

Operant Resource Mix for Medical Service Science in Aged society

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Abstract: Elderly market scale is expected to be a field that may continue to birth one after another in the future a new technologies and services in the future. But current situation, when the company entered the senior business, it is not able to build enough success models. If the highest level of "Operant Resource Mix" is able to achieve, I would be very high-quality service ware have been created. In this paper, we creative process and take the stance it is not in the conventional linear process. We propose a new idea that is intended to "Back and Forth ABCD Model" creative process. At least, planning to know the nature of the process, and in the product planning at only experience and intuition, will leave a big difference in the results (hit rate). It would be applied to senior business and medical services science.

Keywords: Medical services, Customer, Relationship, CRM (Customer Relationship Management), TQM (Total Quality Management)

1. Introduction

Services for the elderly, in particular medical-related services (Health care service) market are growing led by medical tourism is expected. Not only in Japan, the Asian region has been progress is aging, health related services growth potential of the market is expected to demographic.

The medical that Asia is required, with changes in lifestyle, acute diseases such as infectious diseases, shifted to a chronic disease that requires continued treatments, such as adult diseases, like developed countries show a trend.

In such a background, medical service, was born one after another new services and products that did not exist prior is expected to be a place can continue to technology development. However, as the current situation of the health care business, in the difficult situation to say that the provider side are building a sufficient success model.

Therefore, this paper that the service provider and creative product development process, rather than the conventional linear process, when the excellent service ware has been created, in which among other things appear at the time when joint creation with customers standpoint, "Back and Forth ABCD model", and to propose the embedding of service value for application in the medical business of "Operant Resource Mix" conception.

2. Problems of medical-related services

2.1 Efficiency and sophistication of "service"

When the provider side is to devise a medical-related services, there is a need for cooperation of experts, such as the field of medicine and information science. Among other things, effectively it is carried out parties seek medical service as a model project. The elemental technologies and theories packaged and applied to a service of interest, or to simulate, by the PDCA cycle, necessary to fill the difference between the model and reality. Those are many of the previous studies have already shown.

At the same time, important also developing social mechanisms, such as the required information provider side can be obtained.

According to Lovelock & Wirtz (2007), and the service, generally, objects or other assets in the recipient's own, or the buyer has a responsibility. To provide the desired results, economic activity that is provided by the parties. Usually, in the relevant physical element, not to take ownership.

With regard to medical-related services, the setting of the rating scales, objective function, data and measurement methods, modeling, but that such optimization is difficult to be cited as a problem, the present invention is not limited to medical-related services are many, a common problem in other services.

As a solution to this problem, formation of the package, the micro-structure (micro model), corresponding to the uncertainty, corresponds to the complexity is considered. However, for the simulation to handle the place does not reach a theory, not been able to propose an adequate solution. In the medical-related services to sophisticated, for how to carry out the embedding of service value and, it should be discussed.

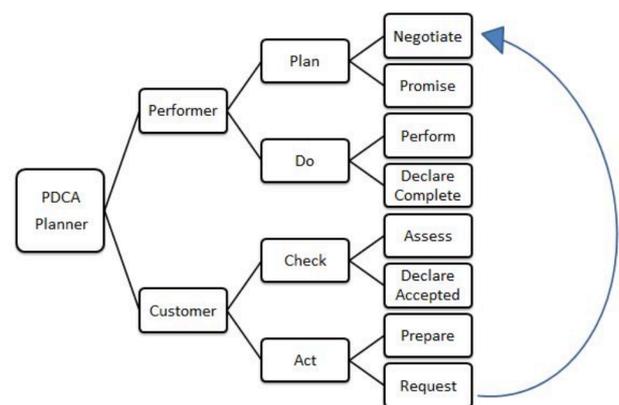


Figure 1 Sales and Service Planning with PDCA.a

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a Sales and Service Planning with PDCA, Joseph Dager (2012)

Table 1 Issues related to the provision of medical services.

1	Measure of the evaluation, the setting of the objective function ----- Values of service consumers are diverse and uncertain. Difficult to set the scale of the evaluation. Service is only efficiency can not be evaluated.
2	Data and measurement methods ----- Measured discrete and incomplete. Difficult to ensure the reliability of the data obtained.
3	Modeling ----- Difficult to make the handling easy Model (e.g. patient number, model complexity of predicting the number of physicians). Healthcare providers (doctors, nurses, etc.), the patient's behavior patterns can not be modeled.
4	Optimization ----- Constrained optimization.

