

A Study on The Management System of Sanitary Ware Enterprises in Japan

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ABSTRACT. *The phenomenon of foreign tourists buying toilets in Japan reflects the imbalance in the development of the bathroom industry in the world. TOTO plays a "leading role" in the development of the world sanitary industry. In response to the needs of various classes, TOTO carried out the variety of business activities. TOTO keeps pace with the times by optimizing operation management methods, focusing on effective management, seizing opportunities, clarifying the target market, and realizing the possibility of improving market value, but there are still a series of problems in the development process. This paper combines theoretical research and investigation to analyze the current status of TOTO's operation and management, the problems and solutions to get advanced experience and the feasible risk prevention strategy for the development of bathroom enterprises.*

KEYWORDS: *TOTO, operation management, principle of universality, theoretical reference,*

1. Introduction

The 21st century is an era of economic globalization. With the increase of domestic tourism costs, foreign tourism has become a fashion trend [1]. Although seeming absurd, the substantive issues reflected in it are thought-provoking.

Consumers always tend to buy the same functions at a lower price. One of the elements of consumption is function. TOTO focuses on the construction of corporate culture and builds brand concepts; and concentrate on technological innovation and enhances product functions. Using organizational management to ensure the orderliness of production and operation. It advances with the times by optimizing operation management methods, focusing on effective management, seizing opportunities, identifying target markets, and realizing the possibility of increasing market value. But a series of problems still occurred during the development. The study of problem-solving method has a certain driving effect on the development of the whole industry.

2. Introduction

2.1 Research Background

With the "people-oriented" development thought has gradually been reflecting at the international level. The stability of the country, the happiness of people, and technological progress are inseparable from the thought of "people-oriented". To increase the well-being of people's livelihood and ensure the basic needs of people, people must pay attention to the development of the production and operation enterprises related to the people's livelihood. As Hugo wrote in "Les Misérables", "The sewer is the conscience of the city." In this way, the level of infrastructure can be named as "touchstone" for the level of urban development.

TOTO mainly engaged in the production and sales of sanitary ware, sanitary ware and related equipment for civil and commercial facilities, it is committed to improving product competitiveness, expanding the market, and leads trends in the world's sanitary production industry. For the external benefits of the company, TOTO combining the times and the needs of the public, and focuses on the research and innovation of bathroom products to achieve "people-oriented". While satisfying people's daily needs, it can assist urban infrastructure construction and has a great positive effect on the development of the city.

The innovation of sanitary products plays a key role in improving the infrastructure, highlighting the charm of the city, improving the quality of life, and serving the public. TOTO relies on its advanced philosophy, ambition and standardized operating quality to win the market competition. But in recent years, there are also problems occurred such as the increase of counterfeit products, the weakening of operational advantages, the impact of tariff changes and other issues.

Countries are paying more and more attention to the construction of urban public facilities, however, while developing urbanization, they should be guided by the "people-oriented" scientific development concept and put the ultimate goal of development on the roots of "people." In addition, with the improvement of people's living standards, people's functional requirements for their bathroom facilities are also increasing rapidly. The willingness to spend more for more functions and eliminate low-end products has led to great challenges in the development of related bathroom enterprises.

2.2 Research Significance

1. Theoretical significance: TOTO has established a high-end brand image. With its advanced production technology, the company has continuously pursued higher quality and made its products meet the users' "hygiene, health, and comfort" needs. It has created seven patented technologies based on the thought of "energy saving,

environmental protection, efficient water use and perfection". The study of TOTO's operation and management is of great significance to the theoretical complement of the development of world sanitary ware companies.

