

Design method of target customer's WANTS for a service based on classification of services using WANTS

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Abstract

We proposed a target customer's WANTS design method for service according to a service classification. Using this proposed method, we can design a target WANTS of a customer when developing a service. First, we classified services using the concept of value engineering and Maslow's hierarchy of needs. Next, a hypothesis about relationships between the classification of service and successful service are proposed. Furthermore, a designing method for "target WANTS" of service is introduced.

We validated the hypothesis by analyzing successful services. We also applied the proposed method to an example of a service in order to validate the proposed method.

Keywords:

design method, wants, customer satisfaction, classification

1 INTRODUCTION

In recent years, consumer's values have changed and diversified, increasing the difficulty in designing products, services and business models to meet the complexity of today's marketplace.

To cope, product developers conduct a requirements analysis using systems engineering [1] or value analysis [2]. Moreover, customer requirements analysis is a popular area of research, especially relating to service development. Analyzing the relationship between stakeholders can clarify customer requirements, and the Customer Value Chain Analysis (CVCA) is a visualization and analysis tool to map these relationships [3]. While this tool is useful for analyzing a business model, it is not suited to new business model design.

This diversification of values can be put into other words as a diversification of WANTS, where WANTS are "needs or wants". Therefore, when designing a business model, it is more helpful to clarify the target WANTS within the business model. This study focuses on WANTS and proposes a concept design method for a business model [4]. This method effectively designs a business model concept when stakeholder's WANTS are very clear, however, when stakeholder's WANTS are not clear, there is no starting point of analysis. Due to the diversification of WANTS, there are few cases where customers' desires are clear. Therefore, effectiveness of this method is limited.

There is a clear requirement for a suitable design model to clarify the target's WANTS for a new service.

This paper is organized as follows. First, services were classified based on analysis of WANTS. Second, a description of the proposed business model design process is provided. Third, the model is tested and validated. Finally, the paper offers some concluding remarks, including study limitations and opportunities for future research.

2 CLASSIFICATION OF SERVICES

2.1 Wants Chain Analysis

In this paper, the Wants Chain Analysis (WCA) is used to analyze the stakeholder's WANTS, a method that analyzes and visualizes relationships between stakeholders [5]. The WCA is based on CVCA (Customer Value Chain Analysis), though the CVCA considers the

exchange of money and materials to analyze the relationship between stakeholders, whereas the WCA also includes the stakeholder's WANTS. Fig. 1 shows an example of WCA diagram.

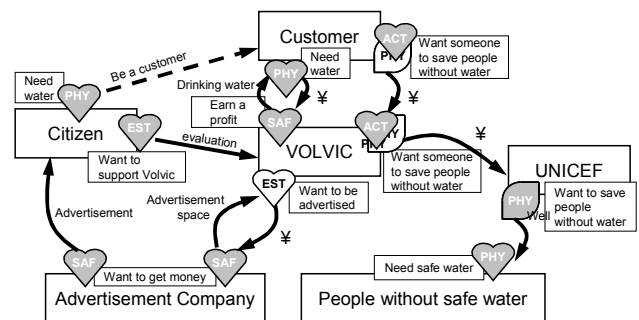


Fig. 1 Example of WCA

The WCA analysis involves three steps. First, the CVCA of the intended product or service is conducted by enumerating the stakeholders and the relationships between them. Second, the WANTS for each stakeholder are listed, clarifying the WANTS that lead to action. Finally, the state of satisfaction for each WANTS is verified against the proposed product or service. If the product or service satisfies all WANTS of all stakeholders, the proposed or service should be effective. If there are unsatisfied WANTS, the product or service is insufficient.

Using WCA, it comes to be able to analyze relationships between stakeholders. Therefore, WCA is useful tool to analyzing a business model.

