

ALIGNING OUTSOURCING RELATIONSHIPS FOR SUPPLY CHAIN PERFORMANCE

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ABSTRACT

Purpose

The purpose of study is to provide better understanding of alignment of business-to-business (B2B) relationships and to explore it empirically within a dyadic supply chain outsourcing relationship in heavy machine manufacturing industry.

Design/methodology/approach

The critical realism perspective has been used. Study has case-study design. Qualitative empirical research methodology is adopted. Analysis is based on abductive logic. Semi-structured interviews are used to collect data from two Finnish companies.

Findings

To align B2B outsourcing relationship, a service provider continuously manipulates various heterogeneous resources in its resource portfolio to match the supply chain needs of an outsourcer. Within make/assemble-to-order supply chain structure, coordination and organizational culture are among few mechanisms that help service provider achieve better supply chain performance in dyadic context.

Research limitations/implications

Single heavy machine assembly service provider is used with limited respondents. Findings should be generalized with care. The context of study is limited to manufacturing industry. Similar studies can be carried out in other contexts.

Practical implications

This study provides guidance to managers on the resource portfolio based alignment of outsourcing relationships that affects resource management and supply chain performance of an assembly service provider.

Original/value

This study is connected with the existing knowledge and expands it by providing a better understanding of alignment of B2B outsourcing relationships. It also provides insights on mechanisms that help achieve better supply chain performance in dyadic context. This study contributes to supply chain management and strategic management literature.

Keywords: Alignment, Outsourcing, Relationships, Supply Chain Performance, Resource based-view, Resource Portfolio.

1. INTRODUCTION

Buying business services has become an integral part of supply chains in the heavy machine manufacturing industry. Manufacturers' such make-versus-buy decisions are influenced by their desire to possibly achieve better financial impact, focus on core competence or use of externally acquired resources (Dobrzykowski et al., 2010; Fernandes et al., 2012). Generally, outsourcing arrangements are used to address buying of business services including logistics, material procurement, production and machine assembling. Such outsourcing type of relationships may contribute in re-designing of the whole value chains of machine manufacturers, to capitalize opportunities in the existing and new markets. In this perspective, outsourcing could offer a possible solution to achieve cost reduction and other strategic goals (Fill and Visser, 2000; Kremic et al., 2006). Nevertheless, dire risks are associated with this kind of supplier-outsourcer relationships, which could result in undesired outcome or even termination of the relationships (Zsidisin et al., 2004).

Within make-to-order and assemble-to-order supply chain structures, a service provider faces challenges including unrealistic sales forecast, unstable production volumes, held-up inventory, idle stocks and changes in the product design, which could affect supplier-outsourcer relationship. From service provider's perspective, the execution of operations in such a situation requires continuous adjustment of its resources including physical assets, people, facilities, equipment, technology and financial assets in order to keep the relationship aligned. Liu et al. (2018) emphasize that simultaneous adaptation influence a firm's operational performance.

Research highlights clear doubts on the efficacy of supplier-outsourcer relationship (Kenyon and Meixell, 2011) as lack of alignment in the relationship becomes an enduring challenge (Lacity et al., 2008). Such inter-firm alignment does not take place automatically to produce favorable results (Kroes and Ghosh, 2010). Avison et al. (2004) point out a need of a clearer framework as the literature lacks guidance on how firms could achieve alignment and avoid the impacts of misalignment. Previously, frameworks have been presented focusing on outsourcing from purchasing, total cost and supply chain processes perspectives, however these frameworks do not provide a comprehensive understanding of the importance of outsourcing relationship building for practical implementation (Sanders et al., 2007).

This study takes the resource-based view (RBV) as its core theoretical basis along with resource portfolio and alignment as two complementary concepts to provide better understanding of alignment of B2B relationships and to explore it empirically within a dyadic supply chain outsourcing arrangement. In previous studies resource portfolio approach has been used from only one focal firm's perspective. In this study, it has been used in dyadic-setting to address how supplier-outsourcer relationship could be aligned to possibly enhance supply chain performance. This study also reflects upon two inter-firm relationship alignment mechanisms, proposed in a recent study by Klingebiel and Rammer (2014), and explores the influence of those mechanisms on the alignment of outsourcing relationship from assembly service provider's (ASP's) perspective in an industrial machine production context. Similarly, another study by Rehman et al. (2018) highlights the influence of people, organizational structure, environment and technology on firm's performance.