2. Realistic significance: As an important part of serving people's livelihood and strengthening infrastructure construction, sanitary products are greatly attracted by market demand. How to use enterprise's own advantages to enter the fiercely competitive international market is a question that relevant companies should pay attention to. The situation is different in different regions of the world. For enterprises, there are different types of opportunities and challenges. Only by improving their own competitiveness can they surpass their competitors in the market one by one. This is also an important foundation for enterprise development. Different populations in different countries and regions have different application needs. It is important to keep abreast of current trends, seize opportunities, deepen development, adhere to the concept of "energy saving, environmental protection, efficient water use, and perfection", and bring the advanced technologies to countries. Researches on the development measures of outstanding sanitary ware manufacturing companies in the international market provide theoretical and practical support for the development of domestic sanitary ware manufacturing enterprises in "going global", which has a strong practical significance

2.3 Research Purposes

Since its establishment, TOTO's products have been widely procured worldwide with its good reputation. However, with the expansion of the international market, TOTO also encountered a series of problems during its development, such as the impact of competition caused by tariff fluctuations and the appearance of a large number of imitation and inferior products. This article combines the development environment of the sanitary industry, analyzes the advanced aspects of TOTO in operation and the research countermeasures to give theoretical and practical supports to the whole industry.

2.4 Research Methods

1. SWOT Analysis Method: Analyzes the external opportunities and threats that TOTO faces, as well as the advantages and disadvantages that exist within it.

2. Literature Data Method: By querying excellent papers and related literature materials, collecting academic articles related to this research, laying a theoretical foundation for this research, and clarifying research ideas.

3. Case Analysis Method: This article starts with a typical case, analyzes its development and operation mode, attempts to analyze the environment of its era from the perspective of professional knowledge, analyzes existing problems and studies solutions, so as to put its system principle in promoted to a certain extent to the world-wide sanitary industry.

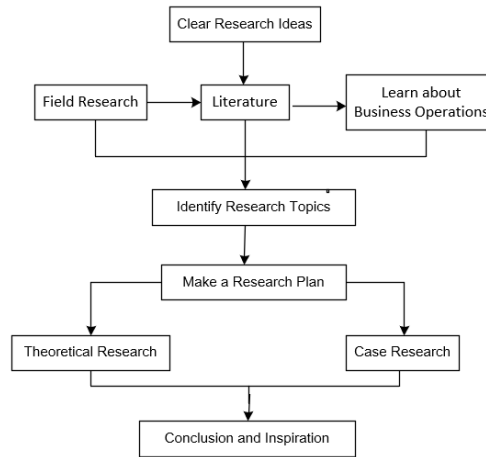


Figure. 1 Research Technology Roadmap

3. Investigation

In order to ensure the reliability of the analysis of this study, the following is a description of the field investigation at the TOTO branch in Kitakyushu, Japan on January 16, 2019:

TOTO pursues high quality and high technology level, so that users can enjoy a sanitary, healthy and comfortable life. It is the company's consistent goal. The company is committed to protecting precious water resources, creating and maintaining a comfortable living environment, and developing an integrated and combined structure sanitary equipment products, constantly strengthen their own product strength, open up new market space. Application of "water and electronics" process technology and other related technologies made TOTO's products' excellent functions and high reliability been well-known in the world.



Figure. 2 TOTO's unique design

TOTO emphasizes the full application of science and technology and innovative techniques in the construction of corporate culture. The factory's product promotion video is unique. There is only a TOTO toilet in the middle of the white projection wall. At first glance, it seems a bit abrupt, but the mystery is hidden. At the beginning of the video, the image is projected on the wall and the ground, and the divergent projection is centered on the physical toilet. The toilet is placed to achieve a three-dimensional effect, the integration of virtual and reality makes the film introduction more shocking and visual. The road inside the TOTO factory is divided into two colors to ensure the orderliness of the visitors during the visit, reduce the time spent maintaining the position of the team, and to ensure the efficiency of the visit and the experience of all visitors.

In terms of products, the TOTO toilet has a lot of knowledge in the choice of materials and the design of the shape. The sense of service provided by different materials and shapes is different. The Japanese have divided and studied the production and design of people related living appliances in detail, making the product users experience the best service in all aspects, which makes us shocked by the refinement of Japanese life service mode.

In terms of the toilet manufacturing process and the superiority of new materials, the materials used by TOTO are easier to clean than traditional materials, and have a sterilizing and self-cleaning function. This new material, which was invented in 1999, makes it difficult for dirt to adhere, furthermore, the water consumption of each flushing is greatly reduced from the original 12L to the current 3.2L by combining the whirlpool full area flushing mode and some fine structure design. Before production, the relevant departments will back-push the required mold size to produce appliances that meet customer requirements because this new raw material will have a shrinkage of 13% after firing. The production of a piece of pottery requires a very complicated and precise process.

