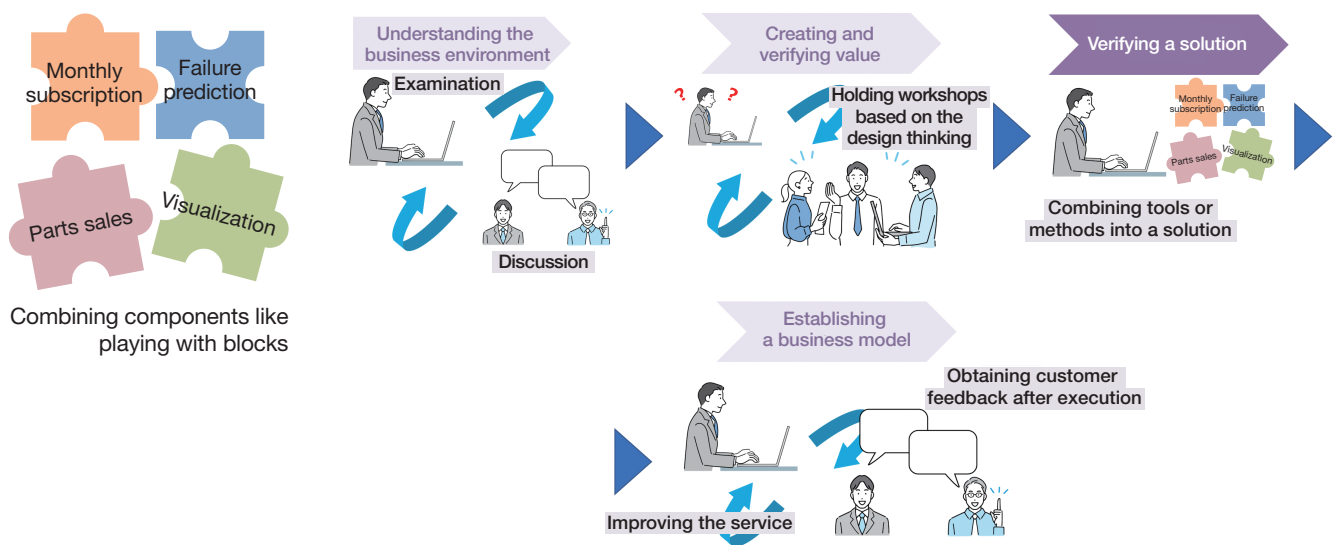


Creating Customer Value with Digital Technology

Flexibly combining digital technologies, IHI Business Platform

The IHI Group tries to learn and meet customer needs and to respond to ever-changing circumstances with the aim of promptly offering our customers valuable solutions. As a way of realizing this aim, we have established IHI Business Platform, which helps domestic members of the IHI Group execute innovation processes.



Introduction

In recent years, the business environment and customer needs have been changing and diversifying rapidly. At the same time, servitization in manufacturing industries using digital technology, or Manufacturing as a Service, is advancing at a rapid pace. In these situations, there is a need for an innovation process that maximizes customer value through quick repetition of sequences from detecting underlying customers' needs and issues to verifying hypotheses.

To quickly repeat the hypothesis verification of new services with digital technologies, the IHI Group has established IHI Business Platform (IHIBP), which domestic members of the IHI Group can utilize when executing the innovation process. Although IHIBP is presently aimed for use in Japan, there are also plans for our members around the world to use it. IHIBP provides useful information for business on the latest IoT (Internet of Things) technologies and expertise accumulated in the IHI Group. On IHIBP, componentization and function standardization allow these pieces of information to be used like parts for various