This study take ASP's perspective due to fact that in current supply chains, ASPs play a critical role in success or failure of outsourcer's business. Besides, dyadic (ASP-outsourcer) empirical data provides insights, which strengthen the findings of the study. In the next section, literature review is presented. Then the research methodology is mentioned. Later, the empirical findings and discussion sections are provided. Finally, conclusion with theoretical contributions, managerial implications, research limitations and future research are presented.

2. RESOURCE PORTFOLIOS WITHIN RESOURCE-BASED VIEW

According to the resource-based view, assets, people, technologies, processes and competences are considered as a firm's building blocks (Wernerfelt, 1984). Barney (1991) groups resources into three categories: (1) physical resources including equipment, machinery and facilities; (2) human resources including knowledge and experience; and (3) organizational competences. Firm's access to heterogeneous resources, which can create differential productivity when combined with other resources, influences its performance to generate economic rents (Makadok, 2001). Similarly, a firm's investments in developing its physical and knowledge resources play an important role in its performance (McKelvie and Davidsson, 2009). A resource portfolio can be described as a made-up set of resources, in quantity and type, whose objective is to maximize firm's profit, performance and competitiveness (Wang et al., 2007). Inter-firm resource portfolio management is a complex process that requires organizational competences to execute business operations in dynamic environment (Leuschner et al., 2013).

The portfolio approach (Ansoff and Leontiades, 1976) recognizes the importance of tangible, intangible and monetary resources in the management of a firm and in the implementation of its strategies. This approach provides an integrated view towards disciplined allocation of firm's resources to perform an optimal combination of operations that help firms achieve long-term objectives, maximize returns and quantify risk levels (Turnbull, 1989). It deals with the management team's strategic decisions about short-term and long-term allocation and prioritization of firm's resources for different business opportunities (Bruch and Bellgran, 2014; Kinnunen et al., 2011; Tolonen, 2015). It provides categorization strategy for various resources to be grouped into efficient portfolios in order to maximize firm's performance (Ritter and Andersen, 2014) and to generate best collective value (Montibeller et al., 2009). The achievement of such value creation depends on the level of alignment between business operations that requires resource commitment and organizational goals (Iskanius et al., 2006). Klingebiel and Rammer (2014) emphasize that coordination in allocation of resources and the organizational culture are the building blocks for effective resource portfolio management. Thus, resource portfolio management poses potential challenge for companies, because misalignment could result in negative impacts on firm performance (Tolonen, 2015).

This study explores the alignment of supplier-outsourcer relationship where resources from both actors are combined together to perform business operations for possible mutual benefits. Recent studies related to resource portfolio management focus on resource acquisition, resource planning, resource allocation and outsourcing options (Wang et al., 2007; Wang et al., 2008).

3. ALIGNMENT MECHANISMS IN RELATIONSHIPS

Academics have approached the question of how to draw the boundaries of a firm, using several theoretical perspectives, including the resource-based view and combinations thereof. In strategic management, the concept of alignment expresses a strategic fit (Smaczny, 2001), or a strategic match (Mintzberg, et al., 1998). Alignment can be achieved between strategic and operational scopes by aligning processes and resources at inter and intra-organizational levels (Storbacka, 2011). Inter-organizational alignment cannot take place in isolation, it requires mobilization of both actors (Håkansson and Ford, 2002) in order to cater for respective business goals (Snehota and Håkansson, 1995). The challenge is to maintain the alignment as conditions change over time (Breton-Miller and Miller, 2015). As the complexity of buyer (outsourcer)-supplier interactions increases, alignment becomes more important to achieve (Gosselin and Bauwen, 2006). Cox (2004) emphasizes that in order for a business relationship to be effective,

it is essential for supplier and buyer (outsourcer) to be aligned appropriately even when some conflicts exist between them.

The outsourcing arrangements alter the boundaries between firms, creating new supply chains where relationships evolve through various phases. Firms in newly created supply chains collaborate with each other during the course of their relationships. Such inter-firm collaboration within a supply chain can be structured on partnerships (Rudberg and West, 2008). Schniederjans et al. (2005) argue that interdependencies and relationships between partners depend on the structure of collaboration between them. Partnership in supply chain may bring added-value to actors should it be based on economic and non-economic characteristics of the supplier-outsourcer relationship including trust and openness, information sharing, joint planning, common logistics processes, risk sharing and compatible corporate culture (Harrison et al., 2014).