TOTO factory needs more manual work than other factories such as automobile production. The reason is that although the efficiency of machine production is higher, in order to produce more exquisite bathroom products, TOTO makes full use of workers' senses such as audio-visual, and ensures the quality of products through artificial barrier, and judges whether there are cracks in products through "listening". In any link of production, as long as there is an error, it needs to go back to the beginning for remanufacturing. If there is an error in the color spraying or in the process of adding the final trademark, it also needs to be broken for pulping.

In addition to conventional bathroom facilities, TOTO also produces special bathroom products, truly realizing a refined sales model, reflecting the "humanized" and meticulous service of the product, and designing different types of bathroom appliances for the elderly, children, and special professionals such as sumo. "Quality first, then efficiency", it takes about four days to make each product regardless of its size.

The demand for manpower in refined production has led to a stronger demand for the factory than other factories in improving the working comfort of employees. Therefore, toilets and other facilities in the factory are more comprehensively equipped than other types of factories. Hosting a world-wide ceramics competition, in this way, cultivates the factory workers' sense of competition, thereby motivating them to continuously learn new technologies, practice and improve. It is also an affirmation to give good staff a certain reward to keep their enthusiasm for work.

Through watching the company's promotional video, listening to explain and visiting the factory, we realistically realized the advanced nature of the company in production and management and the ingenuity in product development, and learned some information and information that could not be found in the official documents of our country, which laid a good foundation for the analysis and research afterwards.

4. Basic management Situation

4.1 Management Method

4.1.1 "Close-up" Management

TOTO pays attention to "people-oriented", emphasizes the harmonious cooperation between individuals and the whole, and harmoniously learns from different management systems. Its specific characteristics are:

1. Prosody: Enabling individuals to form a "ownership consciousness" consciously strive for the enterprise, adhere to common goals, coordinate and orderly, and strive for the improvement of the overall efficiency of the enterprise.

2. There is both integrity and individuality. Individuals link their development with the development of the company, and improve their sense of mission and responsibility.

3. Self-organizing: Carry out reasonable division of labor, manage their own responsible parts, and trust their subordinates in decision-making.

4. Volatility: Enterprise management must be innovated in real time, and achieve development in fluctuation instead of rigid.

5. Complement each other: Through fully understanding various advantages and disadvantages in operation and management, enterprises can gradually turn disadvantages into advantages and realize overall development through reasonable allocation.

4.1.2 "Competitive" Management

Every year, the company organizes world-wide ceramics competitions. In this way, the factory employees are cultivated to be competitive, so that they are constantly learning new technologies, practicing and improving. Keeping worker's enthusiastic about work by giving them a certain reward, and it is also a recognition of outstanding employees.

4.1.3 "Open" Management

TOTO's production adopts an open system, which attracts a large number of people to visit the factory and experience the company's production and operation environment. This method can have a good publicity effect and help establish the company's brand image and form a good reputation. In addition, outsiders can play a role of supervising and supervising the quality and quantity of employees' work during the tour of the factory, improving production efficiency.

4.1.4 "Core" Operation

Based on the main competitive advantages, TOTO mobilizes the company's strength to focus on expanding and strengthening its main competitive advantages. TOTO attach importance to the company's training of researchers and technicians, and take its training policy as a long-term strategy for enterprise development, rather than a temporary measure. Start from the inside, TOTO strengthen the company, and train personnel to drive technological change and enhance core competitiveness.

Table 1 Summary of TOTO's third quarter settlement P / L (100 million yen)

	3Q accumulated in 2018	Accumulated 3Q in 2019	Last year difference (Previous year)	Exchange rate impact	Exchange rate impact (Previous year)
Sales	4,322	4,492	+169 (+4%)	▲38	+207 (+5%)
operating profit [Operating margin]	302 [7.0%]	299 [6.6%]	▲3 (▲1%)	▲6	+3 (+1%)
Recurring interest	327	310	▲17 (▲5%)	▲14	▲3 (▲1%)
Attributable to shareholders of the parent company	223	217	▲6 (▲3%)	▲12	+6 (+3%)
Quarterly net profit					

Data source: TOTO Japan's official website releases quarterly accounts

According to Table 1, thanks to TOTO's comprehensive management approach, sales in the third quarter of 2019 increased by 4% year-on-year. However, its operating profit, recurring benefits and quarterly net profit attributable to shareholders of the parent company declined to a certain extent year-on-year.

