considered to be well established. Web native selling is predicted to reach more than 20 trillion yen in 2020 according to documents published by the Ministry of Economy, Trade and Industry [3].

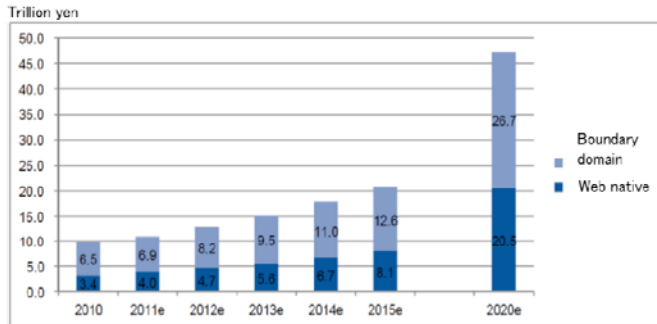


Fig. 2 Web business market 2010–2020 [2].

The current hierarchy of Internet service businesses has five layers based on the early hierarchy when the Internet economy was growing in the US.

Information services business layer (e.g., Kakaku.com and Gurunavi)
Internet commerce layer (e.g., Amazon and Rakuten)
Intermediate/market maker layer (e.g., Google and Bitcoin)
Application infrastructure layer (e.g., Mozilla and Facebook)
Internet Infrastructure layer (e.g., AT&T, NTT, and KDDI)

Fig. 3 Hierarchy of Internet service businesses.

II. NEW ECONOMY MODELS AND MARKETING ON THE INTERNET

A. Money Economy and Attention/Reputation Economy [4]

The exchange of money and products had involved traditional business transactions and supported the fundamentals of the economy until the industrialized society of the early 20th century. Society has currently become mature and information has been enriched as Information and Communication Technology (ITC) has become more advanced. We are currently in an information society and have been shifting to the knowledge society predicted by Drucker [5]. An economy model that exchanges “knowledge or information” and “reputation or attention” has been developing rather than one that only exchanges money and products.

This kind of economy model is close to the idea of “The Experimental Economy” [6] that Zysman advocated in which companies and governments cooperate and work well together to succeed in the global market.

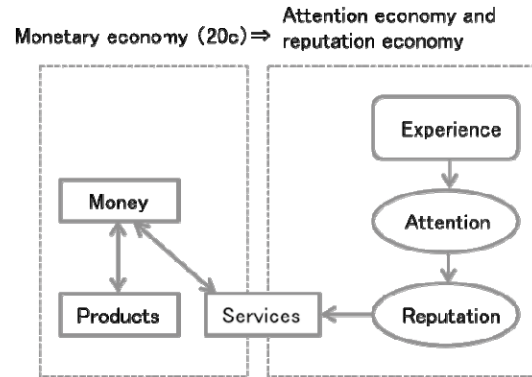


Fig. 4 Money economy and attention/reputation economy.

B. Marketing for Service Businesses on the Internet

The main purpose of businesses was selling mass manufactured factory products in the industrialized age of Marketing 1.0 advocated by Kotler [7]. Their main business activities were to expand markets and gain market share at lower cost and price by mass producing single products. However, consumers in the information age with evolving ICT can easily compare products with sufficient amounts of information and knowledge and select products and services to suit their individual tastes. Products are being developed in this age of Marketing 2.0 with attractive values for specific targets in segmented markets.

Consumer behaviors have relied more on collective knowledge in communities to better society and consumers have come to expect spiritual fulfillment in the current knowledge society in which the Internet is commonly used and social media have been widely developed. The activities of Marketing 3.0 [8] are expected to better our society to develop trusting relationships and emotional links through consumer collaboration.

Collective knowledge has been developed in Internet service businesses and a variety of consumer activities has been engaged in by communities. Value exchanges here are not only considered to depend on the money economy but be embodied in the attention/reputation economy. When we think about service marketing here, it is necessary to divide services into activities of consumption and service value co-creation. Consumption is based on the money economy and service value co-creation is based on the attention/reputation economy.

The field of the attention/reputation economy exists in online databases in Internet service businesses. Service users are divided into information consumers and co-value creators. Service prototypes and processes have phases in which digital information is stored and visualized. Their relations are summarized below.