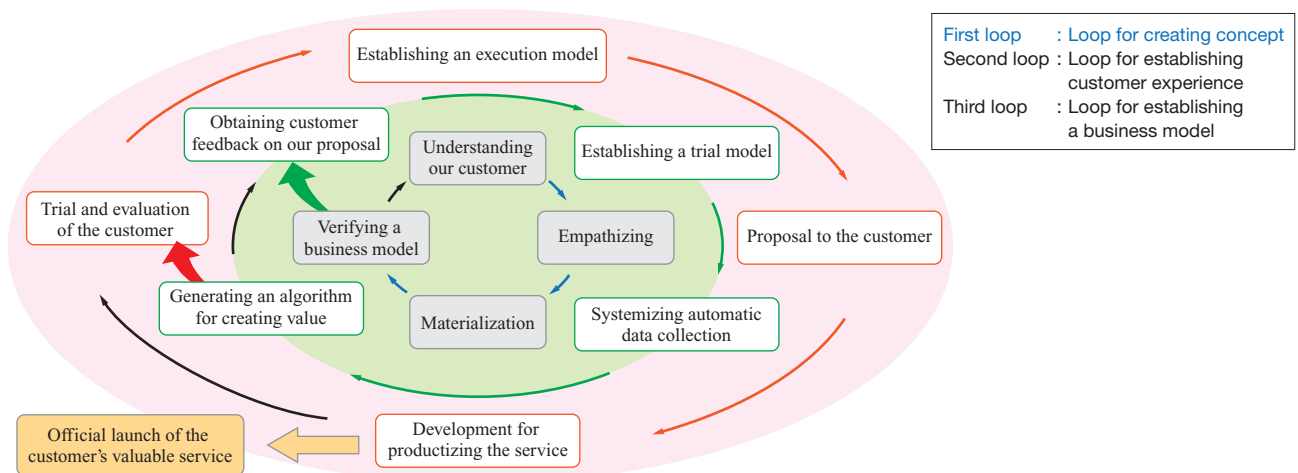
purposes. Included is the ILIPS® (IHI group Lifecycle Partner System) component, which is a core of our after-the-sale service business. The members of the IHI Group can select and combine necessary components from IHIBP according to their purposes. When they think of a business idea or a solution for a customer problem, they can materialize their idea easily and quickly with the active use of the components on IHIBP and also prototype the idea if needed. We are aiming to accelerate the creation of customer value and innovation by reflecting customer feedback on the idea or prototype and repeating hypothesis verification.

Utilizing IHI Business Platform

IHIBP supports the members of the IHI Group in the following aspects along with the innovation process with the aim of commercially providing services.

(1) Understanding the business environment

At the beginning of the innovation process, it is necessary to understand the business environment surrounding the customer and us. IHIBP provides information on leading-edge examples of DX (Digital Transformation) and on



Conceptual image of the design thinking approach customized to be easily carried out in the IHI Group

the industries related to our business together with comments of in-house experts. With IHIBP, the members of the IHI Group can efficiently obtain high-quality information.

(2) Creating and verifying value

After understanding the business environment, it is necessary to consider what value we can provide for our customers by carefully observing the customers and looking for their underlying needs and issues. IHIBP provides worksheets to observe customers, or users of our products and services, and to analyze value based on the design thinking, a way of thinking for detecting their underlying issues and solutions through empathy from their viewpoint. The members of the IHI Group use the worksheets to create hypothetical value after observation and analysis. Then they verify whether the value will result in solving customer issues and repeat verification after making changes.

(3) Verifying the solution

After sufficiently verifying the value, a solution is verified. Considering new services, tools with IoT or ICT (Information and Communication Technology) tend to be effective. Therefore, IHIBP provides digital tools for visualization, analysis, etc. that may be utilized by the IHI Group. IHIBP not only introduces features of the tools and their application examples but also allows the members of the IHI Group to try the tools. More specifically, the members can look at prepared samples or make trial operation screens. These trial materials ease mutual understanding of the concept of providing the service with their customer and project members to further improve the service.

(4) Establishing a business model

Then, a business model is established through detailed consideration of the service contents including delivery channels, support system, and arrangement of information flow. For this purpose, IHIBP provides information on

business models and monetization strategies in various industries and components for helping to make contracts. After having established an appropriate business model based on the information, the members of the IHI Group have their customer try the prototype of the service and verify its effectiveness based on customer feedback. It is usually difficult to promptly start the verification because there are many matters that require attention and prior agreement, including the purpose and scope of data utilization and the attribution of intellectual property. IHIBP, however, enables verification to start promptly with its components. After verification, the members of the IHI Group carefully analyze the feedback, improve the service and advance preparation toward the actual application of the service.

Further Improvement

As described above, IHIBP allows the members of the IHI Group to easily and quickly execute the innovation process in which they analyze customer needs, repeatedly prototype seeds of solutions, and constantly work toward improvements. In other words, IHIBP enables us to promptly provide valuable solutions for our customers.

Utilizing digital technologies makes it possible to provide solutions that meet customer and social demands, such as preventive maintenance of aging infrastructures and the realization of a carbon-free society with traceability system of environmental values based on block-chain technology, a distributed ledger technology of superior tamper resistance. IHIBP is presently aimed for use in Japan, but there are plans for our members around the world to use it. Going forward, we will expand the external coordination function of IHIBP and strengthen collaborative environment with partner companies and educational organizations to incorporate external knowledge and expertise, thereby allowing us to promptly provide various valuable services to our customers with enriched IHIBP.

INFORMATION

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Our corporate website introduces our technology categorized according to social issues: “IHI Challenges with Society”. The articles of IHI ENGINEERING REVIEW are also provided there. We would appreciate it if you would visit our website.

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