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Description	一般講演要旨

Organizational strategy for new business development in the Laggard field

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1. INTRODUCTION AND HYPOTHESIS

In the thesis of Roggers, innovation and development were categorized into five phases. Each phase is called as innovators, early adopters, early majority, late majority, and laggards [1]. Including the chasm theory from Moore, innovator and early adaptor in innovation curve have been frequently researched for the new business development and new product innovation [2].

However, even though Laggards is a conservative follower in the innovation curve, they can not be ignored due to the enormous market size, especially for the conservative industries such as automotive, pharmaceuticals, life science, and construction. Recent research also mention that the market size of Laggards tends to increase due to the recent matures of society [3].

Additionally, it is well known that once a product comes to the laggards phase in the innovation curve, the market is matured red-ocean with many competitors in most cases [4]. In the red ocean, companies suffer from the hard cost competition to obtain a share in the shrinking market.

Even though the huge market size, innovation in laggards are not intensively studied last 10 years. Empirical studies in the red ocean & blue ocean strategy showed that strategic selection in value curve is required for new product development/new product innovation, but business innovation of existing products in laggards to the innovators in the other industry has not yet been reported.

In this empirical study paper, the authors examined the new strategic approach for innovation in the laggard phase by using the conventional solution. An example of GLYSANTIN® from BASF was analyzed to evaluate their organizational factor of success.

2. EMPIRICAL STUDY:

2-1. GLYSANTIN® G48 as old & new innovation

Engine coolant is an essential fluid for the thermal management of the engine. Engine coolant absorbs the heat from the engine and powertrain, and then it becomes hot itself. Engine coolant releases their heat in the radiator by contacting the fresh air. With a long history of the gasoline engine and automotive industry, coolant technology has also been developed. Water-glycol-based chemistry has become the major technology since 1960.

German-based BASF is one of the largest chemical companies with more than 150 years' history. BASF has coolants in their product range under the brand name GLYSANTIN® [5]. These products reliably protect engines all year round from corrosion, overheating, and frost, even under extreme climatic conditions. BASF first patented GLYSANTIN® in 1929, and the products have obtained several genuine coolant approvals from a lot of OEMs globally [6].

Last 90 years GLYSANTIN® have developed their branding strategy and branding value with positioning and the benchmarking their position with Porter's theory. At the end, GLYSANTIN® has been recognized as one of the top 50 well-known brands in Germany [7]. GLYSANTIN® G48, for instance, was introduced to the industry in 1986 by benchmarking the technical performance of the competitors' products and by positioning the customer requirements.

Due to the high-quality corrosion-protection performance, long life stability of coolant and global production footprint of BASF, GLYSANTIN® G48 full filled many of international coolant standards such as ASTM D3306, ASTM D4985, BS 6580-2010, JIS K2234-2006, SH0521-1999, and so on.

Additionally, GLYSANTIN® G48 was approved by several western OEMs such as VW, BMW, and Daimler group [6]. In the innovation curve, GLYSANTIN® G48 had successfully grown from the innovator phase, early adaptor phase to early majority phase until early 2000.

About 20 years have passed since the product was launched. OEMs have shifted their approved coolant from GLYSANTIN® G48 to the modern grade of coolant to meet the down-sized engine [8].

These trends indicated that GLYSANTIN® G48 had reached the stage of the late majority, then finally, the laggards stage. As a laggards-stage in the matured industry, the market environment toward GLYSANTIN® G48 has become much tougher in the red ocean.

On the other hand, the automotive industry has recently suffered from dynamic environmental change. Electrification technology, for example, has become more popular over the last few years. In other words, power train in automotive has also diversified. (Figure 1). While only gasoline cars were running on the streets 30 years ago, vehicles with various powertrains such as hybrids, plug-in hybrids, fuel cell cars, and battery electronic vehicles are now broadly used in daily life.

