

# Combining Digital and Design Techniques to Collaborate with Customers on Value Creation for the New Normal

A “new normal” is emerging from the different ways in which people are living their lives in response to the spread of COVID-19. NEXPERIENCE is a methodology for collaborative creation with customers that is based on design thinking and service engineering. Responding to heightened expectations for the creation of new value, Hitachi has been using this methodology as a means of working with customers to paint a picture of the future under this new normal that can serve as a basis for devising new solutions. This article describes activities by front-line divisions of Hitachi that put NEXPERIENCE into practice.

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## 1. Introduction

The spread of COVID-19 has changed the world considerably, with a future that continues to be clouded by unsettled conditions and uncertainty. In the corporate sector, meanwhile, although improvements have been ongoing since before the pandemic, the challenges posed by innovation remain daunting as companies continue to face problems that are difficult to resolve by existing technologies or the efforts of individual departments. Given these circumstances, Hitachi has been working with customers to assess the needs of specific activities and come up with new solutions by putting into practice its NEXPERIENCE<sup>(1)</sup> methodology for collaborative creation (co-creation) with customers. Utilizing design thinking<sup>(2)</sup>, NEXPERIENCE involves identifying issues of concern, generating potential solutions, and assessing their value<sup>(3)</sup>.

\* A methodology based on design thinking and service engineering that was developed by Hitachi's Global Center for Social Innovation – Tokyo and first announced in 2015.

This article presents examples of past work and describes how Hitachi has drawn on the know-how and experience it has built up through its own operations to envisage what the world might look like under this new normal.

## 2. Hitachi's Co-creation with Customers

Hitachi's design department was first established as the Design Laboratory in 1957 and throughout the 60 years since then has sought to put design practices to work in its business activities. Recent years have brought increased opportunities for customers to use NEXPERIENCE to look ahead to what they might become in the future through the two approaches of forecasting and backcasting. Forecasting starts with current issues and looks forward, working with customers to devise a vision for the future and possible ways of resolving these issues. Backcasting, in contrast, looks for new business opportunities by first imagining what sort of world customers can expect to experience in the future in terms of political, economic, social, technological,

legal, and environmental (PESTLE) considerations, using this as a basis for thinking about their own futures and what they should become if they are to thrive in such an environment. When considering how a customer's business should operate under the new normal, backcasting is used to redefine these operations on the basis of a reassessment of the likely post-coronavirus business environment.

The following sections describe Hitachi's own use of the methodology to assess the changed operating environment resulting from the pandemic as well as examples that involve co-creation with customers. The latter include an application where the methodology was used to consider what conditions might be like under the new normal and what sort of business would be desirable under such circumstances. Another application used digital means to produce a vision of the future and a roadmap for how to achieve it, while in a third, the proposed future vision was presented in digital form.

## 2.1

### In-house Application

Hitachi has been significantly impacted by COVID-19 too, and in response has taken action to overcome these difficult circumstances. This has involved devising approximately 100 scenarios for the effects of COVID-19 on customer businesses based on political, economic, social, and technological (PEST) considerations and using backcasting to assess these. This provided a basis for considering the issues facing customers and coming up with ideas for what Hitachi could do to resolve them (see **Figure 1**).

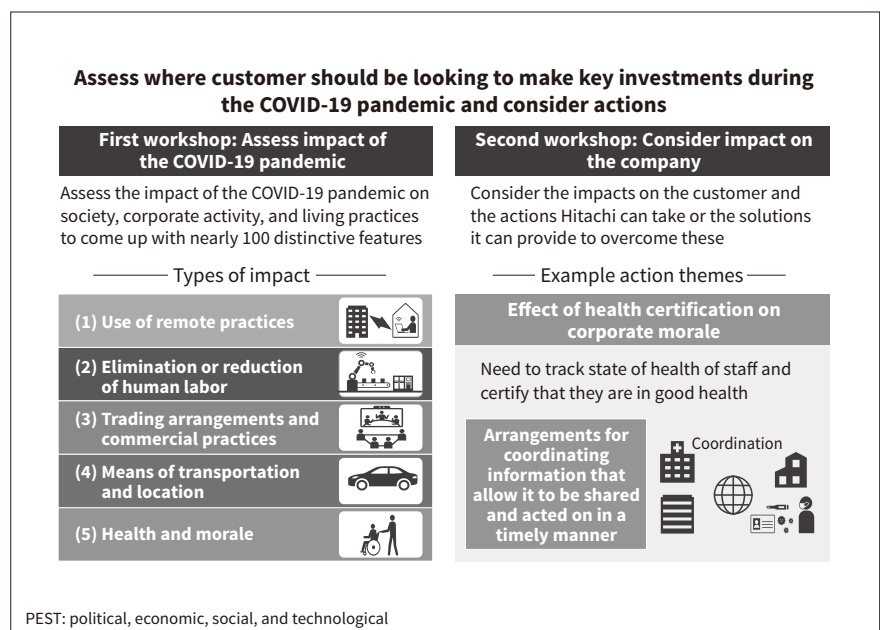
This work commenced in April 2020 and represented a first step toward formulating plans for Hitachi's response to the pandemic. The study had more than 50 participants

