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Article

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Journal of Open Innovation: Technology, Market, and Complexity

Provided in Cooperation with:

Society of Open Innovation: Technology, Market, and Complexity (SOItmC)

Suggested Citation: Kim, Dawon; Kim, Rosa; Lee, Tongwon; Choi, Seunggho (2021) : Related diversification using core competencies in South Korean dairy industry, Journal of Open Innovation: Technology, Market, and Complexity, ISSN 2199-8531, MDPI, Basel, Vol. 7, Iss. 4, pp. 1-17,
<https://doi.org/10.3390/joitmc7040243>

This Version is available at:

<https://hdl.handle.net/10419/274303>

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Article

Related Diversification Using Core Competencies in South Korean Dairy Industry

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Abstract: This study aims to examine how unrelated diversification facilitate firm's growth and innovation. To achieve this goal, we investigate how Maeil Dairies has diversified through open innovation as the Korean dairy market struggles to maintain its size. Maeil Dairies, one of the top three conglomerates in the Korean dairy industry, has gone through different forms of diversification both related and unrelated to its core competencies. This study presents what the overlapping competencies are in its diversified products and businesses, analyzes the effectiveness of diversification in terms of relatedness, and examines the need for unrelated diversification. By analyzing the four diversification categories of the Maeil Dairies case and applying diversification theory, this study shows that although related diversification is more recommendable in most circumstances, unrelated diversification may present new opportunities and is necessary in order to avoid stagnation and falling behind.

Keywords: related diversification; unrelated diversification; core competencies; case study; Korean dairies market study; open innovation



Citation: Kim, D.; Kim, R.; Lee, T.; Choi, S. Related Diversification Using Core Competencies in South Korean Dairy Industry. *J. Open Innov. Technol. Mark. Complex.* **2021**, *7*, 243. <https://doi.org/10.3390/joitmc7040243>

Received: 1 August 2021

Accepted: 1 December 2021

Published: 9 December 2021

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1. Introduction

The South Korean dairy industry has been dominated by a few domestic conglomerates such as Maeil Dairies and Namyang Dairies. In 1980, the dairy industry had milk consumption of 0.5 million tons and steadily increased 8 times to 4.3 million tons in 2020 [1]. During this period, major domestic dairy companies have also grown significantly, supported by the steady expansion of the market, and the history of these companies can be said to be the history of the overall Korean dairy industry.

As in the case of the dairy industry, necessity goods that meet basic human needs such as food, clothing, and shelter show relatively small volatility in contrast to luxury goods. In other words, they show less elasticity and are less subjective to fluctuating economic conditions [2]. Thus, companies that produce and sell necessity goods often form a closed market where they can sustain power for a long time, which could be applied in the case of the South Korean dairy industry.

Based on its trustworthy reputation, the dairy market for Maeil has been a steady source of profit with a consistent national birth rate until 2012. Despite its stability, the Korean Dairy market has scaled back in size due to diminishing birth rates and an aging population caused by a combination of factors such as a lagging economy and drop in marriage rate. Moreover, consumers were given better accessibility to foreign dairy products with the development of e-commerce. Therefore, firms in this industry have started to look for different means to expand [3].

Among multiple methods of business expansion, Korean dairy companies chose diversification as their major strategy to achieve competitive advantage. This strategy was attributed to open innovation, which led to the development and growth of various dairy firms. In the 1970s and 1980s, domestic dairy companies expanded their businesses by manufacturing milk-related products such as baby formula, white milk, and yoghurt. In the

late 1980s and 1990s, they began product diversification in core businesses mostly focusing on different beverages, including soymilk, juice, and coffee. Then, entering the 2000s, the Korean dairy industry faced the significant problems of a low birthrate and an aging population. Due to these environmental changes, firms needed to push their boundaries and attempt open innovation. Along with the active development of the overseas market in various product groups, the dairy industry transitioned to related business diversification in order to look for new opportunities [4].

To this end, this study examines the case of Maeil Dairies (here and after “Maeil”, or “Maeil Dairies”), which reflects the history of Korean dairy industry development and analyzes the core competencies found in various approaches of diversification. With the aim to examine how unrelated diversification facilitates firm’s growth and innovation, we went over domestic dairy brands’ history of diversification, referencing various research reports relevant to the theory of related and unrelated diversification, and to open innovation. Following the principles of open innovation, which encourage firms to utilize not only internal but also external methods to further advance their technologies, diversification can be achieved by absorbing external know-how. By analyzing the case of Maeil Dairies, this paper provides deeper insight into the diversification strategy deeply rooted in the Korean dairy industry and identifies the risks and opportunities that lie beyond it.

2. Literature Review

2.1. Related Diversification Theory

Related diversification can be defined as a firm entering a different business in which it can benefit from leveraging core competencies, sharing activities, or building market power [5]. Rumelt further exemplifies the profitability of diversification a the study of 250 successful US firms in which the majority were not based on a single business but rather chose to diversify as a key strategy for triumph [6]. More specifically, Markides points out the benefits of strategically conducting diversification with supporting business cases such as 3M, Disney, and General Electric [7]. This paper analyzes Maeil Dairies with the theoretical framework of diversification.

Montgomery and Singh state that related diversification is more profitable than unrelated diversification. As firms undergoing related diversification are able to share critical resources such as process and raw materials, core success factors can also be shared across businesses. This eventually leads to more efficient resource allocation and economies of scale while also gaining more market power for diversified products [8].

Lubatkin and Rogers explain how firms carrying out unrelated diversification are at a competitive disadvantage compared to firms with related diversification due to higher levels of systematic risk [9]. In addition, Palich, Cardinal, and Miller show the Inverted-U Model to elaborate how the positive relationship between performance and diversification does not prevail when firms explore diversification beyond a certain point of business relatedness [10]. With unrelated diversification, firms seem to experience problems in performance, as also seen with the case of Maeil, which is to be examined more in detail below.

Moreover, relatedness itself can be categorized into five different types to determine short term and long-term benefits, according to Markides and Williamson. The first type of ‘exaggerated relatedness’ and second type of ‘granting amortization advantage’ both only offer short term benefits. The other three types of relatedness provide asset improvement, asset creation, and asset fission for long-term competitive advantage, which is what all firms strive for when endeavoring related diversification. As Markides and Williamson develop the possible advantages of related diversification, firms should aim to not simply share but also build and expand strategic assets in hopes of acquiring sources for long-term competitive advantage [11]. Similarly, the case of Maeil will also be analyzed with different categories based on the level of relatedness that reflects the probability of success.