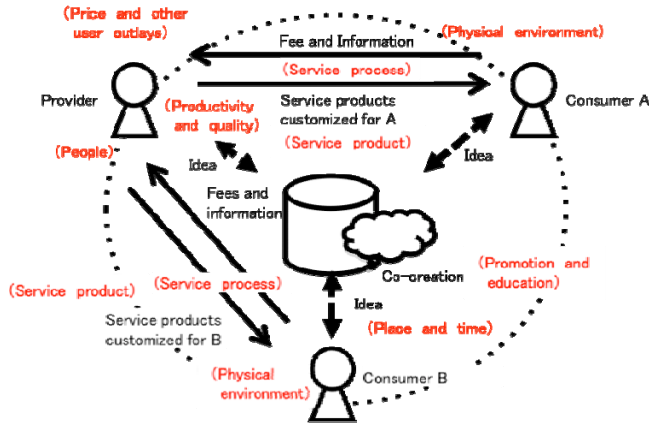


Fig. 5 Relationships in service marketing 3.0.

III. INFORMATION SERVICE PROFIT CHAIN MODEL ON THE INTERNET

Heskett and Sasser proposed a “service profit chain” (SPC) [9] to describe the causal relationships between employee satisfaction, customer satisfaction, sales, profits, and corporate profits in services. As this framework mainly explained the relationship between customers as service recipients and service providers, we think this model described the conventional service industry based on Marketing 2.0.

We aimed at describing the information SPC model on the Internet in this paper and here consider that it is necessary to not only describe cause-and-effect relationships in the monetary economy, but also those in the attention and reputation economy. We attempted to construct an information SPC model on the Internet through surveys at business information service companies that are currently on the Internet.

A. Case Studies

We surveyed some Japanese information service companies on the Internet to consider the status of services businesses as Marketing 3.0.

1) *Gurunavi*: Gurunavi is a company that provides gourmet information and sales support and their management policy is “Gurunavi, Inc. operates Gurunavi, a restaurant search website that allows users to access a wide range of free information on restaurants and fast food chains from platforms such as PCs and mobile phones including smart phones.

Gurunavi also markets Internet-based PR and sales promotion services and other support services to restaurants.” Their business model is outlined in Fig. 6.

Gurunavi Web site users are general consumers, but their main profitable customers are restaurants, and related food and surrounding product companies. As they advertise on their website, Gurunavi companies earn monetary value from this market. Companies exchange money and attention to place advertisements on the Gurunavi website from the

viewpoint of the attention and reputation economy. However, general consumers also obtain useful information and leave comments on the Gurunavi website. As a result, because such kinds of activity data are useful for other users, the value of the Gurunavi Web site increases. As these activities increase the value of the web site, there is value exchange in the attention and reputation economy.

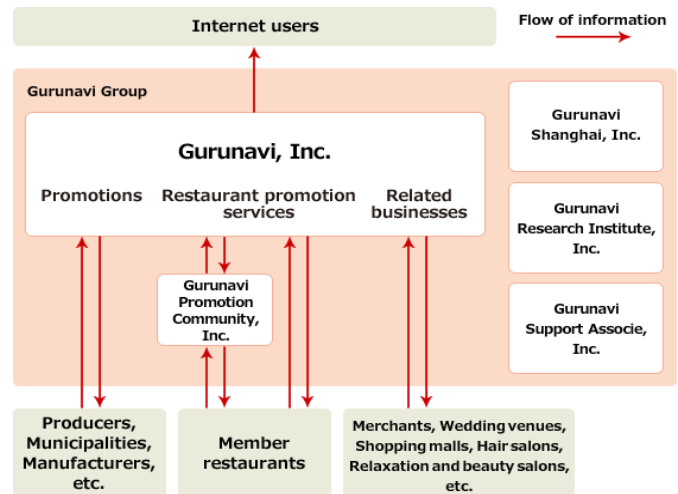


Fig. 6 Gurunavi business model [10].

Therefore, when we analyzed “the service profit chain of Gurunavi,” we needed to take into consideration both the management of value co-creation users and the management of the services field.

2) *KAKAKU.com* [11]: The business items of KAKAKU.com are product development information providing support to makers and sales support services for retail stores on their Web site. These business items are based on the “Marketing 2.0” idea, receiving money by providing

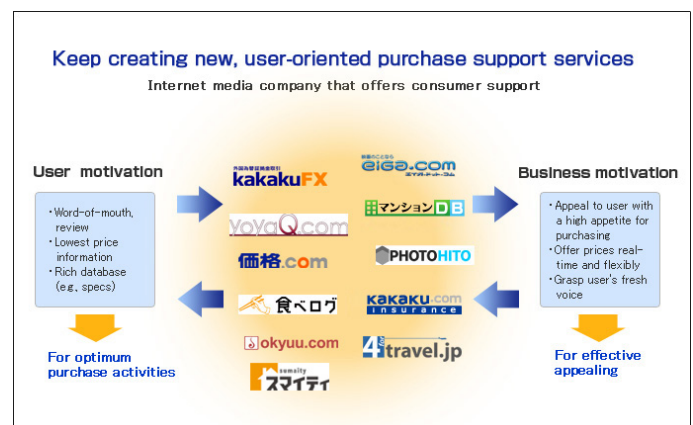


Fig. 7 KAKAKU.com business model [11].