Coordination

Coordination in inter-firm resource utilization can be seen as a pattern that reflects a resource-based relationship between two firms and creates a fit between a firm's resource needs and provision of those resources by another firm, to capture business opportunities together, thus such coordination in resources utilization captures value-creation aspect of inter-firm resource integration (Das and Teng, 2000). Similarly, supply chain actors can manage the interdependencies between their activities by the means of mutual coordination (Sandberg and Bildsten, 2011). Inter-firm resource combining involves continuous assessing, designing and mobilization of resources to achieve a fit with other resources in order to enhance collective value of all the resources (Gadde and Håkansson, 2008). It emphasizes the importance of coordination between resource provider (supplier) and resource user (outsourcer). While resources are combined between counterparts, they require some degree of adaptation to match each other's needs. The outsourcing supplier may offer new features in existing resources or outsourcer may use existing features in a new way for a unique purpose. Raue and Wieland (2015) argue that firms can achieve coordination in resource utilization as the outcome of their relationship to enhance performance. High degree of coordination in organizational routines works as a control system to perform effectively with respect to time schedules and service quality (Klass-Wissing and Albers, 2010). There are examples of coordination in practice in car manufacturing and in green supply chains (Martinsen, 2014).

Organizational Culture

According to Saikas and Saikas (2015) a firm's vision, management style and nature of business are the most important sources of organizational culture. Authors argue that it is a value system that consists of attitudes and beliefs, which directly affect the behavior of the employees. These values remain consistent throughout the organization creating a norm that how decisions are made. Sandberg and Aman (2010) propose open-mindedness, shared vision and commitment as the main components of the organizational culture. Organizational culture is seen as the greatest challenge in implementing alignment between two organizations (Gattorna, 2009). Similarly, organizational cultural fit is a must to attain expected synergies between two organizations (Vivek and Richey, 2013). Organizational culture plays a significant role in management's decisions pertaining to organizational changes, which affect inter-firm collaborations (Saikas and Saikas, 2015). Gattorna (2009) argues that not only the firm's management, but also its employees need to accept the change process in order to achieve desirable outcomes.

The above literature briefly discusses some of the aspects of coordination and organizational culture as two inter-firm relationship alignment mechanisms, which influence firm's performance. Thus, in order to investigate how supplier-outsourcer relationship alignment can

be achieved, the literature influences this study to explore these mechanisms. Generally, in supply chains, combination of mechanisms are applied to handle various inter-firm relationship issues (Fugate et al., 2006; Xu and Beamon, 2006). Although, these mechanisms are briefly discussed, however in the empirical analysis, the emphasis is given to the coordination and organizational culture as mechanisms to align outsourcing relationship between an assembly service provider and one of its outsourcer.

4. METHODOLOGY

Qualitative research opens up avenues to identify generalizable patterns to address important questions in strategic management field. Qualitative empirical methods investigate phenomenon such as collaborations across organizations, to generate new insights that can be impossible to capture using only quantitative methods (Bettis et al., 2015). Das and Teng (2000) argue that qualitative research sometimes struggles with the operationalization of the resource-based view constructs, especially in the case of alignment of resources.

Case study as research strategy has been selected for this study, because of the fact that it is widely acknowledged in management and social sciences (Aastrup and Halldorsson, 2008). The motivation for this choice comes from the fact that qualitative case study with data collection method that involves respondents' experience, beliefs and insights help eliminate uncertainties. Further, according to Yin (2003) researcher's desire to understand complex phenomenon drives the distinctive need to conduct case study based research.

This study takes critical realism position that reflects an ontological realism, an epistemological relativism and a judgmental rationality (Bhaskar, 1998). The position emphasizes the existence of reality while focusing on the relativity of our knowledge of it as always being dependent on the theory; for example, open systems of natural and social structures made up of both material (physical flow) and non-material (business collaboration) elements (Aastrup and Halldorsson, 2008). Whether it is an employee in a warehouse facility, a department in a firm or an organization in a supply chain, the activities are affected by the agents through their choices and intentions (Sayer, 1992).

