Research on Customer-centered Design Method of Electric Power Service Products

Wei Tang[1,*], Junfeng Li[2] and Hongshan Zhang[3]
[1]State Grid Energy Research Institute Co., Ltd., Beijing, China
[2]State Grid Co., Ltd.., Beijing, China
[3]State Grid Henan Electric Power Company
*Corresponding author

Keywords: Electric power service, product design, Customer, Demand.

Abstract. Under the new situation, the traditional electric power service products can no longer meet the personalized needs of multiple customers. This paper mainly studies the key links of new power service product design, establishes a scientific and rational power service product design system, helps grid enterprises to enhance service capabilities, and fully meet the needs of power customers.

Introduction

From the management point of view, customer-centered is the fundamental reason for the existence of enterprises, even the only reason. Affected by such factors as open electricity market, lower transmission and distribution prices and slower growth of electricity, power grid business is facing increasingly fierce market competition. Customers have become the core resources of power grid companies, and power customer service has become the core competitive point. At the same time, the increasing dependence of society on electricity requires higher reliability of power supply, more and more complex power grids, more and more types and numbers of access equipment, and changes in the form of power grids. Traditional power services are facing great challenges. How to design new power service products has been mentioned as an important position. Scientific design methods of power service products are particularly important for the development of power grid enterprises.

There are many studies on customers and power services, such as literature [1]. In view of the large deviation between customer perception and service perception within enterprises, the path of implementing customer perception management of key contacts in the whole process is designed. Documents [2], [3], [4], [5] have studied the power supply service mode and service situation. In view of the new situation, the research on the design method of power service product has not yet seen the monographic research literature.

Change of Customer and Customer Demand

From the point of view of customer life cycle, from expanding new installations to continuously using electricity to selling customers, customers have business management needs at each stage, which needs the cooperation of various departments to complete. These services include industry expansion service, emergency repair service, equipment maintenance service, business consultation service, electricity billing service and so on. All of the above are traditional basic services provided by power grid enterprises. Great changes have taken place in customers faced by power grid enterprises, mainly in four aspects: energy use mode, interaction mode, consumption mode and thinking mode.

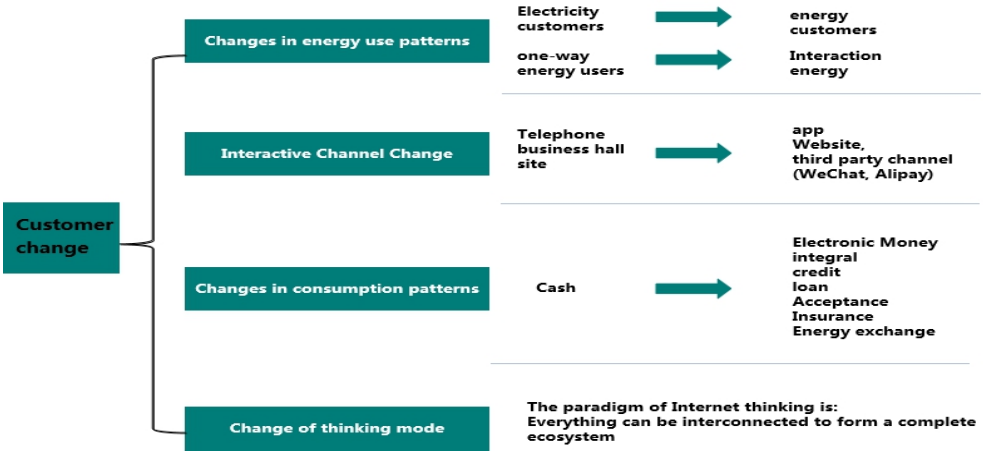

Figure 1. Diagram of Customer changes

Customer demand is diversified, from the most basic power supply reliability, security power supply demand to comprehensive energy services, value-added services, personalized service demand development.