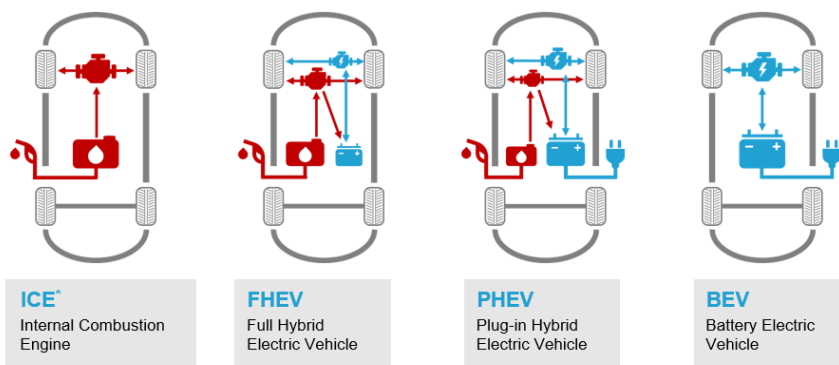


Figure 1. Schematic image of type of power train

This new dynamic environmental change and diversity of the power train put new evaluation criteria on the value curve of coolant expectation from OEMs. The requirement for corrosion protection at higher temperatures was deprioritized because e-car does not have a heat source such as an engine. On the other hand, since many accidents were observed during the early introduction period of e-car, safety, reliability, and trust were added to important evaluation criteria in the value curve of the coolant.

In other words, emerging E-mobility solutions use a lot of new core technology; therefore, OEMs had a tendency to apply well-established technology to the non-core-part such as coolant.

As a result, the e-car industry began to see GLYSANTIN® G48® as an established coolant with a successful history. It was therefore applied to the early generation of e-mobility, such as the TOYOTA RAV 4 EV 2014 model [9]. GLYSANTIN® G48 made a come-back from laggards in the engine coolant industry to innovator in the e-car industry only with a business innovation (Figure 2, Figure 3).

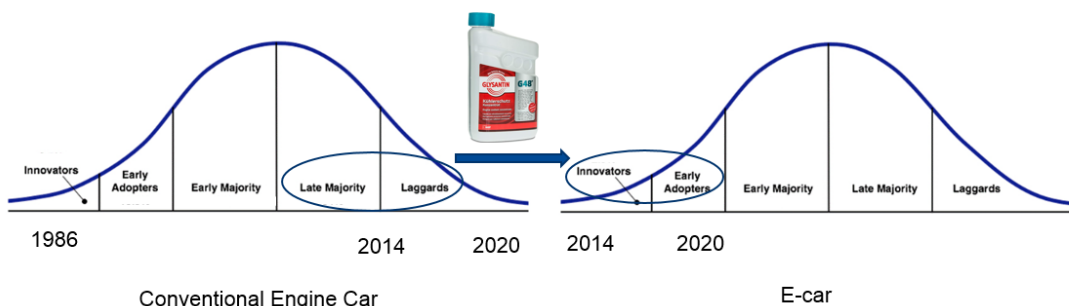
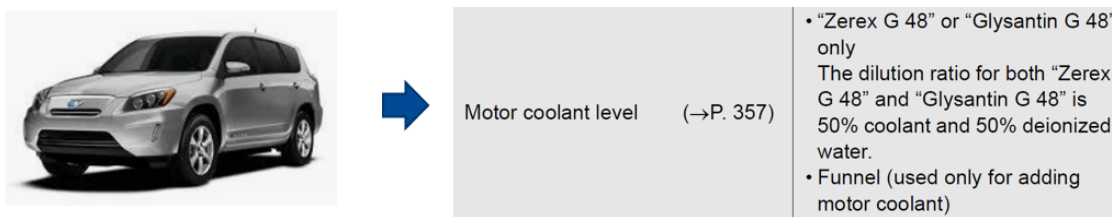


Figure 2. Scheme GLYSANTIN® G48® come-back as innovators



TOYOTA RAV4 EV 2014 car model

Figure 3. Examples of the e-car with GLYSANTIN® G48

2-2. Experience in Laggards is an advantage in emerging industry

During the GLYSANTIN® G48 implementation period to the e-car industry, several start-up innovative ideas came to the markets as disruptive technologies. However, these innovations were difficult to jump over the chasm from the early adaptor phase to the majority phase due to the following two reasons.