P / L: Profit or Loss Statement.

4.2 External environmental Analysis

4.2.1 External Challenges

According to statistics, TOTO's production bases are mainly concentrated in Asia, including China, Thailand, Vietnam, Malaysia, India, and Indonesia. However, various sanitary ware companies are also start to embrace the Asian market, they have invested in setting up factories in order to share the market. Together with the increase in labor prices of major foreign production bases, TOTO's competitiveness became weaker, and the company's production costs has been improved. In addition, as governments become aware of the importance of sustainable development and attach more and more importance to environmental protection, people has increased the pressure on environmental protection of enterprises. In January 2018, TOTO's branch in Shanghai was listed as a key sewage disposal unit in the water environment, and was urged to do a good job of self-examination and information disclosure.

4.2.2 External Opportunities

In the Indian market, TOTO has caught up with India's domestic "toilet revolution". With the rapid growth of the demand for sanitary ware in India, the company has vigorously expanded the market. At present, it has set up a number of wholly-owned and joint venture enterprises in Banten, Surabaya, and other places, and has occupied about 70% of the Indian retail market and about 30% of the real estate industry. The attraction of the sanitary ware market in Southeast Asia caused TOTO to gradually shift the focus of overseas production to Southeast Asia. In China's market, the economic development brought by the reform and opening up has greatly improved people's living standards and purchasing power. Therefore, sanitary products enterprises can seize the historical opportunity of commercialization of individual housing and large-scale construction of public facilities, reasonably locate product function types, develop new products and technologies, and seize market share with the advantage of cutting-edge technology level.

Under the conditions of a market economy, impermanent generals are always in danger, and companies cannot be complacent about the past glorious performance [2]. Challenges come with opportunities. The expansion of overseas markets will inevitably make the development of enterprises more competitive in the same international industry. At the same time, they are also affected by the policies of various countries.

Table 2 Sales of TOTO's major overseas markets in the third quarter of 2019 (100 million yen)

Sales	3Q accumulated in 2018	3Q accumulated in 2019	Last year difference (Compared to the previous year)	Exchange rate impact Last year difference (compared to last year)
China	480	496	+16 (+3%)	+45 (+9%)
Asia	218	220	+2 (+1%)	+8 (+4%)
America	234	243	+9 (+4%)	+10 (+4%)
Europe	29	29	+0 (+1%)	+2 (+7%)
Total	961	988	+27 (+3%)	+64 (+7%)

Table 3 Operating profit of TOTO overseas markets in the third quarter of 2019 (100 million yen)

Operating profit	3Q accumulated in 2018	3Q accumulated in 2019	Last year difference (Compared to the previous year)	Exchange rate impact Last year difference (compared to last year)
China	107	76	▲30 (▲28%)	▲25 (▲24%)
Asia	39	36	▲3 (▲9%)	▲2 (▲4%)
America	14	7	▲6 (▲47%)	▲6 (▲46%)
Europe	▲9	▲7	+2	+1
Total	150	112	▲38 (▲25%)	▲32 (▲21%)

Data source: TOTO Japan's official website releases quarterly accounts

As shown in Table 2 and table 3, the overseas market sales of TOTO in the third quarter of 2019 have increased by a certain margin compared with the same period of the previous year,

but the operating profit is mostly in a downward trend. Although consumers' demand for sanitary wares is growing, TOTO's overall trend in this quarter is to increase revenue and decrease profit due to the rise of competitive enterprises and the rise of labor prices and other uncertain factors.

4.3 Internal environmental Analysis

4.3.1 Operational Advantages

The advantages of TOTO's development are as follows:

1. Products' Variety is "Diversified" and Accurate Positioning

With the improvement of aesthetic requirements for purchase, TOTO attaches importance to the design of sanitary ware products, introduces new products, and designs products with modern and fashionable sense. It conforms to the development trend of the bathroom industry and is generally welcomed by the market. TOTO is based on different occupations or age At the stage of customer demand, design and manufacture "specialized" products, reflecting "humanistic care" to meet special needs, and attract customers to buy products at higher prices.