information to customers. Their management policy is “content first,” “open and fair organization” and “organization to fulfill self-realization.” This policy means

that KAKAKU.com is strong in having both an “information providing infrastructure” and an “information creating community.” Therefore, it needs to manage both the “service providing field” and “co-creation users” as an information providing system. Their business model is outlined in Fig. 7.

B. SPC Model for Internet Information Providing Services

The current SPC Model describes the relationship between customers, services, the market, and organizations that provide the services, in terms of the monetary economy. However, when we think about Internet information providing services, we need to consider both the “monetary economy” and the “attention and reputation economy.” Also the management target of service providing systems should be both the “community to create valuable information” and “organizations that provide the infrastructure for services.” Heskett and Sasser described a very profitable service business model and they stated that customer loyalty not only originated from service value from employees, but user co-creation was also important. The SPC model for the information services business on the Internet was constructed based on the factors in Fig. 8.

This model cannot be used to describe the activities of the

“mediator,” who is a kind of coordinator, but Gelade and Young considered the importance of the “mediator” in the finance industry SPC [12].

IV. PROPOSAL OF MANAGEMENT METHODS FOR INTERNET INFORMATION PROVIDING SERVICES

A. Customizing Balanced Scorecard Method

We considered whether or not we could take advantage of the balanced scorecard (BSC) [13] method to manage information providing service businesses on the Internet. BSC manages to achieve strategic objectives from the four perspectives of “customers,” “finances,” “businesses,” and “learning and growth” and each perspective includes “metrics,” “goals,” and “practical plans.” We propose applying the BSC method in Fig. 9, which examines information providing service businesses on the Internet from two viewpoints of the “attention and reputation economy” and the “monetary economy.”

B. Consideration of Other Methods

We have other possible methods of managing service businesses, such as the “business model campus” and “service road mapping”. We have placed related information

