

Analysis of the "Global Niche Top" Strategy of Regional Companies in Japan – RHEON Automatic Machinery Co., Ltd.

Hiroaki KANEKO*

*Bucharest University of Economic Studies
Bucharest, Romania*

**Corresponding author, h-kaneko@globis.co.jp*

Cristian VLAD

*Nagaoka University of Technology
Nagaoka / Niigata, Japan
cristian@japancreativeenterprise.jp*

Alexandra DUTESCU-DIMBOVITA

*Bucharest University of Economic Studies
Bucharest, Romania
alexandra@japancreativeenterprise.jp*

Nitin HINGARH

*Babes Bolyai University
Cluj-Napoca, Romania
nitin@ambikajapan.com*

Hideki ISHIDA

*Bucharest University of Economic Studies
Bucharest, Romania
hidekiishida2020@gmail.com*

Abstract. *This paper illustrates how Rheon Automatic Machinery Co., Ltd., the largest manufacturer of food molds in the world, uses operational and manufacturing complexity to create sustainable competitive advantage in a highly volatile business environment. In these days of increased digitalization, high-tech and intelligent business solutions, it is still of interest to review some rather analogue, but highly successful manufacturing companies which do not rely on high-tech to charm their customers, create employee engagement, global advantage and social impact, while nourishing sustainably business opportunities. This research further explores core elements of talent attraction, retention, workforce planning and development, as well as organizational development techniques unique to Rheon Automatic Machinery Co., Ltd.*

Keywords: Strategy, Transformation, Talent, Innovation, Complexity, Localization, Globalization

Introduction

Many companies headquartered in regional cities in Japan are suffering from declining sales and labor shortages due to the decline of the local economy. On the other hand, there are some regional companies which have not been affected by such problems and have maintained good overall business performance.

DOI: 10.2478/picbe-2024-0268

© 2024 H. Kaneko; C. Vlad; A. Dutescu-Dimbovita; N. Hingarh; H. Ishida, published by Sciendo.
This work is licensed under the Creative Commons Attribution 4.0 License.

Regardless of their location in remote, provincial areas of the country, Japanese regional firms expand their business nationwide and overseas. Having a headquarter office located outside main urban areas in Japan is not a major business disadvantage. As a matter of fact, this frequently makes it easier to attract talent from outside the region. In many cases, when there are many unique factors rooted in the local region which play a strategic "difficulty to imitate" role, being a regional company will be an element of a competitive advantage. In this paper, we have focused on a top global company of Japanese origin, headquartered in Utsunomiya, a regional city in Japan.

Rheon Automatic Machinery Co., Ltd. (hereinafter RAM) is the largest company in the world in terms of market share of "bean paste fillers". The products produced by RAM's encrusting machines are "something covering something else food products" from all around the world, such as buns, mooncakes, piroshki, scotch eggs (such as hamburgers with eggs), and hamburgers with cheese. Well-known classic confectionery and many signature dishes of family restaurants all over the world are also made using RAM equipment. Even if the corporate name of RAM is not well known internationally, many people have eaten food made with RAM equipment.

RAM main products are encrusting machines and bread making machines. What they all have in common is that they are made to handle sticky, elastic and viscous fluids, and are well-resistant to both liquids and solids. It is easy to understand if you imagine the dough of bread. The study of dealing with such substances is called "rheology" and is the origin of the company's corporate name (Rheon).

RAM was founded in 1963 in Utsunomiya. The founder, Torahiko Hayashi, was a Japanese confectionery craftsman who ran a Japanese confectionery shop in the tourist areas of Nikko and Kinugawa Onsen. Torahiko's restaurant was thriving, but the production of buns was hard work, and it was difficult to find time to develop new menus. Therefore, Torahiko decided to automate the production of buns, and after many years of trial and error, he developed all by himself a food encrusting machine. RAM's global expansion was fast; five years after its founding, it started exporting in 1968 encrusting machines internationally. This was shortly followed by the opening of local laboratories in Germany in 1969 and the United States in 1970. Currently, less than 60% of RAM sales are in Japan, and the rest are overseas, in regions such as North America, Europe, and Asia. In 2020, RAM was selected as one of the 2020 Global Niche Top 100 companies by the Japanese Ministry of Trade and Industry (METI, 2020).

This research further explores how RAM, a small local firm which started with bun manufacturing equipment, later became a top global company, selling its products and being constantly active in multiple geographies and markets.

Literature Review

In these days of rapid digitalization and automation of all processes, many legacy businesses are still attracting scientists' attention. Counterintuitive to the digitalization discourse, many of these businesses are still thriving on highly analogue, but complex operations, as well as on human networks and interactions.