On the other hand, Ng explains that unrelated diversification also offers advantages through arbitrage opportunities and expansion options with first-mover advantage. Firms are able to gain a wide range of know-how with unrelated diversification and thus can

exploit first mover advantages in manifold industries compared to their competitors. However, there are certain limitations as well, such as the difficulty to manage such diverse resources, eventually leading to detrimental inefficiencies [12].

2.2. Core Competency

Core competencies involve the collective learning of an organization, including the coordination of production skills and integration of technologies. As core competencies are shared across organizations, they do not deteriorate over time, as happens with physical assets, but tend to develop more business opportunities. For core competencies to generate value and synergy among businesses, three standards must be met: core competency must strengthen competitive advantage by producing superior customer value, there must be at least one core-competency-related skill that connects the organization's different businesses, and core competencies must strive to be inimitable and nonsubstitutable [13].

The advantages that follow diversification eventually decay due to asset erosion and imitation by competitors. This emphasizes that profitability is only sustainable through accumulated competencies [14]. Hamel and Prahalad (1990) further explain that core competency is not a single product but rather a consolidation of know-how and technologies. Core competencies foster core products, which further create individual businesses, which then construct various end products [13]. The case of Maeil Dairies is also a prime example of an enterprise fully utilizing its core competency to expand into businesses such as white milk, infant formula, and juice, thus creating various successful end products such as Selex, Barista Rules, and Sangha Cheese.

If an organization realizes it has created a strong core competency and ceases to seek further improvement, core competency may evolve into core rigidity. Core rigidity can be defined as the source of inflexibility that is caused by over relying on core competency, which may hinder innovation [15]. The deeply spread and embedded collective knowledge that comes with core competency may act as a barrier when innovative solutions are required to adapt to new changes, thus leading to 'incumbent inertia' or incompetence to change [16]. Kodak exemplifies how a company's core competency, in this case the ability to create traditional film products, can become a problematic core rigidity that prevents necessary development [17]. This can also be applied to the case of Maeil. If Maeil Dairies decide to focus on producing dairy products only and not further explore different fields using its advanced technology, its core rigidity may allow other competitors to dominate related industries.

2.3. Open Innovation

According to Chesbrough (2003), open innovation can be defined as a paradigm that suggests firms use internal and external ways to further develop their technology and create value [18]. This means with open innovation principles, firms are no longer hesitant to utilize external R&D and learn from other business models rather than having the need to originate their products.

Moreover, while core competencies are key for a firm's financial success and securing its position within the industry, open innovation encourages breaking free from the limitations that core competencies may bring. Christensen (2006) explains that with the expansion of open innovative strategies, firms can expand their technology profiles and not stay restricted by focusing only on their core-competency-related products or industry [19].

With open innovation, Yun and Liu (2019) further claim that firms are able to diversify and acquire external technologies through breaking traditional organizational boundaries and continuous dynamic innovation [20]. On the other hand, Prahalad and Hamel (1990) oppose the notion of open innovation as they argue firms should focus on specializing in their set of distinctive core competencies and avoid the risks of unrelated expansion [13].

3. Research Method

The purpose of this study is to describe the many methods of diversification in one firm, Maeil Dairies, and analyze the performance of such attempts. Based on this purpose, a qualitative research method, specifically a case study approach, was conducted as it is appropriate to conduct an in-depth, multi-faceted analysis of a firm in its real-life context [21]. A case study research allows for the exploration and understanding of complex issues and can be considered a robust research method, particularly when a holistic, in-depth investigation is required. Case study method enables a researcher to closely examine the data within a specific context [22]. Among many types of case studies, a descriptive case study was applied, which is used to describe a phenomenon and the real-life context in which it occurred [23,24].

As a qualitative and descriptive case study, this study organized an overall external and internal analysis of Maeil Dairies. This was done by explaining the value chain process, presenting the tangible and intangible resources of Maeil Dairies, and conducting a competitor analysis of the Korean dairy industry. Secondary data were gathered through online journals, annual reports, business reports, and financial information of the firm to support the analysis. The paper then analyzed the core competencies of Maeil and, using the gathered data, categorized its diversification practices based on the relatedness pattern. We also performed a cross-case analysis to compare characteristics and products across competitor companies. This analyzed dataset was connected to the relevant literature to develop theoretical arguments supported by previous studies. The study finally confirms that related diversification is more likely to show financial success but accentuates that unrelated diversification is also indispensable.

4. Analysis

One of the leading dairy conglomerates in South Korea, Maeil Dairies was founded in 1969 under the title of Korea Dairy Processing Company. As one of the first pioneers of dairy-industry-based milk processing in Korea, Maeil succeeded in achieving immense economic growth over the last 52 years, reaching about 1.30 billion USD in sales as of 2020. The firm successfully launched its first infant formula, Dia-G, in 1974 and then continued to invest graciously in research while expanding its business into other dairy products [3,25].

Being the first Korean company to introduce imported milk cows in Korea, Maeil was awarded the livestock industrial medal and initiated the domestic dairy business. With its foundation based on infant formula, the firm strongly advocates its founding philosophy to help make the lives of people healthier through dairy products. Its vision of 'More than Food, Beyond Korea', along with its mission of bringing health, taste, and freshness for everyone's happiness through continuous innovation, is apparent in the firm's 'Quality First' management. Thus, Maeil continues its production of specialized powdered milk for infants with inborn metabolism errors despite loss of profit, to satisfy just a small number of customers.

Building a trustworthy reputation from its foundational values, the firm pursues long-term growth with three strategies: 'strengthening profit-oriented business in Korea', 'expanding overseas business', and 'advancing into new businesses.' These strategies are further promoted with the firm's core competency of achieving related diversification using advanced technology. In 1994, Maeil invented the first refrigerated juice in Korea using the cold-filling method and cold-chain distribution system. In 1997, it was also the first to introduce the RTD (Ready-To-Drink) cup-coffee, maintaining the leading position with over 1/3 market share since then [3]. Currently, its products consist of dairies, baby food, juice, coffee, functional food, cheese, imported goods, and so on. Maeil also increased its market power by vertical integration when it built its own Sangha farm as its organic manufacturing hub and is trying to enter the dining business with subsidiaries and well-known house brands.

