Making Gatekeepers in Supplier Systems: A Case for Offering Customer Solutions

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Abstract: This paper is a case study of a professional organization for offering customer solutions (POOCS) at Company A, a global materials supplier. Positioned in the upstream supply chains, Company A has the ability to handle materials, and most of its direct customers are second- and third-tier companies in the supply chain. Company A had difficulty understanding the general direction of the supplier system and industry trends for the very same reasons. However, by creating a POOCS, engineers at Company A were able to understand external information of Chain Captains and Trend Settlers and propose solutions without being distracted by semantic noise. In other words, the POOCS functioned much like the gatekeepers described by Allen (1977), who did not find any relationship between the existence of a gatekeeper and performance; however, in the case of Company A, performance clearly improved with the creation of the POOCS to act as a gatekeeper.

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A version of this paper was presented at the ABAS Conference 2015 Spring (Song & Suh, 2015).

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1. Introduction

Customers sometimes ask suppliers for customized components. In these cases, suppliers can choose one of two options: adopt the strategy of accepting the request and responding to the customer, or take a standardization strategy (Takashima, 1998). In recent years, however, there has been greater interest in the solution business on the part of both businessmen and researchers, and the solution business has gained traction as a third option. Still, Tuli, Kohli, and Bharadwaj (2007) noted that many studies define the solution business as the simple bundling of products and services, with little regard for the perspective of the customer, and they also identified a gap between customers and suppliers in understanding proposed solutions. Suppliers appear to have a broader array of information than customers do, so they can be expected to propose solutions. Discussions regarding the solution business in Japan also contend that suppliers have access to a broader range of information and can leverage this information in making proposals to customers (Kuwashima, 2013; Tomita, 2009). In addition, Tomita (2007) discussed solution strategies in a case study of Sumitomo 3M Limited. He noted that customer technical centers (CTCs) exhibited Sumitomo 3M’s technologies and products and that the company’s creation of an internal CTC promoted customer problem discovery and solutions. This CTC deepened customer trust and made it easier to propose solutions. Nobeoka (2011) likewise emphasized that CTCs can provide meaningful value to the solutions that are proposed to customers.1 Thus, the solution business is not just a combination of

1 While Tomita (2007) and Nobeoka (2011) discussed the importance of CTCs’ role in offering solution businesses, they did not provide much detail on
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products and services; rather, it is a series of processes for providing recommendations to customers and therefore requires anticipating the needs of customers. This, in turn, requires developing relationships of trust with customers, recognizing customers’ needs through close communication, and tying these needs to the appropriate internal technologies.

Much prior research has noted the impact of promoting close communication and information sharing in cooperation between customers and suppliers (Asanuma, 1989; Clark & Fujimoto, 1991; Dyer, 2000; Konno, 2007). However, cooperation between suppliers and customers is not a simple matter, because there is always a risk of information spillover in the process of cooperation (Nakagawa & Song, 2016). Accordingly, deciding whom to cooperate with is a critical issue. Konno (2003) researched on this topic by surveying Japanese automotive suppliers. He asserted that suppliers that develop cooperative relationships with highly competent customers and transact with a broad range of customers tend to outperform other suppliers that do not. This is because suppliers with cooperative relationships are able to acquire information and use processes to develop resources and competencies through their established relationships to their advantage.

Therefore, when a supplier transacts with multiple customers, the way that suppliers interact with customers and how they apply their internal technologies to those customers’ needs and problems is critical. To resolve these problems, this paper discusses management for an effective solution business by focusing on the professional organization for offering customer solutions (POOCS) created by Company A, a global materials supplier, and by explaining the ties between customer interactions through Company A’s POOCS and technologies.

how CTCs operate.
2. Case

2.1. Background of Company A

This paper is a case study of Company A, a global materials company headquartered outside of Japan. Company A’s goal is to solve problems related to population growth using science developed in-house, which focuses on increasing and securing food production; reducing reliance on fossil fuels; and protecting human lives, property, and the environment. Company A’s products and technologies are wide-ranging, and its business lines include agriculture, high-performance chemicals and materials, security systems, nutrition and foods, and electronics.