2.2 Maslow's Classification of Needs

The WCA classifies WANTS into 5 (+2) levels based on Maslow's research [6], shown in Fig. 2. While not strictly proven, Maslow's classification is widely used because it is intuitive and easily understood, and is therefore adopted in this study. Maslow's classification begins with basic "physiological needs" advancing toward "self-actualization needs". As each of the lower-level needs are satisfied, an individual will seek the satisfaction of a higher-level need. These relationships are not strict. The satisfaction of low-level WANTS and an increase in high-level WANTS advance gradually shown in Fig.2 (b), and

do not show a digital behaviour. Therefore, low-level WANTS and high-level WANTS may exist simultaneously. "Desires to know and understand" and "aesthetic needs" are independent of other "needs" existing regardless of the satisfaction status of the other needs.

Using Maslow's classification, it comes to be able to analyze the customers' behaviour based on various WANTS.

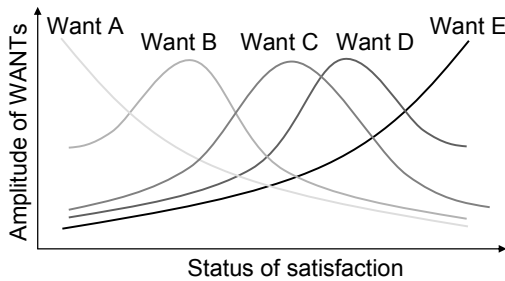
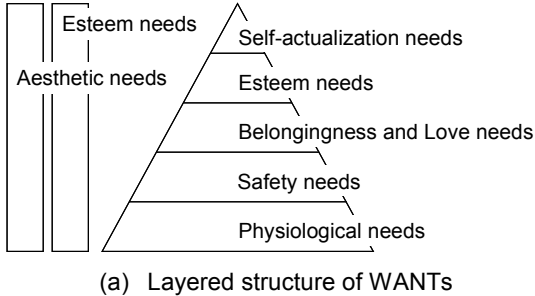


Fig. 2 Classification of WANTS

2.3 Relationship between Value and Wants

Value Engineering [1][2] discusses the enhancement of value in product development. However, it is also effective in service development by defining the value of the service and looking for ways to enhance the value.

The mathematical definition of value in value engineering, the function of the product divided by the cost of the product is shown in Fig. 3.

$$\text{Value} = \frac{\text{Function}}{\text{Cost}}$$

Fig. 3 Definition of "Value"

To increase the value of product, either the function must increase or the cost must decrease. The function of the product can be increased through either improvements to current functionality, or the addition of new product functions. In the case of service development, "product" in the sentence should be replaced with "service".

Fig. 4 shows a value engineering example of increasing the value in product and service.

A detailed business model analysis can be conducted by considering stakeholders' WANTS, and analyze customer satisfaction in terms of the customers' WANTS as mentioned in section 2.1. Value engineering analyzes a product's ability to satisfy the customer's needs, so this paper replaces "increasing value" with "increasing the satisfaction of the customer's WANTS. To illustrate this position, the service example provided in Fig.4 is

adjusted in Fig. 5 to demonstrate the stimulation of WANTS.

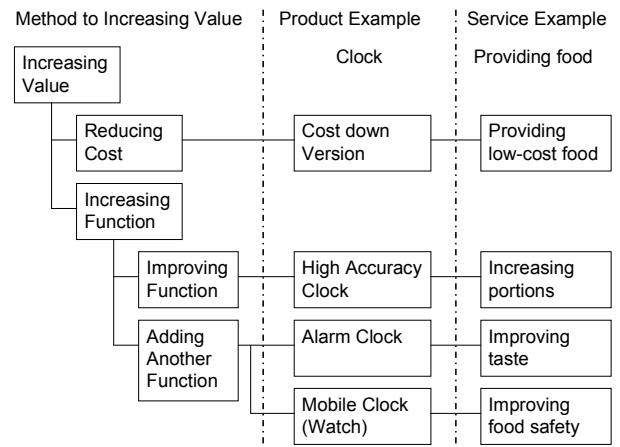


Fig. 4 Example of increasing the "Value"