2. Satisfy the needs of customers' overall matching and individual Customization

TOTO meets the customer's personalized customization needs. Based on the overall design style and other aspects, consumers can choose the main series of products that suit their preferences and the product's use environment, thereby satisfying the consumer's personalized life concept. In today's increasingly rich material, people not only pay attention to the practicality of the product, but also pay more attention to the "added value" of the product, including the enjoyment of art and beauty in use. Personalized and customized series of products enable consumers to enjoy "beauty" in the products and get "use" satisfaction.

3. Energy saving and environmental protection of product Use

TOTO innovatively applies new materials, technologies and processes. In terms of the toilet manufacturing process and the advantages of new materials, TOTO uses materials that are easier to clean than traditional materials. As governments in various countries are more and more aware of the constraints of energy shortages and environmental pollution on social and economic development, countries have begun to vigorously promote energy conservation and environmental protection, and constantly optimize resource allocation. In addition, the improvement of living standards has also led consumers to focus more on green. As a result, "resource-saving and environment-friendly" products are more popular with consumers.

4.3.2 Operational Disadvantages

In recent years, the imbalance in price positioning, the actual level of production cannot reach the design level, and the inadequate production control have become the main reasons for TOTO's setbacks in overseas markets.

The company had planned to use "WASHLETPlus" with a water tank to open up new customers in China with rising income levels, but TOTO's sales target was not achieved. The company originally planned to produce this toilet at the Beijing Sanitary Pottery Factory, but the final product quality failed reaching the standard, in order to produce sanitary pottery with complicated structure, the composition of clay and the temperature of the cellar must be strictly controlled. As a mid-range product, it focuses on ensuring profitability through mass production, but its yield is only about 40%. Without the guarantee of production, it does not matter the strength of the company. Therefore, TOTO still needs to increase its overseas production capacity.

5. Problems and Solutions

5.1 Existing Problems

1. Under the prevailing trend of imitation and counterfeiting in the overseas market, low-cost imitations have an impact on the sales of TOTO and affect the reputation of the enterprise.

2. Impact on TOTO's overseas market caused by the development of domestic sanitary enterprises in various countries.

3. It is greatly affected by tariff changes of various countries. After China's accession to the WTO, the tariff dropped, and more countries began to invest in China. Because the Chinese market of TOTO has been relatively stable and the development space is not large, it has been impacted by new enterprises.

4. Different countries have different ideas and different demands for high-tech bathroom products.

5. There is a large demand for labor force in the refined production, and the cost of the original main labor supply places increases.

6. Other high-end brands are based on overseas market, forming strong competition.

7. Price positioning is difficult and customer positioning is fuzzy. The product positioning is high-end rather than top-level, and the price is higher for the general public, but luxury houses are more inclined to top brands such as Hans Geya and so on.

8. Due to the limitation of product attributes and the lack of consumer experience, even though TOTO encourages consumers to "try to sit" in sales, many people are

afraid to try due to the influence of traditional concepts, and thus can't really feel the improvement of experience.

9. The impact of market depression. The cost of all kinds of materials is increasing, and the selling price of products is becoming more and more transparent and low profitable.

5.2 Improvement Strategies

1. Enhance the technical content level of products and inject intelligent technology elements into each product category. TOTO has independently developed the intelligent washing technology, intelligent induction technology, intelligent cleaning technology, hydropower generation technology, and intelligent induction technology. After the intelligent cover plate, it has successively developed intelligent toilet, intelligent faucet, intelligent basin and other intelligent products in the bathroom space.

2. Emphasize the aesthetics of appearance design and pay equal attention to intelligent technology and appearance design by cooperating with world pricing designers. TOTO has hired Italian talented designer Stefano Giovanni to redesign the existing products. The masters of TOTO's cutting-edge technology are cleverly designed and use light and shadow materials to win the IF Award and the Red Dot Award.

3. Green and environmentally friendly products focus on "water saving and energy saving" and adapt to world environmental protection trends with government support. ECOMAX system toilets with excellent water saving performance, TORNADO FLUSHING strong flushing power of super swirl technology and CEFIONTECT intelligent cleaning technology, durable anti-fouling performance and the Trinity's super performance, achieves the superior water-saving power of TOTO toilets which has excellent water-saving performance and effective water-saving of 50%.