Businesses in Japan have longed relied on human interactions, deep communications and networks with local influencers, thought leaders, trading communities and academia (Watahiki et al, 2023). As a matter of fact, long-lasting businesses in Japan were created in an effort to provide employment opportunities to local communities, rather than respond to a certain market need. Such companies in Japan have been in business for centuries and they have continuously attracted and

hired local talent, people who consider their workplace an extension of their own homes (Kaneko et al 2021).

Local employees in Japan have historically venerated their place of work, along with the company they belonged to. Their company name would have much resonance with them as their own family names, and the connection one would have with their place of work would go far beyond daily transactional operations, expecting from their employers a caring and protective type of leadership. This type of leadership goes back in Japanese tradition over the centuries, and it indicates not just pure loyalty and commitment to life-time employment, but also a strong, family-like connection (Watahiki et al, 2021).

Such legacy businesses in Japan have a strong connection with their local communities and they have historically upheld their human capital as one of the most important resources in the organization, while focusing on mission, values and purpose to strengthen their organizational culture. At times of economical or social hardship, these businesses have pivoted and explored their own legacies in search of honest answers and indicators on what is not only the best, but also the right decision to make. This is how organizational culture was cherished and reinforced over the decades, while companies valued employee wellbeing along with productivity and business sustainability (Ishida et al, 2021).

During the recent Covid-19 pandemic, such businesses experienced a dramatic transformation of operations, as most employees were working remotely to ensure business continuity (Law et al 2021). This was a time in Japan when many companies explored and adopted new business models and operations, along with digital technology, agile work practices, and modern communications and collaborative solutions. This was also a time when businesses in Japan connected with global counterparts faster than ever in the past and explored multiple resource-based circular economic models to implement (Yamaguchi et al, 2020).

Culture has played a significant role in re-defining corporate strategy and re-shaping business agendas in Japan over the decades, especially in the manufacturing industry. Manufacturers of electronic appliances, apparel and automobiles alike have considered culture to be at the center of their talent operations while transforming their business and adopting modern technology (Profiroiu et al, 2020).

Nevertheless, while experiencing digital transformation and adopting the latest in cognitive technology, bionic organization architecture and leadership practices, many prominent companies in Japan chose to pivot once again and to reflect upon their culture, values and mission to re-define how they wish to continue creating value and staying relevant to their customers and employees (Gatan et al, 2021).

Once such example is RAM – an organization deeply rooted in the culture and business ecosystem of Utsunomiya city in Tochigi prefecture. RAM has been continuously growing and steadily expanding their business locally in Japan, as well as overseas. Rather than relying heavily on modern technology for re-inventing their business, RAM chose to strategically focus on their complex manufacturing operations, along with their corporate culture as core elements of competitive advantage. Culture has historically had a strong impact on employee attitude toward investment in heavy work and continuous value creation in Japanese organizations and it is still playing an essential factor in modern businesses (Popa et al, 2020)

Methodology

The main method of research for this paper was participatory observation, as the authors participated and external business consultants in a large-scale transformation project for RAM between 2021 and 2023. Sixteen focus group interviews (FGIs) were conducted with executive directors, managers and business associates during this period of time.

The authors utilized i-SPSS+ software (Japanese language version) to analyze 968 responses collected in a company-wide employee engagement survey conducted in December 2023.

Results and discussions

Handling a wide variety of foods manufactured by a "general-purpose machine" instead of a dedicated machine

The main foods manufactured by RAM encrusting equipment are Japanese sweets, Western confectionery, and cooked foods. Each food product has a different size, length, width, ingredients, and proportions (filling and skin). Different materials have different viscosity, elasticity and softness, as well as different temperatures at which they are manufactured. In addition to this, the quantity needed to be manufactured per day also varies. Therefore, there is a wide range of elements and conditions required for the manufacture of encrusting utensils. Nonetheless, RAM manufactures a wide variety of food products as "general-purpose machines" rather than "dedicated machines" for each type of food.

The company's general-purpose filling machine has a unique product name, "Martian". This name has been inherited from generation to generation from the first bean paste machine ever developed. The Martian has been improved more than twenty times to date, and it has changed significantly since the first generation. Currently, there are about ten types of devices that are considered "general-purpose", and RAM is manufacturing and commercializing them to cover a wide variation of food products within that range. Currently, the proportion of dedicated machines is increasing due to the diversification of customer demand, but the basic business intention is to respond with general-purpose machines as much as possible.