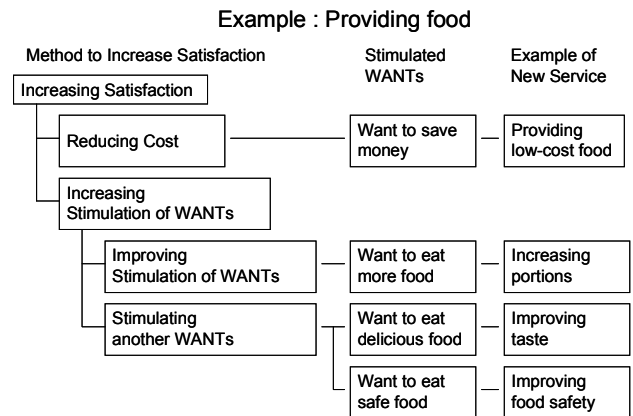


Fig.5 Example of increasing satisfaction

2.4 Classification of Services based on WANTS

Based on the result of section 2.3, classification of services is conducted in this section.

The simplest service is a service that constructed to satisfy the customer's clear WANTS. This paper classifies this type of service as a "WANTS response type service." For example, a service providing food for hungry customers belongs to this type. However, the actual services satisfy various customer WANTS, regardless of whether these are clear or potential.

A service that anticipates potential WANTS is classified as a "WANTS stimulus type service." For example, a service of providing a food can satisfy not only a desire for food but also other WANTS such as to eat delicious food or to eat safe food. Therefore, the actual service has the character of both "WANTS response" and "WANTS stimulus" type services. Present value is captured in the WANTS response type service and additional value in WANTS stimulus type services. In conventional analysis, "WANTS response type service" applied in many cases because the analysis was provided for an existing service. However, to design a new business model, it is important to consider both WANTS stimulus and WANTS response type services.

With the increasing diversification of customer WANTS and sense of value, it is important to design services that stimulate a complex WANTS and decide which WANTS to stimulate. The WANTS stimulus type service can be divided into 2 classes, simple or complex with complex

WANTs stimulating services further divided into 3 classes based on the Maslow's classification [6]. In the first, the WANT stimulated by the new service is of a lower-level than that stimulated by the conventional service. In the second, the new and conventional services stimulate same-level WANTs. In the last, the new service stimulates higher-level WANTs than the conventional service. These service definitions are illustrated in Fig.6.

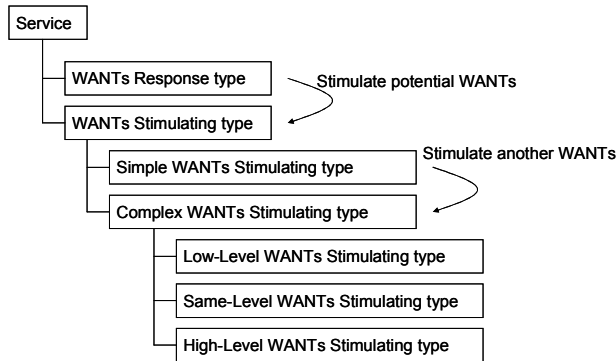


Fig. 6 Classification of Service

3 BUSINESS MODEL DESIGN METHOD

3.1 Hypothesis

As low-level WANTs are satisfied, a desire for high-level WANTs increases. This concept applies to service design. In other words, when a customer's WANTs are satisfied by the conventional service, the customer's high-level WANTs increase.

Therefore:

Hypothesis: The service becomes effective when the service is designed to satisfy higher-level WANTs than those satisfied by the conventional service.

3.2 Proposed Design Method

As mentioned in section 2.1, WCA is a useful method to analyze a current service and to clarify the WANTs. In the proposed method, WCA is used to both clarify the WANTs satisfied by the conventional service and to evaluate the new service post-design.