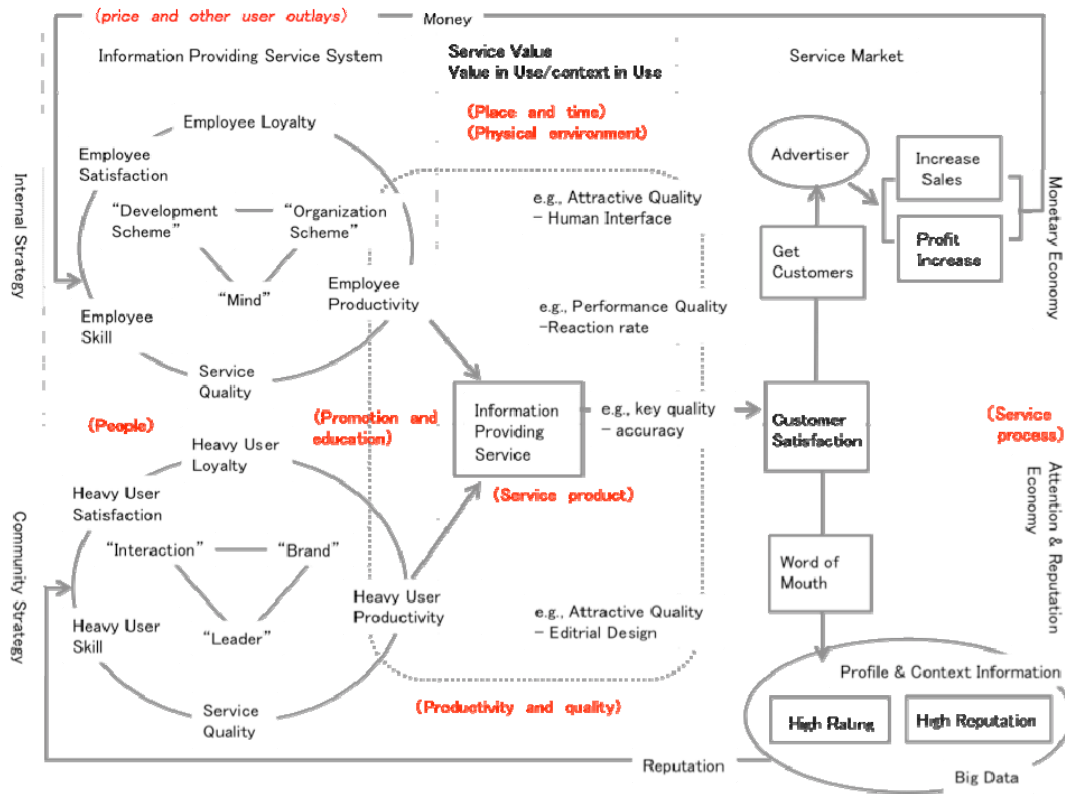


Fig. 8 Information SPC model on the Internet.

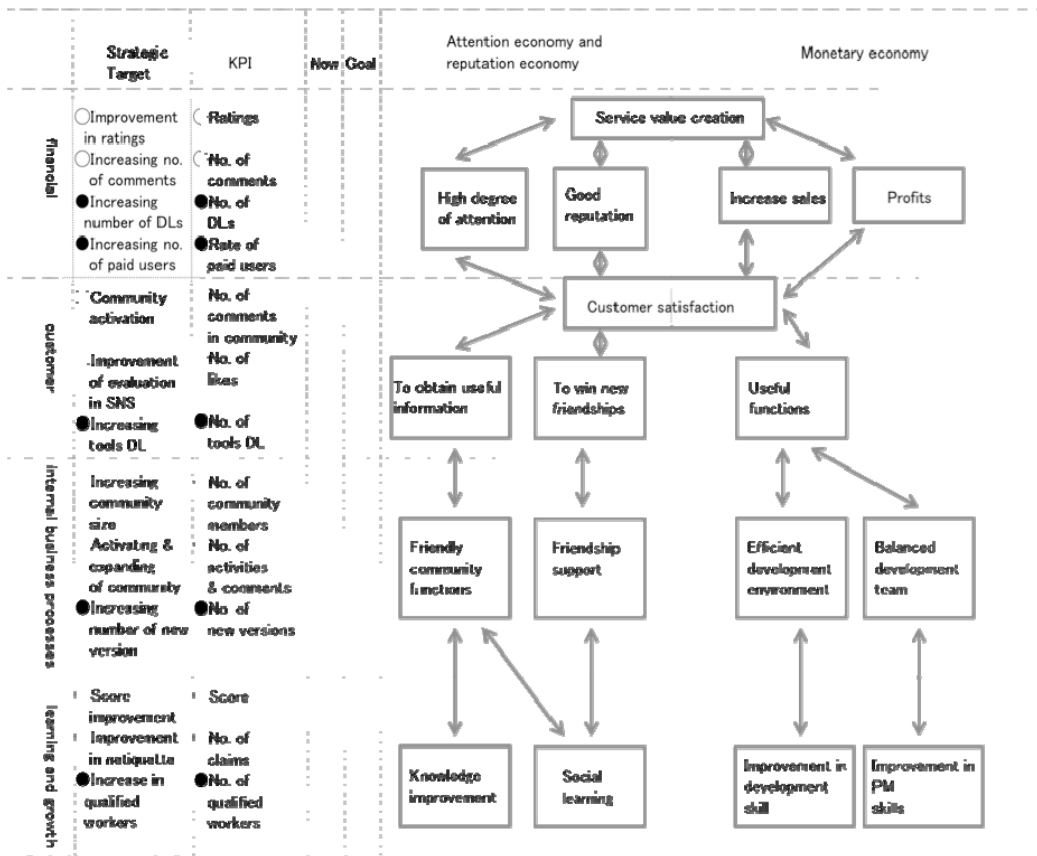


Fig. 9 Customizing balanced scorecard method.

in these tools and feel that these methods can also be applied to two aspects of the economy model.

V. CONCLUSION AND FUTURE AGENDA

The Internet is an information infrastructure that provides an environment for sharing evaluation information about the value of services. That environment has led to an economic model of services with multiple layers. This new environment has also changed the service industry from traditional haptic real field services to information based virtual world services.

We first administered surveys and discussed the information services business on the Internet and then constructed an SPC model. Finally, we proposed a framework of management methods. The key feature of these models and methods was that they had multiple layers. As the scales of evaluation differed in these layers, we will need to consider evaluation criteria in future research. We assume that emotional scales and customer satisfaction indices will be useful to connect service value and management indices.

We would like to consider all evaluation methods and service design methods in the future that are useful for constructing and sustaining businesses with the help of these management techniques.

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