The firm has also invested in globalization efforts over the years, in attempts to expand its business. The firm was awarded with the honorary title as the first in the Korean dairy

industry to attain 50 million USD in exports [3]. Maeil Dairies currently reaches out to seven different countries: the U.S., Canada, New Zealand, Vietnam, Hong Kong, China, and Saudi Arabia, exporting a diversified portfolio of products such as infant formula, baby food, milk, coffee, etc. [3]. Maeil took another step forward by partnering up with international companies, including Hershey’s, Fonterra, and Ferrero Rocher, and launched various foreign beverages in Korea such as the well-known almond milk product ‘Almond Breeze’, solidifying itself as a global brand trusted by internationally recognized firms [3].

4.1. Internal Analysis

4.1.1. Value Chain Analysis

Maeil Innovation Center (MIC) is in charge of all product development and has established a reputation in the field. MIC secured excellent research personnel and state-of-the-art research facilities to maintain food safety. Through strategic partnerships with advanced dairy processing companies such as Valio, Finland, it continued to strengthen R&D capabilities, as seen in Table 1, while publishing more than 200 research papers and academic materials in academic journals [26]. In addition, Maeil was the first in the field to establish Sarcopenia laboratory in 2018 and even formed a business agreement with the Ajou University Medical Center for the Elderly Health Research Center to study well-aging technology in 2020 [27].

Table 1. R&D expenses and R&D intensity of Maeil Dairies and Namyang Dairies.

(Unit: 1 Million KRW)		2019	2018	2017 ¹	2016	2015	2014
Maeil Dairies	R&D Expenses	11,756	11,710	9121	9497	8187	8136
	R&D Intensity ²	0.84%	0.90%	0.90%	0.58%	0.53%	0.56%
Namyang Dairies	R&D Expenses	7607	6002	6159	6152	6777	5889
	R&D Intensity ²	0.74%	0.56%	0.53%	0.50%	0.56%	0.51%

¹ Since 2017, Maeil has been split into Maeil Dairies Co. Ltd and M’s Seed Co. Ltd. Data prior to 2017 is data before splitting. ² R&D Intensity = R&D Expenses ÷ Revenue × 100. Data from: 2020 Maeil Dairies Annual Report [3] 2020 Namyang Dairies Annual Report [28].

Maeil directly buys raw milk from the Korea Dairy Committee or from domestic farms. The most important thing in inbound logistics is to minimize the transportation time to keep the milk fresh. Accordingly, many dairy farms are located near factories. Maeil especially runs its own dairy farm called Sanghafarm, which applies strict and effective quality control. Furthermore, Maeil has its original ESL (Extended Shelf Life) system to keep the raw milk inventory as fresh as possible. Most recently, Maeil even acquired an Australian milk powder ingredient plant in January 2021 to diversify the supply and demand channels for raw materials.

A total of seven Maeil factories exist in Korea, and the Pyeongtaek and Asan factories are where white milk, infant formula, flavored milk, coffee, and other nutritional product lines are produced. Pyeongtaek, in particular, is the largest dairy production factory in Asia and possesses a complete automated line for infant formula production. Its highly automated facilities allow for fewer workers and more accurate control. Every operational process is conducted with close monitoring for hygiene, and in proof, factory tours are offered for customers [4].

As shown in Table 2, Maeil’s outbound logistics have four main categories: agent, standard sales, export, and direct sales [3]. The agent sales involve factory, agents, and vendors, while standard sales sell products directly from factory to vendors. Export processes move from trading companies to wholesalers, and then to vendors or customers. If customers order online, they receive directly from wholesalers without visiting local stores. Lastly, direct sales start from the factory and move to the direct sales agent, then to home delivery. Maeil prioritizes putting its main products first in sales, and investing in active market cultivation, and to increase control over the distribution process.

Table 2. Sales route in dairy processing business.

Category	Sales Route
Agency	Factory > Agent > Vendor
Standard Sales	Factory > Vendor
Export	Trading company > Wholesaler > Vendor or Client
Direct Sales	Factory > Direct Sales agent > Home delivery

Data from: 2020 Maeil Dairies Annual Report [3].

Maeil uses Youtube and social network services (SNS) as their main marketing channel. It is one of the companies that has been successful with advertisements featuring celebrity models. Yuna Kim, one of the most featured legendary sports celebrities, has also been a model of Maeil Dairies for several years [29]. Recently, Maeil selected one of the most beloved celebrities in Korea, trot singer Young Woong Im, as the model of Barista Rules [30] and the former golf queen Se Ri Pak as the model of Selex [31].

Accordingly, Maeil provides great services through its online websites. Maeil-I provides different services such as advice, podcasts, and professional consulting, for all expecting or new parents. Additionally, customers can sign up for baby-poop and breast-milk analysis, and the results are sent back to each individual. Other than infant-formula-related services, its after-service is well known for its responsiveness and quality feedback. Additionally, Maeil has a point-saving system called Maeil Do that provides combined points for its related brands, including Maeil Dairies, Paul Bassett, Crystal Jade, The Kitchen Salvatore, and Sangha Farm [32].

As for support activities, Maeil’s firm infrastructure is led by its CEO Sun Hee Kim, who shows strong leadership towards consumer-centered management (CCM) [33]. Although she is a member of the owner family, she acts as a professional corporate manager as her minimally owned shares do not affect business decisions [34]. The firm’s human resources are well known for creating employee-friendly working environments. Technology development of Maeil includes exceptional company website and mobile application management, shown in the example of Mail-I. Lastly, Maeil’s procurement allowed the farm to maintain close partnership with 380 farms, in contrast to Namyang, which was accused of dumping unsold milk inventory to farmers.

4.1.2. Resource-Based View

Along with primary and supporting activities, Maeil’s sustainable advantage can also be derived from its resources. Maeil’s noticeable tangible resources are its advanced factories, which enable the company to manufacture diverse end-products, and its derivatives related to dairy goods, which include products such as sophisticated special infant formula, consequently increasing overall performance.