For this study, abductive logic of analysis has been selected, which is fruitful in case the researcher is looking for new things (Dubois and Gadde, 2002). It is not a mixture of deductive and inductive approaches, rather it gives researcher freedom to move between theory and empirical data as research proceeds (Kovács and Spens, 2005). This study is mainly triggered by researcher's interest in the 'real world' and empirical observations. While literature has played a critical part to understand data, the possibility of travelling back and forth between theory and data has been an important aspect of research design in this study. Selection of abductive approach in this case study can be explained by research's goal to first collect the data pertaining to supplier-outsourcer relationship and then comparing the data to various theoretical areas within inter-firm relationships. The objective is to explore mechanisms, which can influence the alignment of outsourcing relationship from an assembly service provider's perspective. The unit of analysis in this study is the alignment mechanism, the ASP is using to align its outsourcing relationship with one of its outsourcer.

4.1. Case Description

In this study, the Assembly Service Provider (ASP) is one the largest assembly service providers in Finland. The ASP's core business is to provide assembling, engineering and specialized production services to industrial machine and mobile equipment manufacturers. The ASP also provides services as a sub-contractor or system supplier to its various outsourcers.

Besides, the ASP owns the production rights of a major industrial machine brand used in the forestry industry. The ASP is considered one of the main players in the Finnish assembly service industry. The selection of the case ASP is justified by the fact that it has been delivering services, which are not quite assembly-related in nature, rather cover a larger scope. Thus, it gives an opportunity to address and explore the alignment of outsourcing relationship as a phenomenon under investigation in dyadic supply chain context.

4.2. Outsourcing Case Design

This case study encapsulates outsourcing relationship between the assembly service provider (ASP) and one of its outsourcer firms. The outsourcer firm is a well-known brand in Finland for industrial machines for waste management. The machines are exported to many countries around the world. The interesting fact about this outsourcer is that, it is a manufacturing company without an actual physical factory, workshop, logistics, warehouse or an assembling plant. In this case, the manufacturer has outsourced its entire production, manufacturing and assembly operations for a turnkey solution, using both make-to-order and assemble-to-order supply chain structures.

Besides assembling services, the ASP also purchases various machine parts, based on supply contracts directly negotiated between outsourcer and part suppliers. These parts become ASP's assets and are shown in its balance sheet until outsourcer gets an order for a machine. Contrary to the supply chain structure, ASP has to keep a certain level of inventory of parts as working stocks that has considerable monetary value in its production facility. Some of the parts are produced, using ASP's own sub-contractors, even before an actual order is received from the outsourcer. The ASP also coordinates with the third party logistics service provider (LSP) who delivers the rest of the components. Besides, the ASP receives some big components directly from the external suppliers, which are stored in its production facility. The ASP also takes care of post-production quality checks and makes sure that the manufactured machines are ready for end-users. Finally, ASP submits a sales invoice for its services to the outsourcer.

4.3. Interview Process

Although this study is positioned from the ASP's perspective, however dyadic data is collected to explore the phenomenon. Following Eisenhardt's (1989) recommended procedures, the ASP and one of its outsourcers were contacted with a clear and well-defined focus. The interviews were aimed to capture respondents' experience related to how the outsourcing relationship is aligned to achieve desired outcomes. The respondents for the interviews were selected on the basis of their involvement in the outsourcing arrangement from the higher management of both companies as well as from middle management, who are more involved in operations. In-depth interviews were conducted with the CEOs of both firms. At a later stage, further in-depth interviews were conducted with the Supply and Sales Support Manager and Senior Purchasing Manager of the outsourcer firm. Altogether four interviews were conducted. Through semi-structured interview sessions, accounts of respondent's personal experience about this outsourcing relationship provided the basic building blocks, to look into the phenomenon of alignment of outsourcing relationship and to explore the mechanisms, which influence such alignment from an ASP's perspective.

4.4. Data Analysis

The interviews were recorded and transcribed for the purpose of analysis. Statements from each interview were coded. Following abductive approach, empirical data was compared with main theory several times. Coding procedure (Miles and Huberman, 1984) was used followed by systematic step-by-step recursive process (Braun and Clarke, 2006) of thematic analysis of data

to identify repeated patterns of meaning relevant to this study. Coding was done to organize data into meaningful groups. Then analysis shifted to collation of coded texts into broader themes. Then themes were reviewed several times to consolidate and identify the most salient themes relevant to the phenomenon under investigation. Next, the emerged themes were labeled and refined to match with the overall description of alignment mechanisms from the ASP's perspective. Finally, the distinct themes were written up referring back to the literature to enhance generalizability, research soundness and theoretical level. Based on the accounts and explanations provided during the interviews, it was interpreted with the respondents that resources from both actors were combined together to form resource portfolios. The information and interpretations from all interviews were cross-analyzed to explore alignment mechanisms from the ASP's perspective.