2.2 Service delivery flow

Of the service creation process, what is prominent is a PDCA cycle. PDCA is a method that has been built to handle the variability. The basic goal of this cycle, effective problem-solving. A series of recurring loops of knowledge creation can be considered a cycle. PDCA cycle is a universal model for the past events. Destination and of the market and customers, disadvantage may be considered for the breakthrough.

The linear type of service provision and product development process, there is a product out type. Product-out type, the seeds of such technology with the company as a starting point, it is a linear process to proceed to the development → production → marketing. Even so the importance of the product development process by the market-cracking, a process that is suitable to the provider side with a proposed power and innovation force.

Later, when the product supply is excessive market is mature, it was born the idea of market-in ". And, the need for the needs of users was the starting point "product development" has been proposed. Development process, the needs of users research and analysis is the starting point, the channel selection was assumed from an early stage. Market-in system is an iterative cycle by the feedback. Then, it appeared problem-solving method process, in recent years, point of view to capture the design itself and problem solving has come to be seen here and there.

However, even in these non-linear development processes, it is not emphasized with respect to service value.

Table 2 Examples of service design process.

Product-out * Linear process	<ul style="list-style-type: none"> • Possibility that the concept of new products and services is to create a new market. • New products and services (innovation) proposed in the market, useful when want to embody the potential user needs. • Innovation is not necessarily a technical innovation.
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Market-in type * Repeated cycles by feedback	<ul style="list-style-type: none"> • Effective for mature market with product supply. • Development cycle is shortened. • Explores the design that users want, expanding involvement area of designer. • Necessary of needs and analysis.
Problem-solving design process * Feedback	<ul style="list-style-type: none"> • Problem-solving is for design thinking. • Discovery of the problem is the starting point, cooperation participation designers and engineers. • Evaluation and verification for user participation. • Requires careful research and observation.

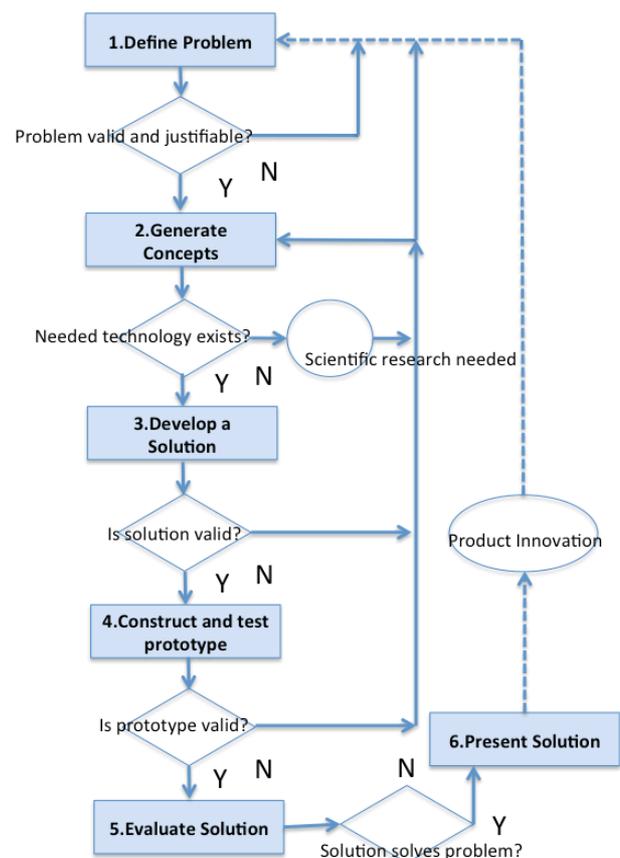


Figure 2 An example of the design process.

2.3 Awareness of the issues

Positioning of the service through the integration of products out scheme and the market-in method is insufficient. When the provider side to feedback the opinion of the service consumers. Medical care in the provision of related services, important that the feedback to work effectively, lead to the provision of the high degree of satisfaction medical-related services for many consumers. In the planning stage process of medical-related services provided, in the planning of the single-track exit, not fully capture the demand. For the purposes of the consumer, because the product development process, which serve as a model changes.