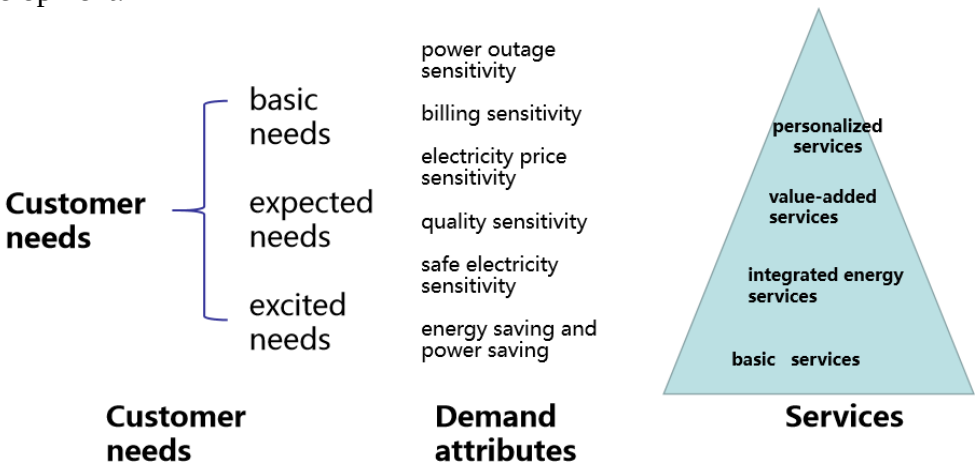

Figure 2. Diagram of Customer Demand and Customer Service Trends

Design Method of New Electric Power Service Products

Opportunities for Development

The ongoing "three-type two-network" construction of the State Grid Corporation takes the grid platform as the hub, and fully applies modern information technology such as "big, cloud, material, mobile, intelligence" to create a comprehensive state awareness, efficient information processing, convenient and flexible application of ubiquitous power Internet of Things. Through the integration of strong smart grid and ubiquitous power Internet of things, power flow and data flow run through the whole process of energy production, transmission and consumption, ubiquitous power Internet of things has become a bridge of power grid application and social application. Power grid companies focus on electricity, data-driven, intelligent analysis as a means to develop integrated energy services, and constantly improve customer service capabilities and market competitiveness.

Prerequisites of Service Product Design

Identifying customers: Capture the basic and behavioral information of customers in the process of using and contacting customers, deeply analyze and excavate the hidden information of customers, achieve a comprehensive understanding of customers, build a unified panoramic view of customers, and label customers with appropriate business.

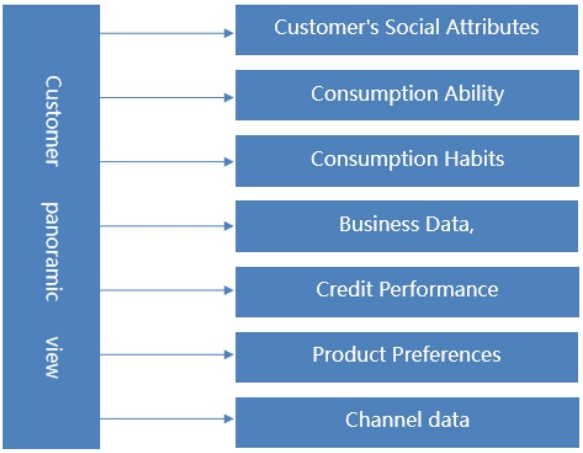

Figure 3. Customer panoramic view

Establish the role of new service products: saving customers' time and energy costs, providing more service information to help customers succeed, and developing new service products around customer pain points.

Key Links in Service Product Design

Market Research. The process of market research is the first process in value-added services. The process of market research includes confirmation of research direction, information collection, analysis and evaluation, conclusions and suggestions, optimization and improvement. Tracking and collecting information include: various kinds of national policy information, relevant energy-consuming industry information, competitor dynamics, etc. This information can be obtained through "crawlers", industry analysts and industry summits. Market research requires real-time attention to the fast changing information of policies, industries and markets, flexible adjustment of research direction and focus to ensure the effectiveness and availability of research.

Analysis and Evaluation. Comprehensive evaluation of the rationality, feasibility and urgency of demand by using Kano model, statistics and other methods. Comprehensive analysis method, analytic hierarchy process, Kano model method and statistical method can be used to make market scenario analysis and market-oriented analysis results. According to the purpose of market research, the report of strategic adjustment and optimization, market strategy analysis, Market Research report, industry trend analysis and other topics should be completed according to the requirements.

Demand Analysis and Confirmation. Market and customer demand oriented, deepen the application of market research results, collect market demand changes and client demand in an all-round way, coordinate demand analysis, resource matching and demand confirmation. It mainly includes four links: demand insight, demand analysis, demand confirmation, optimization and improvement. Management, business and technical personnel jointly carry out multi-dimensional needs analysis to ensure the feasibility, advancement, standardization and security of the results of needs analysis. Through the deep integration of business and technology, the rationality, feasibility and urgency of needs are comprehensively assessed, and needs assessment reports and needs analysis reports are formed. According to the results of demand analysis, professional teams are organized to confirm key contents such as location, team size, system platform, key indicators, cost input and investment scale, and to form demand confirmation reports.