Company A entered the Japanese market in the 1960s. At the time, it set up joint ventures with several Japanese chemical manufacturers in addition to its own business so that it could develop a stable business structure. Company A focused heavily on its business in Japan and aggressively invested in R&D.

2.2. Gate keeping organization of Company A

The automotive industry comprises a substantial share of Company A’s business in Japan, with six of the company’s eight business segments being auto-related. However, Company A was not satisfactorily responding to its customers’ needs. Its business style directed the company’s salespeople for each segment to call on customers to explain which components were provided by that segment, but many customers asked for technologies and products that were not in a given segment. Because customers felt their needs were unmet, Company A’s salespeople responded to their customers by taking the initiative of studying other segments’ products and technologies. Their efforts led to an increase in orders, but this had little impact on the performance evaluations of these salespeople,
because the effort was voluntary.

To solve this problem, the president of Company A’s Japanese subsidiary directly made a proposal to the company’s chairman. This resulted in the establishment of the company’s first unit dedicated to the automotive industry—a unit that would be responsive to customers. This special unit became the aforementioned POOCS. Company A’s POOCS exhibited the company’s proprietary products and technologies, and its sales force called on customers to give them information and offer solution. The showroom was renewed every year. The POOCS called on customers to find out what they needed and then used this information to prepare multiple proposals that would meet the customers’ needs using the company’s technologies. Each proposal was subjected to an internal selection process, after which the unit would invite the customers to come in, introduce them to several of the chosen proposals, and allow the customers to make the final choice.

The POOCS has two characteristics. One is that customers are free to come in for solution. The other is that the function of the unit is limited to providing a place for information sharing. The unit has no R&D function, and it maintains a small permanent staff. The purpose of the unit is to consult with segment heads and gather the appropriate segment engineers when a customer call has been scheduled so that the sales force will be able to respond to customers’ needs and problems. When doing so, they gather the engineers from various segments, not just from a certain segment. Company A is therefore using the POOCS to share information among segments and then accumulate and leverage that information in order to provide solutions to its customers. However, although this unit does not possess an R&D function, it is located near the R&D department to facilitate frequent communication and shorten response times so that it can respond to customer needs as quickly as possible.

Establishing the POOCS greatly changed the range of customer
communication. Company A has a business concentration in materials, which often puts it in the upstream portion of the supply chain. Therefore, before the formation of the POOCS, direct communication with customers was often limited to second- and third-tier suppliers, such as molding manufacturers. Company A therefore had no visibility of the overall industry flow because its direct ties were only with its second- and third-tier supplier customers. Creating the POOCS and providing an avenue for a variety of customers to freely visit made it easier for Company A to understand the overall flow of the industry. In addition, the most critical element in solution generation is developing ideas and understanding a broad range of needs. Understanding those needs requires close personal relationships, and the POOCS broadened these relationships through interaction with a wider variety of customers.

One more critical point should be kept in mind. While all companies that visit Company A may become important customers, it is important for Company A to know which companies are more important when proposing solutions. Company A thus differentiates the companies with the potential to become Chain Captains and Trend Settlers within the supply chain and accordingly interacts with them. A Chain Captain is a person or organization with considerable influence in a specific supply chain that can control the overall flow of the supply chain. In the case of the automotive industry, the Chain Captains are usually the Tier 1 suppliers or the automakers. Through close communication with these companies, Company A can understand the trends and needs of a particular supply chain and quickly respond with solution proposals. Trend Settlers are companies that lead industry trends and are not necessarily the same as Chain Captains. For example, in automated driving technology, it is likely that a European or U.S.-based company would play the Trend Settler role better than Toyota. In the
case of automated driving, software and sensors are increasingly important, so the Trend Settlers are not limited to automakers but can include the likes of Apple and Google as well. By understanding both types of companies, Company A can latch onto industry and supply chain trends and needs and work to develop solutions. Understanding future trends is extremely important, and continuous communication with Trend Settlers is crucial over the five to ten years it takes to develop solutions.