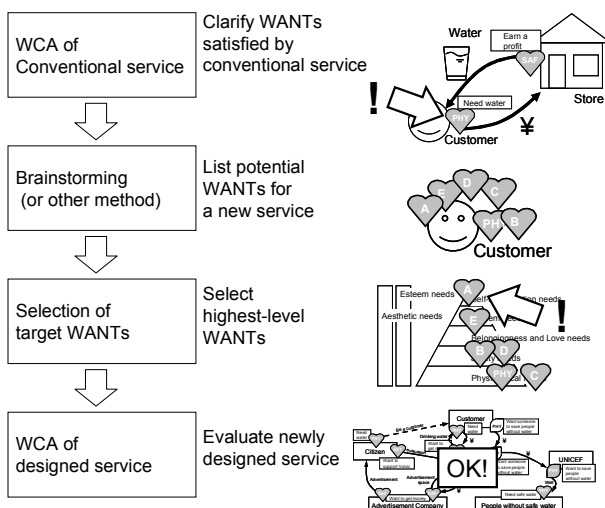


Fig. 7 Procedure of proposed method

Fig. 7 illustrates the procedure of the proposed method. First, a WCA of the conventional service is conducted; clarifying the customer's satisfied WANTs. Second, a list of potential customer WANTs are generated during an idea-generating session, such as brainstorming. Next, a target WANT of the new service is selected from listed WANTs of the customer that fulfils the hypothesis proposed in section 3.1. And new service is designed using selected target WANT. Finally, the new service is evaluated with a WCA.

4 VALIDATION

4.1 Validation of Hypothesis

To validate the hypothesis, an analysis of successful social business models selected by Ministry of Economy, Trade and Industry of Japan [7] was conducted. This report includes various examples of business model, and each business model has novelty and runs successfully. Therefore, this report is suitable to use validation.

The report includes both non-profit (NPO) and for-profit (non-NPO) type enterprises. The extract is summarized in Table 1.

Table 1 Extraction of Business Models

Type	Number of cases
Non-NPO business model	26
NPO business model	29
Total	55

In this paper, Non-NPO business models are used to verify the hypothesis, because the proposed method is intended to design new services.

For the 26 Non-NPO type enterprises, the WANTs were analyzed to determine the corresponding level in Maslow's hierarchy [6] stimulated by the service. Fig. 8 shows an example analysis of "Future-ing Network" enterprise. The added stimulus WANTs "Want to belong to a local community" belong to "Belongingness and Love needs" and conventional WANTs "Want to get information" belong to "Safety needs". Therefore, in this example, the added WANTs belong to a higher-level than conventional WANTs. The analysis of the 26 extracted business models are conducted same as example.

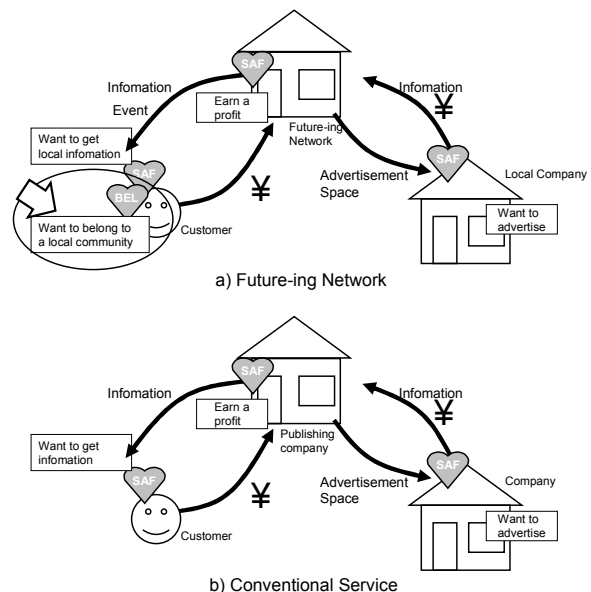


Fig.8 Example of analysis "Future-ing Network" [8]

A stimulus situation, that is, a difference between the current service and the conventional service is extracted for each service. The stimulus situations were divided into 5 classes based on the classification of services described in section 2.3. The classification results are shown below.

- A: The business model stimulates the WANTS of new customers.
- B: The business model stimulates the WANTS of current customers.
- B-1: The business model stimulates lower-level WANTS than the conventional business model.
- B-2: The business model stimulates the same level WANTS as the conventional business model.
- B-3: The business model stimulates higher-level WANTS than the conventional business model.
- C: The business model is same as the conventional business model.

Table 2 shows numbers of cases for each class of business model.