The advantage of using a general-purpose machine is that it can achieve economies of scale by mass-producing the same equipment and parts. In addition, since there is no need for local customization when expanding overseas, globalization will have an even greater economic effect of scale.

The source of the difficulty of imitation is the existence of a connection between food and equipment

In order to handle a wide variety of foods with a general-purpose machine, it is necessary to customize and adjust the equipment, such as combining options. This is the role of the "Technical Services" department. RAM technical services are not only very familiar with RAM products, but also they have in-depth knowledge of food. While the design department is highly specialized in machine and equipment design, the technical service department is specialized in "connecting food and equipment". The more types of food products a technical service handles, the more know-how about ingredients and recipes it accumulates and retains within the company. As a result, it is possible to engage with customers and to propose to them new and innovative solutions, as many more food products can be easily manufactured by machines. This kind of in-depth knowledge of food cannot be easily imitated by other food equipment manufacturers.

Another source of imitation difficulty is the maintenance of the food equipment. After the installation of the equipment, customers demand regular maintenance to prevent it from breaking down, as well as quick failure response, in case of need, from RAM technical services. If the equipment stops, the food factory will have to shut down, so proper maintenance and product support are just as important as the performance of the equipment. As RAM offers the largest number of fillers and bread-making machines in the world, it has built the most complete maintenance network in the industry, which is not easy to imitate by late-coming manufacturers. This has led to the strengthening the trust of RAM customers and to enhancing competitive advantage.

In addition, the wealth of information obtained through maintenance operations has become RAM proprietary know-how. For example, real-time information about how the equipment is actually being used, the likely wear and failure of parts, is essential for constantly improving the products. RAM sales representatives work in collaboration with internal marketing, maintenance and technical support engineers and they collect hints and clues from casual conversations with their customers during sales or maintenance visits. While sales and technical support engineers focus is the role of "connecting food and equipment," maintenance specialists focus on "connecting food factories and equipment."

At RAM, valuable information flows through these well-connected business units, and the accumulation of this information is a unique type of know-how which cannot be found anywhere else. This leads to the competitiveness of RAM facilities and RAM's ability to respond to diverse customer needs in a timely and efficient manner. As a result, market share has increased, the maintenance network has been enhanced, and a virtuous cycle of internal communication and business enhancement has been created in which relevant information is gathered and shared with all appropriate stakeholders in real-time.

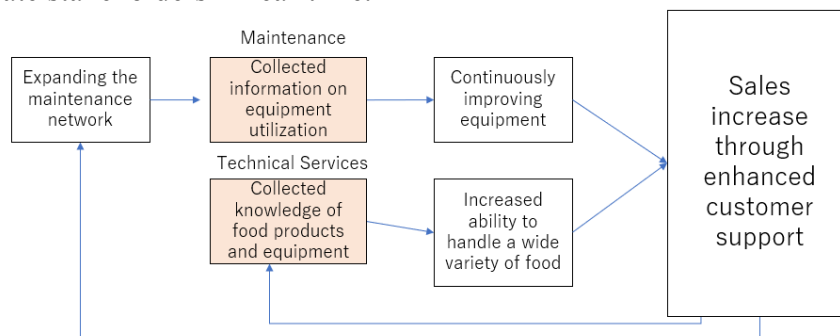


Figure 1. Virtuous cycle diagram of RAM internal business engagement

Source: Hiroaki Kaneko, RAM strategy and maintenance team meeting notes.

Insofar, we have analyzed the unique business strategy of RAM. Next, we will illustrate how RAM became a global leader from a small business in a regional city in Japan.

Japanese manufacturing is a typical example of "highly complex products"

RAM's bean paste encrusting machines make food that wraps the ingredients on the inside with the outer ingredients, such as buns, but there are as many types of food, as there are devices, used by customers. The contents of the wrapping are not only bean paste, but also eggs, cheese, whipped cream, fruit, ice cream, etc. The wrapping side is not only bun crust and sweetened rice paste *daifuku mochi*, but also bread, rice, fish paste, minced meat, chocolate and sponge dough. In

addition, the ratio of the inside to the outside (whether it is a type with a lot of bean paste or a thick outer skin), the size and length of the food required, are also different.

Particularly difficult is the handling of fluids which are sticky, viscous and elastic, and merging ingredients between liquid and solid crusts, which is the RAM's special technology. The viscosity and elasticity change depending on temperature, and the characteristics change depending on the method of stirring. While dealing with such "troublesome" ingredients, RAM manufactures a wide variety of foods with general-purpose machines. Even more, the end product is finished to the same level of perceived quality as similar handmade products created by artisans. Most customers do not want to be served food which appears to be made by a machine. In this way, RAM responds to complex customer requirements (each company's own products, at the same level of perceived quality as other handmade products), handles difficult materials (a variety of materials, difficult to handle non-Newtonian fluids), and makes complex and cumbersome adjustments (basically general-purpose machines, technical support techniques).