One of Maeil’s intangible resources consists of its family-friendly corporate policies, which even extend to its distributor agencies. In 2009, it was the first company to receive a Family-Friendly Certificate in the whole food industry of Korea [35]. Maeil shows that it cares for gender equality and family in corporate policies, by supporting paternal leave and various childcare services. Maeil, led by Sunhee Kim since 2014, one of few women CEOs in Korea, is also known for its high women executive rate, which is over 50% [36]. This employee-friendly corporate culture can act as a valuable resource that induces loyalty, trust, and stability among employees and thus promotes effectiveness and honesty in their work.

The second important intangible resource of Maeil is its corporate value and image. Maeil not only prioritizes increasing its profit. On the contrary, Maeil Dairies is the only firm in Korea to produce special powdered milk for infants born with amino acid metabolism disorders, despite the small demand and low return. This aptly describes Maeil’s outstanding CSV (Corporate Social Value). Furthermore, Maeil manages various social programs such as Absolute Mom School and Baby Moon education for parents, Heartmeal campaign for families with sick children, Lunch Boxes of Love, Briquettes of

Love, and Jinam foundation for underprivileged households. These accumulated beneficial activities recently gained new recognition by consumers as its main competitor Namyang continued to lose face.

This leads to another intangible resource Maeil has, which is its ability to reproduce accumulated knowledge in various businesses such as customer interactive programs, marketing, and product development. Maeil was the first firm in the industry to organize a class for expecting mothers in 1975, also known as the Absolute Mom Class, which continues today. Additionally, Maeil Asia Human Milk Research Center (MAHRC) is the largest-scaled research facility in Korea, with 20,599 breastmilk and 235,080 baby excrement analysis cases so far [37]. With this historical foundation of information accumulation, the firm has continued to conduct thorough examination of knowledge related to the production of many product lines. Furthermore, the firm constructed a national portal in 2000 for pregnancy- and childcare-related information called Maeil-I, which gives parents valuable advice through podcasts, factory tours, and professional consulting services. This leads to repurchasing and loyalty among consumers, which is a key resource that also contributes to its sustainable advantage.

Lastly, Maeil’s organizational capabilities are regarded as an important resource. In addition to its employee-friendly policies, corporate social value, and childcare knowledge, its managerial capabilities in decision making evidently enabled Maeil to expand its business. Due to external factors, the dairy and infant formula industry in Korea has been suffering. Maeil was able to foresee and overcome this difficulty by making a decision to diversify its product lines using its core competency, and it reached out to the global market for opportunities. These critical decisions empowered Maeil to use its many intangible resources and offer products that meet different customer’s needs.

4.2. External Analysis
Competitor Analysis

There are several firms competing in the Korean dairy industry. The top three firms are Seoul Dairy Cooperative, followed by Namyang Dairies and Maeil Dairies, which are often compared side by side. There are also smaller firms such as Binggrae, Dongwon F&B, Ildong Foodis, and Pasteur. Seoul Dairy Cooperative is formed by many small partner organizations, and it takes up about 40% of the dairy market share [38]. On a single corporate basis, Namyang has ranked first for the past 50 years, closely followed by Maeil. In recent years, Namyang has suffered a decrease in sales as customers have boycotted its products due to scandalous behaviors. In contrast, Maeil’s accumulated social activities are being acknowledged, especially due to the similarities in the two firms’ size and history, and the differences in their reputation. This contrast in performances can also be seen through the two firms’ ROI figures, as Table 3 shows below.

Table 3. Return on Investments (ROI) Status of Maeil Dairies and Namyang Dairies.

(Unit: 1 Million KRW)		2019	2018	2017 ¹	2016	2015	2014
Maeil Dairies	Total Asset	675,196	615,716	590,951	885,608	835,502	775,120
	Net Income	64,335	58,338	34,746	33,667	26,068	23,947
	ROI	9.53	9.47	5.88	3.80	3.12	3.09
Namyang Dairies	Total Asset	1,056,365	1,052,660	1,035,687	1,041,502	994,149	963,217
	Net Income	29,231	2015	5021	37,176	26,657	164
	ROI	2.77	0.19	0.48	3.57	2.68	0.02

¹ Since 2017, Maeil has been split into Maeil Dairies Co. Ltd and M’s Seed Co. Ltd. Data prior to 2017 are data before splitting. Data from: 2020 Maeil Dairies Annual Report [3], 2020 Namyang Dairies Annual Report [28].

In terms of diversification, both Namyang and Maeil started off as powdered formula production firms according to Table 4. Namyang was founded in 1964, and 14 years later, in 1978, Maeil Dairies was founded. Namyang quickly diversified its product line to include other dairy products such as yogurt, milk, and cheese. Maeil also pursued its first step

of diversification to milk and yogurt and even explored different industries such as juice, coffee, and nutritional products in the 1990s [37]. Despite the advantage of having more time to develop, Namyang decided to stop expanding its product lines after the 1980s and to concentrate on its existing lines. On the other hand, Maeil was not afraid of jumping into new markets, and as a result it was able to gain some foothold in each business sector it ventured into. As the dairy market contracted due to low birth rates, Namyang recognized the need for business diversification belatedly while Maeil used its foothold in diverse business to expand efficiently.

Table 4. Chronological Order of Diversification of Maeil Dairies and Namyang Dairies.

Title	Maeil Dairies		Namyang Dairies	
1960s			Infant formula	Imperial IamMother
1970s	Infant formula	Absolute	Yogurt	Bulgaris IO
	Milk	Maeil		
1980s	Yogurt	Enyo	Milk	GT Einstein
	Soy milk	Maeil AlmondBreeze	Cheese	DeVinch
1990s	Juice	Sunup Picnic		
	Coffee	BaristaRules		
	Nutritional products	MomsAbsolute Selex		
2000s	Imported products	FerreroRocher	Tea	17cha, Athome
	Catering business	PaulBasset	Juice	Gwasuwon
	Organic products	Sagha		
2010s	Cheese	Sangha	Coffee	FrenchCafe
	Global business		Organic products	
	Open farm	SanghaFarm	Catering business	Baekmidang

Data from: 2020 Maeil Dairies Annual Report [3], 2020 Namyang Dairies Annual Report [28].