At first, there are several prerequisites to supply products to global OEMs such as product logistics, raw material supply chain network, established quality control system, and so on. GLYSANTIN® G48 has already established these prerequisites with long product history, but innovative products from start-up companies cannot fulfill these requirements. Secondly, quality management and certifications such as IATF 16949 (International Automotive Task Force 16949) are important from global OEMs. GLYSANTIN® G48 has only been manufactured in IATF16949 certified facilities. This certified quality system, which BASF has fostered throughout history for GLYSANTIN®G48, has become the big advantage to the innovative product from start-up companies, which do not have such a quality certification system. Most OEMs established that IATF 16949 certification is proof of a qualified quality management system. As a result of these two reasons, the e-car industry recognized 30 years' history of GLYSANTIN® G48 as a product with significant market value.

2-3. Strong global marketing as a truly "global" organization

Nomakuchi and Hayashida also introduced leadership and innovation in their publications [10]. They described the presence of the global project manager as having broader responsibility in organizations. This, combined with a global technical overview, form the key elements of success. The GLYSANTIN® G48 come-back-story has supported their theory.

At first, the GLYSANTIN® team at BASF have global marketing in the organization. They are responsible for product development, product strategy, and product technical marketing on a global basis. This enabled BASF to identify the early signs of the e-car industry trend and also to re-position the GLYSANTIN® G48 as the innovator in other industries.

After interviewing several chemical industries in Japan, it was found that several Japanese chemical companies also have global marketing manager roles in their organizations. However, they are not truly given concrete global responsibilities. On the other hand, BASF's global responsible technical manager visits their customers by themselves than staying in the office for the internal meeting to feel the market by themselves. These truly global organizations set up in BASF, made it possible to connect the e-mobility trend in the USA, Japan, China to their German HQs and expand the business to Asia.

Secondly, the global marketing team at BASF has broader responsibility beyond product development. This indicates that the global marketing teams work as a global internal messenger to communicate the current market demands. As a result, BASF quickly responded with the new coolant e-car requirements. In contrast, global marketing managers at several Japanese companies have focused on their own narrow responsibility only.

As shown in Table 1, the organization has two types such as rigid organization like "baseball" type and flexible value-adding organization for instance, "football" type. The baseball-type organization has a clear fixed role and responsibility in their organization. This rigid type

of organization defines the responsible area of members very clearly. This fixed narrow role and responsibility works quite well to deal with a stable market environment with the detailed management from “catcher” type manager, but it does not fit the dynamic environmental change.

This empirical study indicated that flexibility and value-adding roles such as cross-organization communication play an important role in successfully scouting business opportunities.

In contrast to the baseball-type organization, the key person in the football-type organization is a “Regista (in Italy, it means a director to decide the direction)” type to steer the direction of the team with optimal coordination.

Organization type	Baseball type	Football type
Responsibilities are	Rigid and operational responsibility	Clear role with flexible value adding responsibility
Type of responsibility	Deep dive	Crosslink with partners
Typically in	Japanese companies	European companies
Type of key person is	“Catcher” type to detail-manage the team	“Regista” to steer the direction of the team

Table 1. Organization type

3. Summary

This empirical study showed that with a “Regista” type project manager, existing products in the laggards industry would be recognized as “innovators” in the other industries.

This business scouting & innovation approach also indicated that experience in laggards has the potential to be turned out to the advantage of quicker implementation without suffering from the chasm. Further case studies of the “Regista” and “Catcher” type organizations are under evaluation.

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