

Title	製造業のサービス化に向けた顧客とのインタラクションを促進する情報システムのインフラストラクチャー：ハイアールの事例研究
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論文の内容の要旨

This research explores how manufacturers involve their customers to make knowledge and value creation via technological convergence. It aims to clarify the interactive infrastructure of customer interaction for driving servitization in manufacturing in the mobile Internet era.

Servitization, first introduced by Vandermerwe and Rada in 1988, is a competitive strategy for product companies to create a differentiation advantage by adding services to products. Most manufacturers are adopting a servitization strategy to innovate organizational capabilities and processes to better create mutual value through a shift from selling product to selling a product-service system (PSS) (Baines et al., 2007). However, for many manufacturers, the PSS only brings them a short-term advantage. Soon after, another commodity trap happens in services, just as it occurs in products. The service commodity leads to increased service offerings and higher costs but does not lead to correspondingly higher returns (Gebauer et al., 2010). The weakness of the PSS approach is that services are still regarded as distinct characteristics of products to deliver to customers. The roles of customer engagement caused by the mobile Information technology are not taken into full account.

While we focused on thinking about the above issues on servitization research, Haier, the world's biggest home appliance manufacturer, came into our sight. The firm sees customer interaction as the critical strategy of corporate development. It even formulates the creed "No interaction, no Haier". We think these characteristics are pretty suitable to developing the servitization research from the perspective of customer interaction: Haier is well known for the abilities of understanding consumer needs precisely through service innovation; it regards customer interaction as the premise of innovation, otherwise, neither incremental innovation nor disruptive innovation can ensure its customer value; it interacts with one million fans on average per day, committed to changing the situation of 'guessing customer needs' and instead listen to their voices carefully before production.

The research employed the methodologies of Narrative Analysis and Grounded Theory to construct and analyze the data. Grounded theory is an appropriate method for the research

because it aims to find the new theories on servitization from the advanced business practices in the mobile Internet era. As Strauss and Corbin and Strauss (1990) defined, Grounded Theory is a research approach by which theory is derived from data, systematically organized and analyzed through the research process. In the method, a researcher does not begin a study with a preconceived theory in mind. Instead, the research begins with an area of study and gets the theory from the data. Data collection, analysis, and the final theory stand in close relationship to one another. (Mays & Pope, 1995; Strauss, 1987). The consistency of the findings from the two methods makes the research persuasive while keeping the narrative story interesting.

In order to make the analysis process proceed logically and clearly, we selected the qualitative analysis tool of MAXQDA software to deal with the data. We utilized it to aid the analysis of the transcribed text. All the text was imported into the software. The software assists us define variables, provide tabular overviews and assign colors and weights to text segments. Furthermore, every step of the process was easily tracked, and results could be accessed with just a few clicks. The data was coded repeatedly with trial and error until it logically generated the theories.

Through the analysis of the 9 categories, their association with the 20 concepts, 91 labels and the interactive comparison with the raw context, we found the saturation of theory describing the information system infrastructure of customer interaction as Customer Self-Serving Platform. New customer values are co-created when the interaction is upgraded into customer engagement. We define customer engagement as a process of customer self-actualization, where customers use their enthusiasm and knowledge to do what they are interested in. Customers are attracted to engage timely and deeply in digital, knowledgeable and social ways. The emotional award, which customers get from the self-actualization, also develops the traditional service concept. It activates a positive circle of knowledge and value creation between Haier and its customers. Moreover, customer self-actualization, as a new experience adds to the total customer value. Customer value is far beyond product function and is anything that customers think is useful to them.

Keywords: servitization; customer self-serving platform; customer self-actualization; value co-creation; information service infrastructure

論文審査の結果の要旨

21世紀に入り、Service Dominant Logic の考え方が発表され、サービスの重要性が多くの産業分野で注目を集めている。その中でも、製造業のサービス化においては、顧客との価値共創という考え方に基づいて、顧客が製品コンセプト策定段階から参加することの重要性が指摘されている。製造業のサービス化の研究では、製品とサービスを一緒に提供する PSS(Product Service System)の研究が盛んだが、本研究が対象とする mobile internet(スマートフォン)や IoT (Internet of Things)などの新たな情報技術を活用した顧客との価値共創に関する研究は、緒についたばかりであり、新規性が高く、実用的にも重要な研究課題である。

本研究では、家電製品で世界トップの企業であり顧客との価値共創を重視する Haier に着目し、事例研究を行った。具体的には、Haier の顧客接点のキーパーソンのインタビューデータ、Haier Open Partnership Ecosystem (HOPE) platform に関する調査、顧客との価値共創事例データ、などを収集し、これらを分析することで、現実のビジネスに基づいて、第3世代の製造業のサービス化という新コンセプトの提案を行った。このコンセプトは、mobile internet や IoT 時代の顧客共創プラットフォームである Customer Self-Service IT Infrastructure1(CSSP)モデルを中核とし、それを活用して顧客との価値共創を促進するマネジメントスタイルや、価値創造における顧客の役割と製造業の役割を明らかにしている。

特に CSSP は、SNS による Social Engagement, センサを製品に埋め込む Digital Engagement, コミュニティ活動を IT で支援する Knowledge engagement の3つで構成され、新製品開発に対する顧客の積極的な関与を、IT 技術で支援する mobile internet や IoT 時代の新たなサービスシステムとして、学術的にも実用的にも価値の高いモデルである。mobile internet や IoT はこれからの製造業を変える IT 技術として注目されており、製造業のサービス化の理論的な研究や実ビジネスにおいて、提案モデルの適用可能性がおおいに広がるものとする。

以上、本論文は、サービスサイエンスにおける製造業のサービス化の分野において、mobile internet や IoT 時代の顧客との価値共創モデルに対する新しい理論モデルを提案し、その有効性を示したものであり、学術的に貢献するところが大きい。また、顧客の知識や経験を新製品開発の重要な要素としたモデルであり、知識科学的にも意義がある。よって博士(知識科学)の学位論文として十分価値あるものと認めた。