Table 2 Result of Classification

Class		Number of Cases
A	Stimulates new customer	3
B-1	Stimulates lower-level WANTS	0
B-2	Stimulates same level WANTS	3
B-3	Stimulates higher-level WANTS	19
C	Same as conventional model	1
total		26

In the analysis, class B-3 returned the most results, matching and validating the hypothesis

4.2 Validation of the Proposed Design Method

A case study further validates the proposed method. The "Drink 1, Give 10" is a campaign from VOLVIC [9], where the company contributes some earnings toward charitable work. Conventionally, the customer is interested in water, and a company sells water at a profit to satisfy this WANT. This campaign was chosen because it has few stakeholders, so it is easy to understand, and the campaign is successful.

First, a WCA of the conventional service was performed, showing that the service satisfied "Want to drink water" a physiological needs. The WCA diagram is presented in Fig. 9.

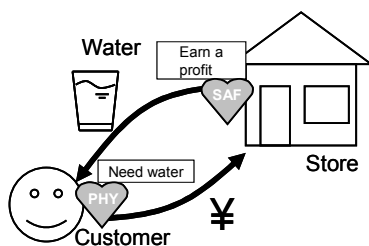


Fig. 9 WCA of Conventional service

Second, other candidate, or potential, customer WANTS were listed shown in Table 2.

Next, target WANTS from the new service was selected from the potential list of WANTS in Table 2. Number 5 in this list stimulated the same-level WANT as the conventional service, and thus, unsuitable for a new service. The remaining candidates were suitable for new service, stimulating a higher-level WANT than the original service. The most suitable candidate, number 1 in the list, stimulated the highest-level WANT, and is therefore the most suitable for a new service. The example service "1litter for 10 litters" is the best service among those proposed in the last column of Table 2.

Table 2 Candidate of WANTS and Services

No	Class	WANTS	Example
1	Self actualization	Want to help someone	Drink 1, Give 10 campaign
2	Esteem	Want to esteem someone	-
3	Belongingness & Love	Want to belong local community	Using locally produced water
4	Safety	Want to drink safe water	Advertisement of Water quality
5	Physiological	Want to drink more water	Increase quantity of bottles sold

Finally, a WCA evaluation of the new "Drink 1, Give 10" campaign was conducted. The WCA result, that the new service satisfies the WANTS of all stakeholders, is shown in Fig. 10.

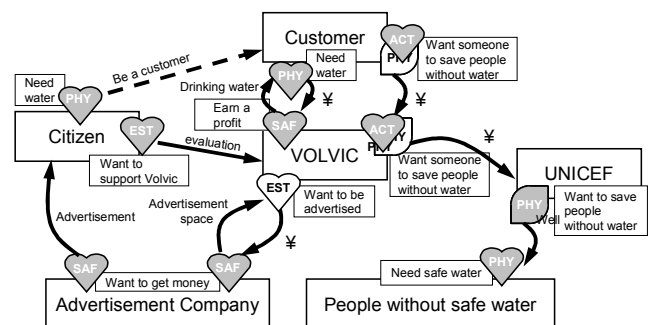


Fig. 10 WCA of "Drink 1, Give 10" Campaign

The result show that the proposed method can design a new service by targeting selected higher-level WANTS, further validating the proposed method.

4.3 Discussion

In the previous sections, the hypothesis was validated using an analytical approach and the proposed method was validated using a case study. In the case study, the potential services were selected based on a consideration of WANTS, with the suitable service selected from many candidates. The selected service "Drink 1, Give 10" is a actual campaign by VOLVIC since 2007, and campaigns in 2014. So, the validity of selected service is proved. Therefore, the validity of proposed method was confirmed by validation through section 4.2.

4.4 Future Research

In this paper, the validation of proposed method was validated with only one application, demonstrated in

section 4.2. Future research could further validate the proposed method using more examples.

Ideally, the validity could be tested further through the design of actual service.

5 CONCLUSION

In this paper, we introduced a hypothesis about the relationship between the classification of services and the success of the service, proposing a design method based on customers' WANTS. The hypothesis was validated by analyzing examples of successful social business. And proposed method was validated by a case study of application of the proposed method.

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