The importance of understanding Chain Captains and Trend Settlers was understood even before the POOCS was set up, though it was not systematically defined. This is because salespeople often call on the customers with whom they perform the most direct business transactions; therefore, in the absence of any specific reasons, there are few opportunities for them to communicate with the Chain Captains or Trend Settlers who do not transact with them directly. By creating the POOCS, Company A was able to partner with both Chain Captains and Trend Settlers. On some occasions, Company A has performed joint development work with Trend Settlers, but its aim in doing so is to receive orders from more customers. This is because Company A deals in materials, and its fundamental strategy is to lower costs through mass production. In light of this constraint, joint development is not necessarily the best approach. Company A cannot respond to a request for customization if the customer is not willing to bear the requisite costs.

Below, we introduce a simple case study in which Company A used its POOCS to propose a solution. Electric power generation has always been an industry that generates high heat and high energy loss. A customer aware of this problem came up with the idea of generating electric power at low temperatures. This was a brand-new method of power generation, and because this customer did not understand the technology and came to consult Company A’s POOCS about it. Company A viewed low-temperature power generation as a
market need and presented about 20 potential solutions for the customer to choose from. The POOCS quickly assembled the technologies together and asked the customer to evaluate them. The customer did not understand the new technologies very well, which made the evaluation difficult. Thus, when having a customer evaluate a technology, Company A also provided evaluation tool which makes it easier for the customer to evaluate it. In the end, Company A was able to narrow down the discussion with the customer to only two or three solutions, and it succeeded in productizing. In this example, Company A was able to come up with a solution, but there is obviously the possibility that a proposal will not become a solution. In this case, Company A keeps those solutions internally as potential technology elements for the future.

The end result was that Company A, through the POOCS, was able to skillfully propose solutions that meet customer needs. More specifically, Company A increased the number of projects in development by 1%-3% per year. In addition, customer satisfaction rose significantly, and annual visits by customers are increasing every year. Company A’s headquarters recognized the POOCS’s impact and decided to roll it out globally, setting up similar units in 12 countries as of 2012. Below is a description of the global rollout of the POOCS.

Rolling out POOCS globally requires consideration of the company’s competitiveness in each country’s key industries. For example, Company A created POOCS for automotive and electronics products in South Korea, for transportation equipment in India, and for the automotive and agriculture industries in the U.S. Even within the same industry, Company A considers the strengths of the major companies in each country when creating proposals. For example, Company A makes the proposals to the automotive industry on a global basis in seven areas: (1) sustainability, (2) eco-performance, (3) weight reduction, (4) performance improvements, (5) comfort and
design, (6) safety, and (7) total system costs. However, the strengths of the major companies in each country vary, and in Japan, the focus is on eco-performance in particular.

Company A’s headquarters played the central role in POOCS’s global rollout, with the Japanese subsidiary providing the requisite information as the system’s pioneer. The headquarters used this information to try to standardize the POOCS, in particular, integrating Company A’s introduction and vision. However, the headquarters was not solely responsible. The POOCS development strategy in each country was determined through communication between those responsible for the POOCS. The individuals responsible for each country’s POOCS held one- or two-hour long videoconferences on a monthly basis. The number of POOCS units is expected to grow in the future, and the company plans to attempt information sharing among the regions or key industries in each country. In other words, the role of the headquarters is limited to functions such as budget allocation, and those in charge of each country’s POOCS are responsible for gathering opinions in managing their respective organizations. The headquarters evaluates each POOCS annually, analyzing components such as the annual number of ideas generated, products created, and customer visits.

3. Concluding Hypothesis

This paper focused on the POOCS of Company A in creating effective solution businesses. In creating a solution business, Company A recognized two problems. First, as a materials company, Company A is situated in the upstream part of the supply chain, with most of its direct customers being second- and third-tier suppliers in the overall supply system. Company A had few relationships with companies that set overall industry trends and the direction of supplier systems. Another issue was that even though salespeople
understood customers’ needs and problems, they were often unable to resolve problems in the segment in which they worked, because it was difficult for them to tie the appropriate company technologies to customers’ needs and issues. Even when salespeople took the initiative of studying the technologies of other business segments so that they could come up with proposals, there was no systematic effort involved, and there are no incentives to effort of the salespeople. These matters have been brought up in prior research as a problem of the solution business.