including people representing different departments, and the plan that was initially intended to take three months was in fact put into practice in a shortened one-month timeframe. This came about from the recognition that, rather than using a waterfall approach involving the formulation and execution of precise and detailed plans, the agile approach of design thinking would work better in the unpredictable and changeable circumstances of a pandemic. Activities included the project launch, two workshops, collation of results, and passing the results to the next phase. That the associated planning, design, and execution was completed so quickly was in large part due to use of the systematic methodology of NEXPERIENCE. The know-how and experience built up from using NEXPERIENCE with customers was also a great help, as it included a need to coordinate with the relevant departments and to deal with a variety of constraints.

Held in May with Japan's state of emergency still in force, the initial workshop became a test case for managing without the face-to-face practices that play such an important part in co-creation, with planning and execution drawing on the know-how of the relevant departments working with research laboratories. The second workshop was held in June and featured a mix of onsite and remote attendance, taking advantage of the merits of both to avoid the Three Cs of closed spaces, crowded places, and close-contact settings. One of the issues with this mixed approach was a heightened desire from online participants to take part. Accordingly, changes were made to the facilitation and workshop design to address this. The objective of up-close online discussion involving 50 or more participants was achieved by means of web conferencing tools and organizational changes.

**Figure 1 — Workshop for Identifying Distinctive Features of the COVID-19 Pandemic to Consider Business Under the New Normal**

The PEST considerations were used to assess the business conditions facing Japanese companies during the COVID-19 pandemic and identify five distinctive features. To this end, approximately 100 PEST-related considerations were printed on cards and used with the customer in a co-creation workshop.



## 2.2

### Examples of Co-creation with Customers

#### 2.2.1 Use of Backcasting to Envisage Future Business

Hitachi uses the NEXPERIENCE vision design technique to imagine future scenarios through co-creation with customers. This involves identifying factors such as future changes in the business environment that can then serve as a basis for backcasting by customers to consider what they might become. One company (“Company A”) utilized this vision design method to consider how to cope with a future that includes the requirements arising from the new normal.

Company A has been experiencing major changes in business conditions due to the impact of COVID-19, including sudden fluctuations in demand. Recognizing the inadequacy of past practices for coping with this, the company wanted to redefine its business to better operate under the conditions of the new normal.

Hitachi proposed holding a co-creation workshop where backcasting could be used to imagine what new forms the business might take under these circumstances. One benefit of backcasting is that it encourages a free flow of ideas, unimpeded by a fixation on current practice, making it a good way to consider what sort of fundamental business reforms might be appropriate given the situation in which the company now finds itself.

The workshop itemized the impacts on Company A of changes in things like the economy and people’s values in the new normal of the novel coronavirus and then backcasted from these to consider where they want to take their business in the future (see **Figure 2**). The workshop was also attended by Hitachi engineers with expertise in digital technologies such as artificial intelligence (AI). By working with Company A to envisage what they might become, the presence of these engineers enabled the workshop to go beyond brainstorming and also consider the practicalities of what was being proposed.

The company has become a co-creation partner of Hitachi and is now accelerating its digital transformation to prepare for the arrival of the new normal.

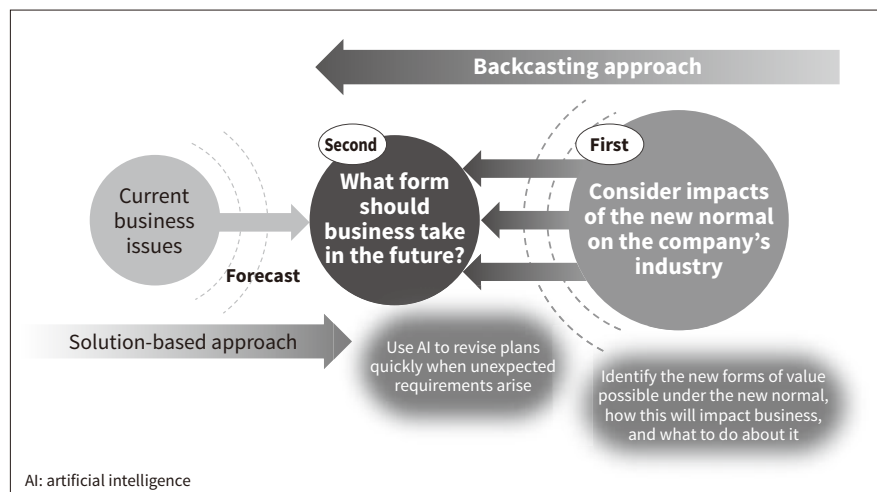
#### 2.2.2 Use of Digital Means to Consider Future Vision and How to Achieve It