We can take the most recent type of product in the dairy market as an example. In 2018, Maeil released its new adult-nutritional brand ‘Selex’ and opened a new market sector at the same time [39]. The main product of this brand aimed to improve the health of the older generation using the firm’s already existing infant formula production technology [40]. In only a year, the sales of Selex products reached about 88.69 million USD [41]. Witnessing Maeil’s success, other dairy firms hastily followed suit such as Namyang’s ‘Haru-geullyeok’ in November 2019 and Ildong Foodis’ ‘Haimyun’ February 2020. Each firm pursued different characteristics and marketing strategies, as Table 5 indicates.

Table 5. Korean dairy companies with adult-nutrition products.

	Maeil	Namyang	Ildong Foodis
Product name	Selex	Haru-geullyeok	Haimyun
Release date	October 2018	September 2019	February 2020
Price (KRW/g)	35,000 KRW/304 g	27,800 KRW/360 g	49,000 KRW/304 g

Table 5. Cont.

	Maeil	Namyang	Ildong Foodis
Ingredients	Protein Calcium Magnesium Zinc Vitamin D Vitamin B1 Pantothenic acid Vitamin B6	Protein Calcium Vitamin A Vitamin C Magnesium Zinc Red ginseng Lutein	Protein Fructooligosaccharide Calcium Magnesium Vitamin D Vitamin B6 Zinc Pantothenic acid
Category	Health functional product	Processed product	Health functional product
Sales (2020)	50 billion KRW (2020)	No info	40 billion KRW (2020)
Differentiation Strategy	Differentiation by being the first to perform human application test, and having high amino acid score.	Differentiation by consisting of Korean red ginseng and Lutein, which are good for eye health	Differentiation consisting of goat milk protein, and of Fructooligosaccharide, which is good for colon health.
Marketing Strategy	Successful marketing through tv-series-like digital campaign targeting the older generation. Successful marketing through exercise-related Youtube series targeting the younger generation. (Selex-sports)	Marketing through social network comment events, and screen golf competitions.	Highly successful marketing modeling a trot celebrity who is very famous among the older generation.

Data from: Maeil Dairies website [25], Namyang Dairies website [42], and Ildong Foodis website [43].

5. Diversification of Maeil Dairies: Related vs. Unrelated

The case of Maeil Dairies shows the successful development of related diversification throughout the growth of the domestic dairies industry. As Table 6 shows, the major product lines of Maeil Dairies can be categorized into four groups based on whether certain products share similar materials or production processes. Material refers to the raw milk extracted from domestic farms or its own Sangha Farm, while the process refers to the various production technologies for beverages and infant formula.

Table 6. Maeil Dairies’ product categories.

	Same Process	New Process
Same Material	White Milk, Flavored Milk, Yoghurt, Coffee, Infant Formula, and Selex	Paul Bassett, Sangha Cheese
Different Material	Juice, Soymilk	Zero to Seven, Restaurant Businesses

5.1. Maeil’s Related Diversification in Terms of Both Material and Process

The first group represents Maeil products that achieved diversification by sharing both material and process. The majority of Maeil products belong to this group, including white milk, infant formula, yoghurt, flavored milk, and coffee. The key products included in the Maeil Dairies Annual Report are shown in Table 7.

Maeil Dairies relies on white milk for most of its annual sales. Maeil has seven factories all over Korea, and each factory produces several different product lines depending on the raw material and equipment. White milk in particular is processed in Pyeongtaek and Sangha (Organic Milk) factories. One of the most renowned technologies used to produce white milk is the ESL (Extended Shelf Life) system, which prevents any possible contamination in the production stage while maintaining the automatic pasteurization system for the entire production process for milk, extending the shelf life of milk products

from 5 to 14 days [4]. In 2005, the company developed LF (Lactose Free) technology to help with digestion by importing techniques from Valio, Finland. Maeil also led the expansion of low-fat and zero-fat milk in 2008.

Table 7. Products using same material and process.

Sector	Key Products and Core Businesses
White Milk	Maeil Milk, Sangha Organic Milk
Infant Formula	Absolute Myungjak, Absolute Goong, and Absolute Sensitive
Yoghurt	Maeil Bio, Enyo, and Sangha Organic Yoghurt
Flavored Milk	Fruit-Flavored Milk

Data from: 2020 Maeil Dairies Annual Report [3].

Infant formula is mostly produced in Pyeongtaek. In 2010, Maeil first introduced infant formula specially made for sensitive infants, relieving milk allergy such as stomach trouble and atopic dermatitis by using 100% decomposed protein. Similarly, Maeil recently launched an adult nutrition product Selex, which shares the same powdered milk processing technology used in infant formula and Absolmom, which is a form of powdered milk product specially made for pregnant mothers.

Yoghurt products are manufactured in four different factories: Pyeongtaek, Gwangju (Drinking Yogurt), Gyeongsan (Drinking Yogurt, Maeil-Bio Yogurt), and Cheongyang (Drinking Yogurt, Organic Yogurt). In 2003, Maeil first developed sugar-free yoghurt drinks “Enyo” for children, with eight types of vitamins, which led to the satisfaction of 15% of daily intake [4].

Flavored milk products are produced in Gwangju (Hershey’s Chocolate Drinks) and Cheongyang. It was the first to replace artificial additives, colors, and flavors with natural fruit juice for strawberry- and banana-flavored milk. Such an innovative technical approach also had an effect on marketing, and Maeil won several awards in marketing and advertising with this new, healthy image.

Coffee products are produced in Pyeongtaek, Cheongyang (BARISTAR RTD coffee), and Youngdong (RTD Coffee Can) factories. The company uses a patented high-pressure espresso extraction method to minimize loss of flavor. Maeil was the first to introduce the RTD (Ready-To-Drink) cup-coffee in 1997, which grew into a 1.08 billion USD market, and Maeil has maintained the dominant position with 34% market share since then [4].

5.2. Maeil’s Related Diversification in Terms of Process

An important part of Maeil’s core competency is the technological ability to produce liquid processed goods and powdered processed goods. While the products mentioned above utilize both the technological process and Maeil’s main material milk, there are also other products that profit from only one of the two. Maeil first started off as a powdered formula firm and quickly included liquid milk products in their profile. Since then, Maeil has diversified its product portfolio to include diverse beverages and powdered goods, such as soy milk and fruit juice, thereby profiting from these various categories, as seen in Table 8.