The figure below illustrates this situation. The technical service department has a clear understanding of the characteristics of the food clients want to make, adjusts the inside of each layer of the equipment (especially the mechanical part responsible for execution) and adjusts the space between the layers so that any food product can be manufactured. The figure below illustrates that converting artisanal handmade food to be machine-ready for production requires knowledge across food ingredients, recipes and equipment.

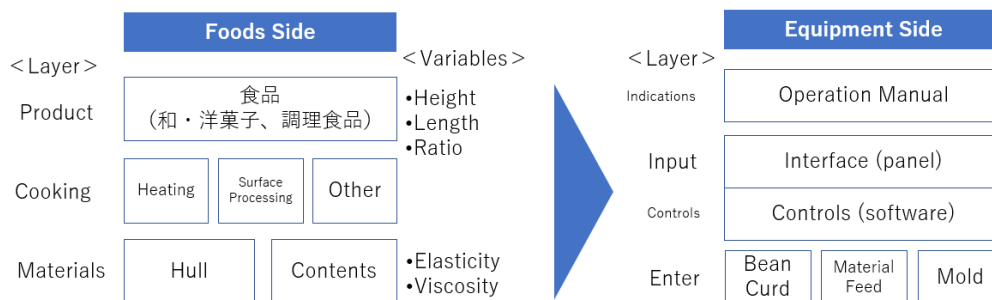


Figure 2. Technical services connect food and equipment (image)

Source: Hiroaki Kaneko, RAM strategy and maintenance team meeting notes.

This is not the only complex and troublesome thing. Customers who purchase the equipment use it for many years, and if it stops, it will be a major problem with significant business impact, so proper and timely maintenance is necessary. In that respect, RAM products are considered to be reliable but high maintenance and cumbersome to manufacture, deliver, operate and keep up-to-date.

However, the device itself is not complicated. When it comes to maintenance, equipment that uses a lot of cutting-edge technology or has a structure that is too complex has a big disadvantage. The complexity of the structure of the equipment increases the difficulty of connecting the food and the equipment. If it is not possible to repurpose a general-purpose machine, a dedicated machine must be designed each time. The increase in the number of specialized machines and parts increases the cost of design and production, as well as the cost of storing parts. It also increases maintenance efforts. Therefore, it makes business and operational sense to have a simple policy of responding to market needs with general-purpose machines whenever possible.

Whenever we discuss about the world's top manufacturing industry, we tend to have the image that businesses are winning by making full use of advanced and cutting-edge technology, but this is not necessarily the case at RAM. The company's competitive advantage comes from product support in the form of technical services and maintenance, and the know-how it gains ultimately leads to the competitiveness of its equipment. Rather than being "coordinated" or "high-tech," it can be said that it is a business which thrives on complex and cumbersome work.

The employee engagement survey conducted at the end of 2023 had a 96% response rate and it indicated that 89% of respondents believed that hard and cumbersome work was one of the main reasons for their company's continued success. 89% of the respondents confided that they considered RAM to be an entity of high importance to their lives, not only a place where they spend a vast majority of their adult time, but also a social structure in extension of their own families. 21% of the respondents indicated that they would ever consider working elsewhere, even if the compensation package were to be generously higher than what RAM was able to offer. 38% of respondents indicated that they proactively take part in local community events, and that they have alternative work commitments where they proudly share from their work experience at RAM. The annual turnover rate in 2023 was of 3.8% of the employee population, consisting mostly of people reaching retirement age.

Keeping global headquarters office in Utsunomiya

The Focus Group Interviews provided further insights into RAM employee mentality and mindsets. "I think that the greatest significance of having our headquarters in Utsunomiya, the place where the company was founded, is to continue to inherit and bestow the story, the narrative and the legacy of our company's founding" (RAM HR manager).