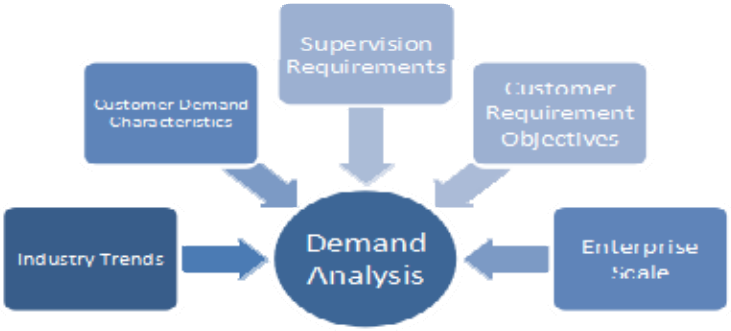

Figure 4. Schematic diagram of customer requirement analysis

Service Design and On-line Operation. According to the results of demand analysis, using resource and demand matching method, the construction requirements are analyzed, and module construction is carried out. Through joint testing and on-line operation, the system and effectiveness of the process are ensured, and the products satisfying the client's requirements are guaranteed in service design.

Customer Relationship Maintenance. Maintaining customer relationship is an important link in consolidating stock market, expanding incremental market and seeking healthy development. Through daily communication with customers, high-level strategic talks, joint development of new service products, and collaborative response to major events, the main tasks of deepening strategic cooperation and strengthening service integration include customer classification, establishment and maintenance of communication mechanism, major event management, optimization and improvement.

Optimizing and Improving. Monitoring changes in important indicators, key operational accidents, large-scale personnel changes, highlighting operational accidents in the system, eliminating unfavorable factors of customer relationship, optimizing service capabilities, and improving service level.

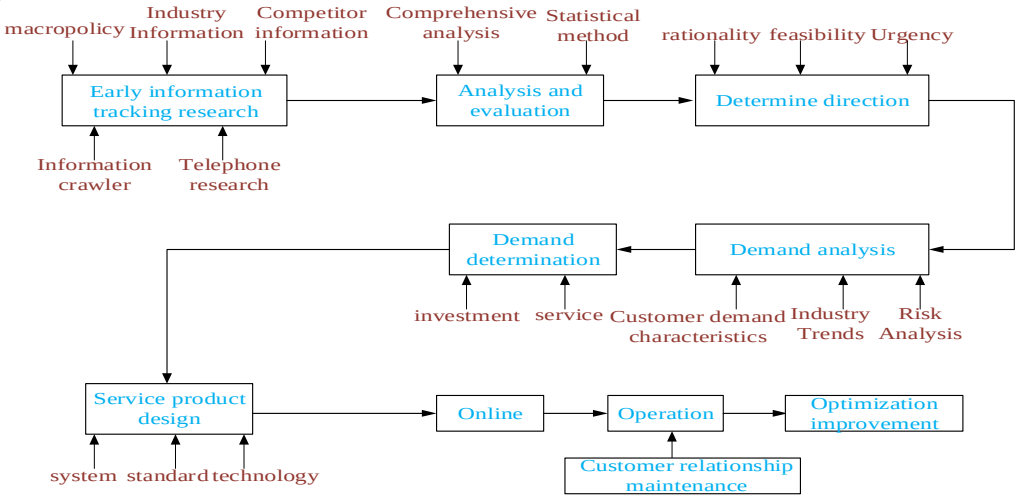

Figure 5. Design process of new electric power service product

After the formal launch of service products, business personnel need to track the whole business process in real time and respond to customer needs in time. Operators need to monitor the business operation process through multi-dimensional monitoring, identify business optimization points, and improve business flow efficiency. Managers need to control the operation of online services in a panoramic way, make scientific decisions, and improve the quality and efficiency of management.

References

[1] Wang Zizhi. Constructing a customer perception-oriented service system [J]. Communications Enterprise Management, 2019 (05): 53-55.

[2] Tan Jun. Analysis of Service Promotion Strategy of Electric Power Business Hall [J]. Science and Technology Innovation and Application, 2019 (14): 188-189.

[3] Yuan Jingye. Analysis of the ability of electric power enterprises to enhance the expansion of the industry [J].Integrated Circuit Applications, 2019,36(05): 119-120.

[4] Lin Hao, Wang Yongcai. Research on the high value-added service mode of key industrial and commercial customers under the environment of power system reform [J]. Microcomputer application, 2019, 35 (04): 90-92.

[5] Ren Liguo. Connection and sharing enabled us to open up a new pattern of customer service in the power Internet of Things [N]. State Grid Daily, 2019-04-18 (003).