The company’s sales also concentrate on certain products, as shown in Table 8, as Maeil promoted many successful related diversification strategies. Among many, Maeil’s product line of fruit juice and soy milk, which are manufactured in Gwangju factory and Pyeongtaek factory, shows that Maeil uses its production process in order to make these products, but it does not necessarily include dairy ingredients, which are used in its core products. Despite not utilizing both process and material, soymilk products are doing well with steady sale figures, as shown above. Additionally, juice is another industry in Maeil that takes advantage of the liquid manufacturing process but not the material, with its popular juice products such as Picnic and Sunup.

Table 8. Maeil Dairies’ Sales per Product Category.

(Unit: 1 Million KRW)		January 2020	February 2019	January 2019	February 2018	January 2018
Related Material & Process	Milk	145,006	144,671	147,077	148,355	138,774
	Infant Formula	13,926	18,505	21,004	21,368	19,948
	Yogurt	71,678	63,901	59,146	56,985	55,848
	Liquid Coffee	105,459	116,441	108,701	107,742	100,000
Related Process	Soy Milk	7406	7739	7508	7350	7286
Related Material	Cheese	35,294	32,533	33,242	31,784	30,368

Data from: Food Information Statistics System [38].

5.3. Maeil’s Related Diversification in Terms of Material

Since Maeil is one of the biggest dairy firms in Korea; it can be said that one of its main competences is its advanced process of milk. While some dairy products were fabricated early on, such as different flavors of milk, yogurts, and even RTD coffee, some product lines or businesses were developed in more recent years. Maeil’s cheese brands and its famous coffee brand Paul Bassett can be seen as examples of diversification using milk-related products but using new process methods. This relatedness is based solely on the material used commonly with Maeil’s core products.

Maeil’s cheese brand Sangha Cheese debuted its product in 2013, and since then Sangha Cheese has successfully grown to be the leading brand in the domestic cheese market of Korea (2019). Maeil’s total cheese sales were the third-highest in the industry in 2019, closely following Seoul Dairy Cooperative’s and Dongwon F&B’s total cheese sales [38]. Maeil’s cheese is processed from a separate factory with specialized facilities. Although the new facility required initial investments in 2008, it soon proved its value with the common core material and Maeil’s brand power as a trustworthy dairy firm, allowing it to successfully continue expanding its cheese products.

Another case of diversification is Maeil’s decision to step into the catering industry, opening businesses ranging from cafés to restaurants, including the famous Paul Bassett brand. Maeil’s RTD coffee products were a success, as was the new premium coffee brand when it first opened. Paul Bassett successfully launched its brand image as high-quality and professional and expanded its store numbers up to over a 100 in order to survive the highly competitive market [44]. Like other RTD coffee products of Maeil, Paul Bassett also uses its milk from its parent firm and even opened a collaboration event for Maeil’s new milk brand recently. Although some argue that it is controversial to say that Paul Bassett is successful looking at recent sales, compared to other businesses that we will go over in detail in the next category, Paul Bassett has firmly set a foothold on the premium coffee shop industry.

5.4. Maeil’s Unrelated Diversification

Moreover, businesses that are unrelated from both material and process perspectives are more likely to regress, as proven with the case of Maeil. Zero to Seven was a subsidiary of Maeil that specialized in clothing products for children. Dating back to 2003, the company produced and distributed children clothing brands such as Allo&lugh and Alfonso, along with children skincare brand Goongbe, through its widely spread online platform “0to7” [45]. The firm can be categorized as an unrelated business as its main material is textiles and its main production base is its clothing factory in Pyeongtaek, which does not overlap with dairy production bases. As an unrelated business, Zero to Seven has been viewed as a failure in terms of its four consecutive years of deficit since 2014 that built up to 121 million KRW operating loss in 2016 [46]. Due to the continuing years of deficit, Maeil Holdings stepped down and allowed CK Corporations to take over as the main shareholder in 2018, only recently reaching surplus after merging with CK Corporations.

Moreover, Maeil’s past experiences with restaurants further prove how unrelated diversification is more prone to risk. From 2007, Maeil Dairies has consistently attempted to

launch various restaurant businesses such as Dal specializing in Indian food, Tatsumizushi in sushi, and Manten-boshi in Japanese food, along with Yamaha, Anzu, MCC Kobe restaurant, Jeong, and Golden Burger Republic, all of which have unfortunately been closed down over the years [47]. Despite aiming for premium quality as Maeil has for its dairy products, the restaurant businesses have ended in failure because they did not share resources with their parent company Maeil. The restaurants all showed deficits for several years until being discarded, suggesting that Maeil Dairies had high expectations and insufficient insight. In particular, the recent withdrawal of one of Maeil's renowned Italian dining brands, The Kitchen Salvatore Cuomo, in March 2021, took many by surprise. After 12 years of steady operation, it was revealed that although its sales increased to 12.3 billion KRW in 2019, it also had an estimation of 1.7 billion KRW of operating loss [48]. In this case, with unrelated diversification, the firm could not fully utilize its already established resources such as material and process technology.

After experiencing multiple failures, the firm changed its strategy of dining diversification to focus on a few rather than countless restaurant brands; currently, it operates Crystal Jade, and Paul Bassett as its dining business. With its accumulated know-how from past experiences, Paul Bassett could expand its store numbers to over a hundred in Korea, and Crystal Jade to over 120 globally [49]. Another industry Maeil has worked on is the imported wine industry. Les Vins de Maeil was launched in 2001, and its sales reached 32.2 billion KRW in 2020 [50]. Although it seems completely unrelated in terms of process and material, this diversification was strategically decided as the cheese industry is one of the industries Maeil is concentrating on. This well aimed decision has resulted in Les Vins de Maeil performing positively despite its unrelatedness. Lastly, another industry Maeil has entered is, interestingly, the theme park industry. Maeil developed a theme park called SanghaFarm in 2016, where visitors could gain firsthand experience in farming, fermenting, baking, and cooking, in different workshops. In 2018, Maeil opened Farmer's Village, a hotel inside the theme park, and is continuing to expand its hotel business to include swimming pools, spa services, etc. Maeil's adventurous attempts such as these cost Maeil a huge amount of R&D expenses since it continuously tested new business ideas, resulting in a deficit for years, but they also gave Maeil brand awareness, and SanghaFarm has become a renowned destination for families interested in educational visits.