To resolve this issue, Company A established the POOCS, the role of which is shown in Figure 1. Company A operates in a number of segments in each country. In addition, Industry X exists in a number of countries, and each country has a supply chain with a Chain Captain. Here, the POOCS plays the role of connecting the Chain Captains of each supply chain within a segment. In doing so, what is important is that the POOCS only fulfills the role of connecting these two parties, as the POOCS itself does not possess any information. If Industry X exists in Country Y, Company A’s POOCS in Country Y links its segments to the Chain Captains of the various supply chains for those segments. Trend Settlers are also present here, and the POOCS connects Company A’s segments to these Trend Settlers as well. Every supply chain has a Chain Captain, but it does not necessarily have a Trend Settler. Figure 1 is a simplification using a single Industry X. It is not necessary for every supply chain to have a Trend Settler, but if a Trend Settler exists in another industry that is expected to influence Industry X in the future, that company can become a Trend Settler for Industry X. Each segment is connected with Chain Captains and Trend Settlers, and when solutions are created, each POOCS reports that information to a Global Facilitator at its headquarters. The Global Facilitator evaluates each POOCS based on that information and relays the solution to POOCS organizations in other countries.
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Three important management points are involved here. The first is the need to discover the key companies for each supplier system, as well as the industry as a whole, and to propose solutions that focus on the problems and needs of these key companies. The second point is the need to concentrate on understanding customers’ problems and needs and then propose solutions, rather than merely developing products geared toward specific customers. Customizing products for each customer is not profitable for Company A, and it is thus important that Company A manages its organization by choosing the companies it is more profitable to partner with and by determining the appropriate level of cooperation. The final point is that POOCS do

Figure 1. POOCS in the supplier systems

Note: CC = Chain Captain, TS = Trend Settler
not have an R&D function. Company A handles a variety of products and already has R&D organizations for each segment and region. POOCS assemble engineers from the appropriate R&D organizations whenever a customer comes in, thus performing a valuable role.

In summary, Company A’s POOCS units fulfill a role similar to that of the gatekeeper proposed by Allen (1977). By closely examining the communications networks of engineering teams at research labs, Allen discovered that the teams have “stars” who interact in some way with everyone on the team. These star gatekeepers are key to communication, because (i) they gain external information through frequent external contact, and (ii) they have a good grasp of the contents of advanced professional journals, which they explain in a way that is easy for average engineers to understand. Because of the gatekeepers, the average engineers within the organization are therefore not distracted by semantic noise, and this enables the company to acquire the latest engineering information from the outside (Takahashi, Kuwashima, & Tamada, 2006).

A POOCS also functionally acts like a gatekeeper by understanding and connecting needs and information from Chain Captains and Trend Settlers in each supply chain and for each company segment. This paper only provided an analysis of one company, but we can derive the following hypotheses from it.

(1) In companies like Company A that are positioned upstream in the supply chain, research organizations cannot acquire sufficient information from companies with whom they have direct ties so that they can generate proposals. Having a gatekeeper organization like a POOCS is therefore effective for acquiring information from the Chain Captains that are critical to supply chains and from the Trend Settlers that influence their industry. This information, in turn, can be explained to internal
segments.
(2) Salespeople in Company A could not respond to customer requests regarding matters outside of the segments to which they belonged. A gatekeeper organization like POOCS does not belong to a specific unit, so it is well-suited to the role of connecting customers with appropriate engineers in segments that can meet the needs of those customers.
(3) When responding to specific customers’ requests for individual customization, information quality may improve, but it is very possible that resales to other customers will be limited. A company may act on customization requests from important customers like Trend Settlers, but it is impossible to respond to every customer’s request for customization. Thus, it is better to have a solution business with a gatekeeper organization like POOCS so that solutions can be proposed using the information gathered by the gatekeeper and without making commitments to specific customers.

Validating these hypotheses will require further case studies and quantitative analysis of companies that have gatekeeper organizations.

Acknowledgements

This paper was supported by Grants-in-Aid for JSPS Fellows (DC2).

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