The founder, Torahiko Hayashi, originally worked as a Japanese confectionery craftsman in Niigata Prefecture, but after many twists and turns, he opened a Japanese confectionery shop in Tochigi Prefecture. This is because Nikko and Kinugawa Onsen flourished as tourist destinations. Torahiko taught himself to develop the encrusting machines, but he had the help of Nikko's gunsmiths when making the parts. Utsunomiya City has a place name called "Teguncho" (transl. "the town of firearms"), which comes from the fact that there were many gunsmiths who lived in Utsunomiya at the end of the Sengoku period (1467-1600). In the Battle of Numajiri in 1584 (the battle between the Go-Hojo clan and the Utsunomiya and Satake clans), 8,000 guns, which were the latest weapons at that time, were manufactured in the region. Although it has become obsolete in modern times, the fact that there were many skilled and available gunsmiths in Tochigi at the time of RAM founding was also an advantage and a *raison d'être* of the business in this area.

Today, many of these benefits are gone. But the story of its founding is still relevant. Since the founder was a Japanese confectionery craftsman, the company inherited the narrative that confectioners should devote their time to creative things, and in order to do so, they need to be free from hard work. This has led to an attitude of trying to respond to food products that are difficult to manufacture by machines. In addition, the attitude of trying to respond with general-purpose machines as much as possible is also influenced by the fact that RAM did not start business as a machine manufacturing shop; rather, RAM had to invent its own products and equipment while working with local consumers and creating market need.

Conclusion

What we can observe in the case of RAM is that their current business model is supported by the characteristics of "complicated systems" which Japan excels at and the "founding story" that is inseparable from the local area. This legacy on intricate manufacturing processes, complex operations and go-to-market initiatives which are deeply rooted in the local culture have kept the company in business over decades and have contributed significantly to its competitive advantage. In addition to complex and hard-to-imitate manufacturing systems, culture has been at the core of RAM business success over the years. RAM employees share a strong, common sense of purpose and they cherish corporate values and vision not only at their workplace, but also in their private lives, beyond corporate compliance and other control functions of their organization.

References

- Andriessen, D. (2006). On the metaphorical nature of intellectual capital: a textual analysis. *Journal of Intellectual Capital*, 7(1), 93-110.
- Gatan, L.; Vlad, C.I.; Ishida, H.; Takahashi, T.; Kaneko, H. (2021), "Using Cognitive Technology to Drive HR Transformation at INTEC in Japan," *Review of International Comparative Management*, Academy of Economic Studies, vol. 22(2), pp. 193-203
- Ishida, H.; Takahashi, T.; Kaneko, H.; Vlad, C. I.; Dutescu-Dimbotiva, A. (2021), "Reinforcing Culture and Talent Operations at Trusco Nakayama Corporation", *Analele Universității din Oradea, Seria Relații Internaționale și Studii Europene*, TOM XIII, pp. 105-112
- Kaneko, H., Vlad, C., Gatan, L., Tahakashi, T., Adachi, S. (2021), "Ina Food Industry: A Company That Makes Employees Happy", *Studia Negotia*, LXVI, 1, pp. 49-77
- Law, K.; Takahashi, T.; Vlad, C.; Kokusho, K.; Iqbal, S. (2021), "Gauging the Reactions to Remote Working at IBM Japan During the Period of Covid-19", *Business Excellence and Management*, Vol. 11, Special Issue 2, pp. 168-181
- METI – Ministry of Trade and Industry. 2020 *Global Niche Top 100 companies*. Retrieved from https://www.meti.go.jp/policy/mono_info_service/mono/gnt100/pdf/2020_gnt100_company_list_en.pdf
- Popa, I.; Stefan, S. C.; Albu, C. F.; Popa, S. C.; Vlad, C. (2020), The Impact of National Culture on Employees' Attitudes Toward Heavy Work Investment: Comparative Approach Romania vs. Japan, *Amfiteatru Economic*, 22 (Special Issue No. 14), pp. 1014-1029
- Profiroiu, M., Kaneko, H., Vlad, C., Dutescu, A., Ishida, H. (2020), Toyota Motor Corporation's Culture Strategy, *The Review of International Comparative Management* Volume 21, Issue 4, pp. 458-489
- Watahiki, N., Gatan, L., Vlad, C., Ishida, H., Mujaya, J. (2023), Entrepreneurial Networks in Niigata Prefecture in 1897: Measure of Local Milieu, *Review of International Comparative Management* Volume 24, Issue 4, pp. 553-570
- Watahiki, N.; Chua, J. R.; Gatan, L.; Vlad, C. (2021), "The Image of Work and the Ideal Leadership in Shuju Kokoroegusa – The Manual of Master and Servant", *Romanian Economic and Business Review*, 15 (4), pp. 35-51
- Yamaguchi, B., Takahashi, T., Vlad, C., Kaneko, H., Damaschin, A. (2020), "The Impact of Resource-Based Circular Economic Models in Japan", *Romanian Economic and Business Review*, 15 (2), pp. 7-29.