6. Discussion: Related Diversification, Core Competency, Core Rigidity, and Open Innovation

There is a saying that you should not put all your eggs in one basket. One example of a firm that conducted successful unrelated diversification to verify its business portfolio and to minimize risks is the Sony Group of Japan. Sony Corporation started as one of the leading companies in the audiovisual industry. However, over time the group's unrelated diversification strategy has made it the world's largest integrated entertainment companies, and it performs outstandingly in the music, film, computer, and entertainment businesses [51,52]. Another example is the easyGroup of England, the holding company of the low-cost airline EasyJet. The group consists of multiple business segments from travel-related ventures such as easyBus, easyCar, and easyHotel, to lifestyle businesses such as easyCoffee, easyGym, and easyMoney [53]. One key factor that all businesses of easyGroup have in common is that they provide services at reasonable prices. As such, it is vital to pursue a clear common value even while performing different functions and selling different products. Sony and easyGroup successfully expanded their business portfolio through aggressive exploration and unrelated diversification, setting a guideline for others to follow.

This study analyzes diversification strategy implementation in the Korean dairy industry through the case of Maeil Dairies. Since its foundation in 1969, Maeil has attempted various forms of diversification and emerged as the fresh innovator and premium leader of the Korean dairy industry, supported by its core competency. Maeil's core competency lies in the ability to produce processed dairy products from milk using advanced technology, enabling it to achieve related diversification on two levels: process and material.

Maeil went through three major stages of growth, as shown in Figure 1. First, it started an infant formula business and conducted milk-related product portfolio expansion until the mid-80s, developing technologies to manufacture white milk and yogurt. The second stage refers to product diversification in its core business through the mid 80's to late 90s by achieving economies of scope. During this period, along with the flourishing domestic economy, Maeil expanded its product lines to include diverse beverages such as soy milk, flavored milk, juice, and coffee. In the last stage, from the early 2000s until today, domestic milk consumption hit a stagnant period, and Maeil showed business diversification by broadening its business area to functional food, imported products, organic products, cheese, restaurant business, and even global business.

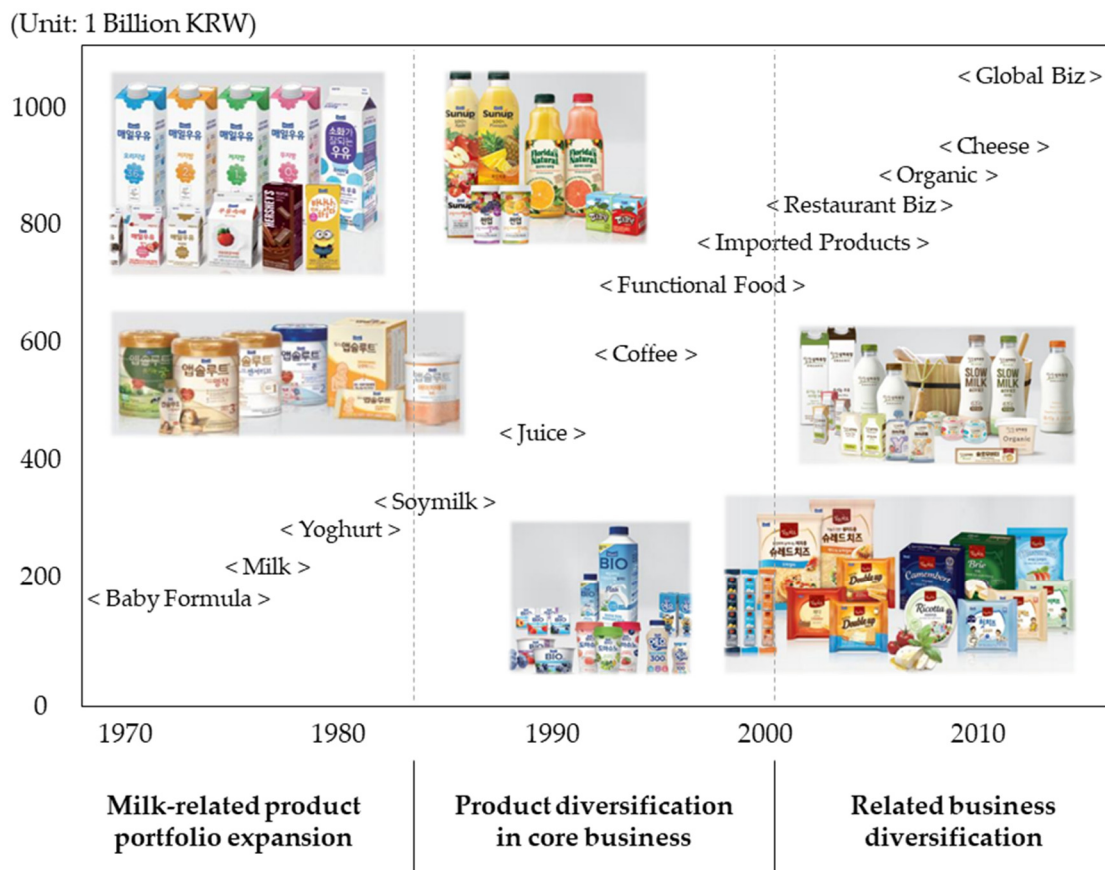


Figure 1. Maeil Dairies’ diversification stages. Data from: Maeil Dairies IR Presentation. (2014) [4].

Maeil’s different stages of diversification confirm that diversification is at the heart of the company management. Such implementation of diversification in various products and businesses resulted in two different outcomes, some successful and others sluggish. The main competencies shown in Maeil’s diversification were the ability to use milk as the core material, and the technological ability to manufacture powdered products and liquid products. The product line using both of these capabilities showed outstanding performance. Even if only one of the two was used, the product or business was able to survive and positive results were found. On the other hand, in the case of diversification attempts with somewhat new materials and new business methods, most were stagnant or even tapped out. This supports the previous studies that related that diversification is more profitable than unrelated diversification as resources can be shared [8].