When seeking to formulate a vision for how to conduct activities that span multiple departments in the future and how to address the associated challenges, the diversity of the business under consideration and the large numbers of people involved can pose problems that complicate the process of deciding where and how to get started, what sort of measures to consider, and how to go about them. To overcome this problem, Hitachi recommends holding a co-creation workshop during the startup phase of such projects. This involves putting up participants’ suggestions on a frame in the workshop such that the participants’ opinions themselves serve as the output that comes from addressing these ideas. In other words, the workshop is a self-directed exercise where participants feel involved.

In this example, a company (“Company B”) was undertaking a project to implement quality management across its entire supply chain. The NEXPERIENCE/Service Ideation framework was used at the company’s workshop to discuss what form a digital supply chain might take and what would be needed to build it, and also to produce a roadmap. The workshop talked about the value provided by the company’s products, the challenges for realizing this value, and measures for overcoming these challenges, discussing these in the context of the company’s overall operations (see **Figure 3**). By ensuring that discussion keeps both the big picture and individual factors in sight, a benefit of this approach is that it helps the participants feel involved. In a session that lasted around half a day, the discussions with the company brought together five of its departments (all of which deal with quality) along with Hitachi experts in digital and other relevant technologies, successfully

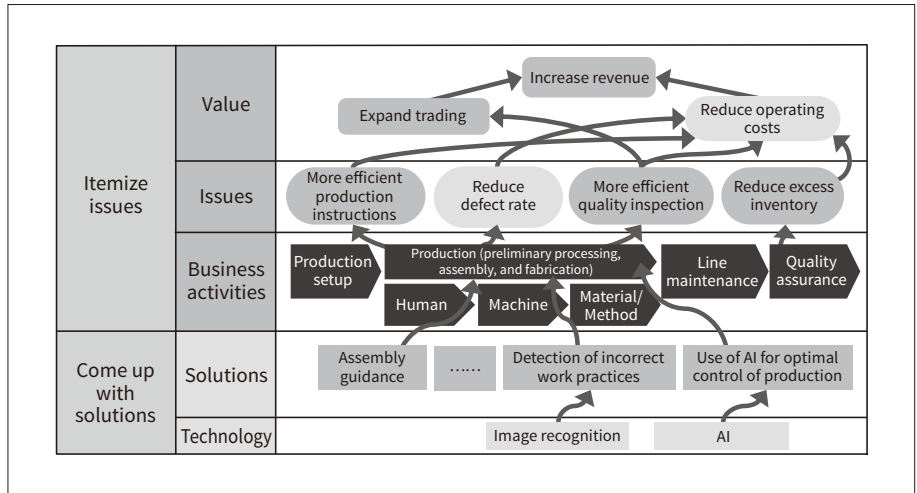
**Figure 2 — Use of Backcasting from Impacts of the New Normal as an Analytical Tool**

Whereas forecasting involves using current business issues and other such facts as a basis for deciding what to aim for in the future, backcasting instead does this on the basis of considering what circumstances might apply in the future.



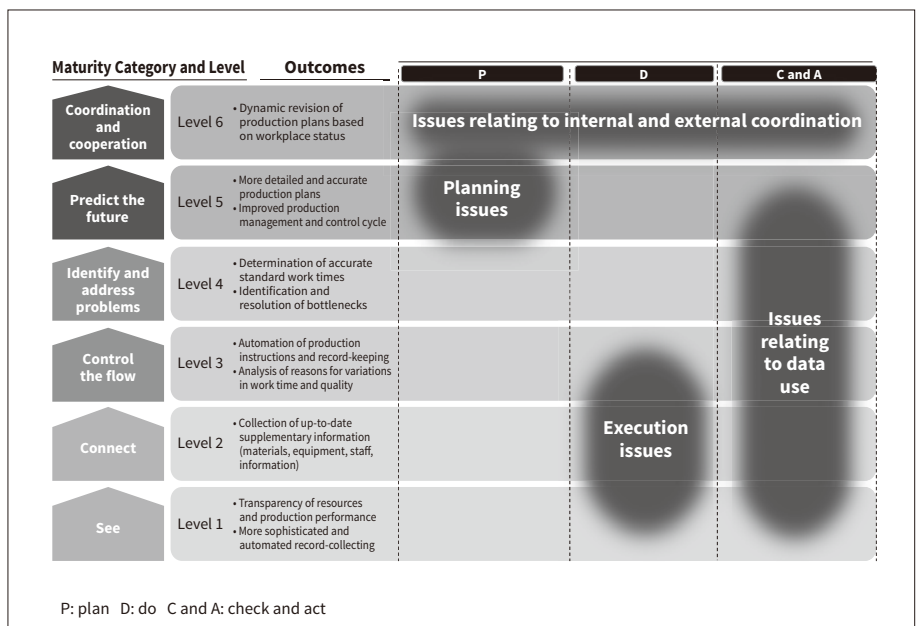
**Figure 3 — NEXPERIENCE/Service Ideation Framework**