Therefore, when designing such a complex service delivery process model, necessary to capture the conceptual diagram of the provider side and market-consumers. What is important in service delivery and product development is that to clarify the starting point.

3. Proposed scheme

3.1 Back and Forth ABCD Model

Care about whether or not the service industry, there is a debate. Excessive cost is not welcome. Suppliers of medical-related services and products and (provider side), if the consumer to consume them is present, the medical market is constructed. The provision of good medical services quality, including the insurance system, involved such as the establishment of a sustainable health insurance system, the medical system in the building. In this paper, many of the medical-related services, from the standpoint of the concept, which is Joint Creation with the customer (consumer) is desirable, to propose a "Back and Forth ABCD Model".

In "Back and Forth ABCD Model", knowledge sharing and knowledge co-creation, service value and the value presented "Back and Forth," each other while, service value is considered to be creative. We know the nature of this process, and if they want to plan a service and products, if they want to plan in experience only, will come out is a difference in the evaluation and consumer satisfaction of the market. Service value is related to the service ware of creation, the provider side to provide an excellent service, it's difficult to dropping the experience of whether the project is successful in the model. This is because, the services and products of the ideas that were inspired by users' needs, although the provider side's process to carry out to market research ideas sketch, in the medical-related services, related to the ongoing specific individuals, families, such as in the area. Therefore, the corresponding medical-related services, including psychological, social, cultural, ethical dimension. In addition, in greet the aging society, increasing medical demand degree, must correspond to the complex problems that could not have the conventional experience.

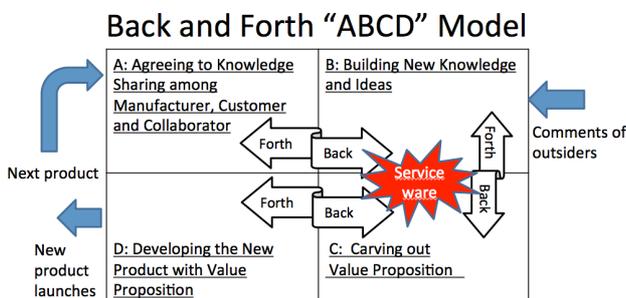


Figure 3 Back and Forth ABCD Model. (Sakano H, 2015)

3.2 Optimization of "Operant Resource"

In the service planning and product planning, in the case of Operant Resource (= utility of resources) could be realized, can be expected to the creation of high-quality service value. Especially in the medical-related services, it is difficult to

convert the service to monetary value. Cost - benefit analysis and, cost - utility analysis has been used. From the point of view of the efficient use of medical resources, necessary economic evaluation of health care services. For example, if you have more than one choice to the consumer, what choice is either on the allocation of resources desirable, to affect the way of medical services and insurance system.

In order to medical-related services, accepted to consumers is associated with many high factors of individuality. The time axis, difficult to build a regional, generalizable model.

Therefore, in the aforementioned design process, at the stage of planning the service, difficult to narrow downs the corresponding method. It is difficult to predict the future of the deployment.

Is what the consumer is to evaluate, a benefit that has been embedded in the services and products. To optimize the "Operant Resource" enhances the prediction of the "benefit" by consumers.

In the medical-related services, as well as product development, outlined the construction of a practical system, it should be also discussed the basic difficulty of the logical structure of a new system is contained.

4. Concluding Remarks

While IT in healthcare services management progresses, in the medical-related services modeling, there is a need to focus on the interaction of the providers and consumers of services (such as a patient, service of the recipient). For example, integrated system, including electronic medical records, as a management technique to achieve both the streamlining of management and improve the quality of medical services, are pervasive. On the other hand, such as drug lag of (device lag) and free access problem, the adverse effects of the health care system are pointed out.

Medical-related services is largely dependent on the values of the people, what kind of medical service is accepted, expected to constitute a methodology of planning difficult to stand. In this paper, medical-related services are also considered to be an integrated system of hardware and software were proposed for the optimization of the "Back and Forth ABCD Model" and "Operant Resource". These will contribute to the creation and development of medical-related services science. On the other hand, it remains in the proposal of the assistance model that is involved in real-theoretic ideas, strong logical empiricism attributes. Later, to construct a series of models from the system findings, necessary to guarantee the validity of the verification process.

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