However, this does not imply that unrelated diversification is altogether futile. Core competencies may become core rigidities and hinder development and innovation since they are least susceptible to change [15]. If a firm adheres to its already accepted solution and refuses to further explore different fields, core rigidity may permit other competitors to

catch up and even dominate the surrounding industries. This was also applied in Maeil's case since the firm continuously sought innovative ways to expand, trying unfamiliar fields, avoiding stagnation, inflexibility, and rigidity.

Moreover, when Maeil's unrelated diversification cases are examined closely, there is a strategic link to its core product lines, even though it does not directly share the core competency. Maeil Dairies' famous café business brand Paul Bassett can be traced back to its RTD coffee products, and its clothing business brand 'Zero-to-Seven', which sells toddler related garments, was derived from the knowledge and customer needs acquired from its early infant formula business. Additionally, the wine business that has been recently developing is linked to cheese, one of Maeil's core products. This strategic link has enabled its unrelated businesses to position themselves well in the new industry, and for them to gain knowledge to expand faster and further every year.

Lastly, by attempting to diversify in unrelated areas and businesses, Maeil was able to gain new sets of knowledge and skills. This may provide an opportunity to possibly expand capabilities that could further develop into sustainable competencies that would differentiate the firm from other competitors. Maeil started its restaurant business around 2008 and opened an Indian curry restaurant followed by a few Japanese restaurants. Although many of its restaurants shut down in the following years, in 2010 and 2012 Maeil released an RTE (ready-to-eat) Japanese curry product with the brand name 'Kobe-curry', which is still a steady-selling product until today. The same can be said about Maeil's pasta sauces and soups. After years of experience in its Italian restaurant 'The Kitchen Salvatore', Maeil successfully released its RTE pasta sauces in 2019, followed by RTE soups in 2020 and 2021, under the brand 'Slow Kitchen' [54,55]. From these successful product launches, we can see that Maeil gained certain knowledge and know-how through its past unrelated diversification.

Throughout history, the Korean dairy industry has experienced continuous changes and growth, including a recent drop in birth rates. To keep up with this ever-changing environment, open innovation has been utilized as a key solution to achieve the necessary related and unrelated diversification by using valuable knowledge and resources outside of organizational boundaries [18]. This is exemplified by Maeil Dairies and its successful three stages of growth, which were obtained through open innovation breakthroughs allowing business diversification. In the early days of Maeil Dairies, it achieved diversification through open innovation, as easily shown in the case of other SME (small and medium enterprises), by leveraging the external excess fungible resources [56]. As it became a large conglomerate with more resources combined, it was able to further develop its diversification strategies [56]. Most recently, the firm has attempted open innovation based on external resources to release adult nutrition products, and it also plans to expand its hotel business in Sangha Theme park by looking extrinsically for specialized resources. This proves that the firm chooses to not only follow internal factors but also pushes itself to continuously pursue open innovation and open up new business opportunities [57].

7. Conclusions

7.1. Theoretical Implications

The findings of this research provide the following theoretical implications. First, this study confirms what previous studies have derived: that related diversification is relatively more profitable than unrelated diversification [58]. Maeil's businesses and products related to its core competencies remained lucrative and profitable, while many of its businesses in new territories were experimental and even came to record a loss. To complement prior studies, this study has shown, through the case of Maeil Dairies, how much less profitable unrelated diversification has been.

Secondly, while most previous studies state that unrelated diversification is rather risky, this paper poses a new point of view by suggesting a contradicting aspect: that unrelated diversification is valuable, if not crucial, for firms to develop and expand its business. In order to avoid core rigidity, firms including Maeil should continue attempting

unrelated diversification and broaden their know-how for various industries. Moreover, firms should continue to practice open innovation to further develop their technological profile and not become locked in its core competency. Open innovation allows firms like Maeil to absorb external knowledge and further explore various industries.

7.2. Practical Implications

The findings of this research provide the following practical implications. First, executives and management may recognize this study as an example that related diversification is safer and more profitable than unrelated diversification. As companies, including Maeil Dairies, take advantage of their core competencies to execute related diversification, they assume lower risks and often a smoother transition than when they attempt to explore uncertain areas. Therefore, it is critical for firms to be aware of their core competencies to successfully diversify and expand their businesses.

At the same time, however, the study also emphasizes the importance of unrelated diversification to be applied in the workplace. It suggests that unrelated diversification can lead to knowledge accumulation that is more innovative than related diversification [59]. Exploring unrelated diversification helped in the case of Maeil as the firm avoided core rigidity that could have simply trapped Maeil in the dairy industry. With experimental endeavors allowing for vast investments in research and development, Maeil was able to pursue open innovation by stepping out of its familiar field and further exploring various industries. Past unsuccessful experience in unrelated diversification also enabled Maeil to launch new fruitful businesses afterwards, such as its RTE products. This may give operators and management some insight and vision concerning how to practice unrelated diversification and open innovation opportunely. Thus, the best approach is to conduct both related and unrelated diversification while strengthening core competencies.

7.3. Limitations and Future Research Topics

The limitations of this study are as follows. This study examined the diversification strategies of the Maeil Dairies by collecting secondary data and conducting descriptive case study rather than developing new theories. Thus, future studies may generalize the findings of this research through using a larger dataset and taking into consideration other variables that may affect the success of different products, in order to further analyze the implications of diversification in a real-world business environment.

Moreover, this study focuses on one specific industry, limiting the generalizability of its findings to other cases regarding different industries and geographic regions outside the Korean dairy market. Therefore, it is recommended that future studies focus on the differences that exist in different regional environments and business sectors.

Author Contributions: Conceptualization, methodology, investigation, validation, formal analysis, resources, data curation, original draft preparation, review and editing, D.K., R.K., T.L.; supervision, corresponding author, S.C.; All authors have read and agreed to the published version of the manuscript.

Funding: This work was funded by the Ministry of Education of the Republic of Korea and the National Research Foundation of Korea (NRF- 2020S1A5A2A01046005).

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data available in a publicly accessible repository.

Conflicts of Interest: The authors declare no conflict of interest.

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