4. Carry forward the "craftsmanship spirit", carry out branded packaging and dissemination of core technologies, and convey the scientific and technological demands of products. 11 kinds of technology, such as intelligent washing technology, intelligent cleaning technology and automatic induction technology, are packaged in brand.

5. Smart toilets are not exclusive to the rich that a toilet can cost tens of thousands of yuan. In fact, this is a misunderstanding. It is necessary to further improve the price setting and expand the scope of consumers. As a matter of fact, TOTO smart toilets have fallen below the price level of 5,000 yuan a few years ago. The TOTO Guangzhou store has launched a popular version of smart toilet covers with a promotional price as low as 2880 yuan. Many functions, such as odor and drying, meet the decoration budget and fashion needs of people in the 80s and 90s.

6. Improve after-sales service and enter the community to provide free maintenance services for citizens.

7. Establish "TOTO smart toilet community experience public toilets" in community trials, which not only facilitates the community activities of residents, but also promotes the popularization of smart toilets in a subtle way and enhances the consumer experience.

8. Develop new growth points and lower one's attitude while maintaining and consolidating the advantages of the original engineering channel.

9. Comply with the trend of the sanitary ware e-commerce and adopt the sales model of "e-commerce" and "shop merchant".

5.3 Summary of Experiences

1. Develop high-quality products on the premise of protecting limited resources and energy. And create a rich and comfortable living culture on the premise of protecting the global environment.

2. Take social responsibility as our responsibility, meet the needs of customers, create products with added value, and make contributions to the economy and society of all countries and regions. [3].

3. The internal management mechanism is transparent. In general, a lower-level employee only receives orders from a higher-level employee, thereby avoiding multiple orders and causing confusion.

4. The number of people managed by each manager has a certain limit. Shorten the management level and ensure the speed and accuracy of order transmission from top to bottom.

5. Power and responsibility are inseparable and equal. When subordinating work, they must delegate the corresponding authority together to realize the transfer of management responsibilities.

6. Pay attention to employees. Pay attention to the employees, hold ceramic making competitions around the world, cultivate the sense of competition of the factory staff, and promote them to continuously learn new technologies, practice and progress. Give them a reward to keep them motivated. Improve the working environment of the factory, enhance the happiness of the workers in the operation, enhance the work enthusiasm and sense of ownership, so as to facilitate the management.

7. Implement the open management system, attract a large number of foreign personnel to enter the factory, truly feel the company's production and operation environment, establish the company's brand image, form a good reputation, supervise and supervise the quality and quantity of employees' work, and improve production efficiency.

8. Truly realize the refined sales mode. Embody the "humanized" and meticulous service of the product and design different types of bathroom appliances for the elderly, children, and special professionals such as sumo.

9. For streamlined operations, color identification is used to divide the factory work area. First to ensure quality and then to ensure efficiency. Making full use of the visual and audio senses of the workers, ensure the quality of the product through manual checks, and judge whether the product has cracks by "listening". At any point in the production process, you need to go back to the beginning and remanufacture whenever there is an error.

10. Integrate science and technology into product design, develop new materials, and review the details of production design.

6 Conclusions and Implications

TOTO's management mode is advanced. It has a world-class production line of sanitary ceramics. It adopts the world's most advanced high-pressure grouting forming technology and mechanized automatic glaze application technology, which can improve the production efficiency and ensure the quality, stability and balance of the products to the maximum extent. TOTO has grown into an international enterprise, becoming the pioneer in the industry in the production and sale of high-quality and high-level sanitary equipment for civil and commercial facilities, which is favored by the international market.

As an unexpected product of Japanese tourism craze, "shopping boom" not only highlights the improvement of people's living standards and the great wealth of material life, but also reflects the deficiencies in the quality of goods, operation system, service attitude and other aspects of the sales industry in some countries or regions around the world [4]. This paper analyzes the management of TOTO based on the author's experience of visiting TOTO factory and the literature consulted. However, due to the limited number of reading materials, insufficient professional knowledge and objective analysis and understanding, although the experience has reference significance, its feasibility needs to be verified.

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