This framework is used at workshops attended by the customer, partners, and Hitachi experts to encourage people to come up with service ideas by taking a broad view of: (1) What value the customer hopes to deliver, (2) What business issues the customer faces, and (3) What products and IT are relevant.



**Figure 4 — Use of Hitachi Maturity Model to Present Workshop Results**

The actions and issues suggested at the workshop are linked together and mapped onto the Hitachi maturity model.



sharing a vision of the future and coming up with ideas on how to achieve it. The results of the discussions were clearly laid out on the Hitachi maturity model, encompassing an overview, action plans, and how to go about them. This provided a foundation on which the project can proceed, including use in tasks such as the development of a business roadmap (see Figure 4).

**2.2.3 Company Values and Know-how Embodied by Combination of Digital and Design Techniques**

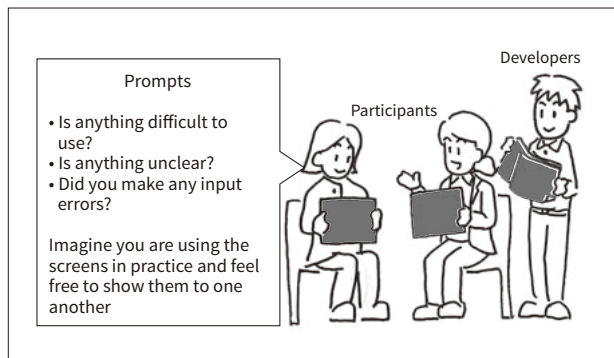
Improving their existing operations is an ongoing challenge for companies, with numerous issues yet to be resolved. Companies with a long history find it particularly difficult to make progress on digitalization, with practices that are predicated on long-standing paper-based operations or the flexibility of staff, a result of cumulative innovations that go back far into the past, and even more so when those activities are among the company’s core competencies.

This example relates to the human resource practices at a company (“Company C”) that was seeking to equip its customer-facing staff with the skills to provide a high level of customer satisfaction on a worldwide basis. Although the company’s training and assessment practices were well regarded by staff, with a high priority placed on dialogue between assessors and employees, they had yet to make much progress on digitalization. In fact, the tools used for this purpose are in many cases cumbersome, involving paper forms or spreadsheets that replicate those paper forms.

In order to get the company moving on comprehensively reforming this operation in line with the latest technology, field research was undertaken and workshops were held with the managers involved, the first step being to come up with ideas for a “talent management system.” Prior to going ahead with full-scale development, the company thoroughly considered how to present these ideas in a tangible form, including through the use of smart devices to trial a prototype in the workplace. The intention was to give people a

**Figure 5 — Roleplaying at Workshop**

Workshop participants are provided with models containing replicas (prototypes) of actual system screens and then invited to use them to roleplay how they will be used in practice and give feedback.



sense of how the system would work in practice. Developers and users continued to work in partnership on system implementation, incorporating values and know-how from the workplace into the design documents at the functional level even after development had commenced in earnest. This included workshops covering key functions where prototype screens were used in roleplaying (see Figure 5).

### 2.3

#### **NEXPERIENCE Methodology for Co-creation with Customers and Its Use in Practice**

The NEXPERIENCE methodology used for the co-creation with customers described in this article helps to undertake these activities with high quality and efficiency, providing the frameworks and IT tools needed for each step. That is, identifying future business opportunities, analyzing the issues, coming up with service ideas, designing business models, and assessing viability.

The Experience Oriented Approach Promotion Department, Lumada CoE in the Services & Platforms Business Unit that uses NEXPERIENCE for this co-creation has built up cross-functional and practical expertise from working with customers from a wide variety of industries in the Industry, Mobility, Smart Life, Energy, and IT sectors. By leveraging this experience, it is seeking to further develop the NEXPERIENCE framework and tools and its co-creation with other customers.

## **3. Conclusions**

This article has used examples to present an overview of how Hitachi is using the NEXPERIENCE methodology for co-creation with customers to undertake such collaborations both in-house and with external customers.

Along with aspects of the new normal that are not simply an extrapolation of how things have been done in the past, Hitachi intends to continue engaging in practical activities

aimed at using a combination of digital and design techniques to deliver new customer value based on the expertise and experience built up across Hitachi and on the use of NEXPERIENCE as it continues to develop.

### References

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