5. EMPIRICAL FINDINGS

In line with the purpose of study, this section first explores some of the challenges in the ASP-outsourcer relationship as highlighted by the respondents. Next, an in-depth analysis of alignment mechanism is carried out.

The ASP-outsourcer relationship started in 2006 and has been in place since then. While describing the scope of outsourcing services, the ASP's CEO elaborated that the entire manufacturing and assembling services are rendered to the outsourcer, which is an independent third party. The ASP is also involved in the purchase of the machine components as well as partially takes care of shipping and logistics of the machines. As reported, size and technology of outsourcer's machines are very suitable for ASP's production facility and expertise.

This is totally order-based. We do not make machines for stock. We make machines for orders, providing a make-to-order supply chain structure – ASP, CEO

5.1. Unrealistic sales forecast and unstable production volumes

The ASP receives a 4-months look-ahead forecast from the outsourcer's sales team.

We are building these machines purely based on sales orders from our dealers (and end-users) – Outsourcer, CEO

We prepare our production forecast. I think forecast is very important paper for all of us – Outsourcer, Senior Purchasing Manager

The ASP has a remote access to outsourcer's ERP system to receive the forecast. Based on the forecast, ASP assesses, which machines models are going to be manufactured, for which customers and what is the sequence of production and delivery. The outsourcer gives ASP quite typical information about the possible production of their machines for the coming months.

But, naturally forecasting is not easy. Forecast is challenging, sometimes it is even difficult. Of course, there are some surprises every now and then, but it is quite ok – Outsourcer, Supply & Sales Support Manager

People from both companies meet weekly to discuss the production progress for instance, which machines are under production and review the production forecast for next two to three months for the planning purpose.

We also discuss (with ASP) about any changes that we may make to the forecast. We discuss all the aspects related to planning, coordination and control. I think this meeting is very important for our day-to-day planning to keep track of

all ongoing activities, so we can have an up-to-date operations schedule – Outsourcer, Senior Purchasing Manager

Since forecast consists of all the machine components, hence sourcing of long-lead items becomes another reason for unrealistic forecast.

We cannot have a monthly forecast (because) some of the components are very critical in terms of their supply lead-time that could be (around) 18 months – Outsourcer, Senior Purchasing Manager

Even when the components are sourced by the outsourcer, there are still problems for the ASP due to errors in the forecast because these components occupy ASP's storage space.

These bigger parts are not in our balance sheets as our assets. Therefore, it is not a problem for our finance team if we could bring them here at the facility beforehand. Now the situation is very good. Few years back, our production facility was full of those big components because of mistakes in the forecast – ASP, CEO

The unrealistic forecast and unstable production volumes affect the ASP's production planning and resource utilization in terms of accuracy in manufacturing time and the delivery dates.

Forecast and monthly volume are always changing. This unstable order forecast makes production planning difficult for us. In some months, we manufacture 8 machines and in others only 2. It is little bit difficult to make production planning based on forecast that says 3 machines every month. Other challenge is related to production volume. It is not so stable, of course there will be changes. Changes in the monthly volume are just usual but it is quite challenging for us if volumes stay low – ASP, CEO

As mentioned earlier that outsourcer has a make-to-order supply chain structure, however, the order forecast changes and any resource capacity planning done for the production, needs to be done again. Similarly, since the unstable volumes do not give a regular pattern of production, therefore it hinders in the possible effective utilization of the Asp's resources.

5.2. Held-up inventory and idle stocks

As informed by the respondents, normally each of these kinds of industrial machines have more than 105000 individual parts. There are around 16000 components, which are used in the production of outsourcer's machines. Out of which, 9000 different components are coded in the ASP's ERP system into manufacturing and purchasing categories.

Our (total) inventory consists of approximately 80-85% for new machine (production) business – Outsourcer, Supply & Sales Support Manager

For production, (ASP) buys approximately 10-15% of the components, the LSP buys 50-60% of all the components and rest are bought by us – Outsourcer, Senior Purchasing Manager

ASP also buys some small parts on stock basis, even when there is no confirmed order from the outsourcer, which means that even in a make-to-order supply chain structure, the ASP needs to keep some working inventory in its stocks.

Right now, we have 700 different components physically present at our facility and in our balance sheet too. If we look at the stock value in our system, it is around 400000 euros. But, 700 is quite little number when compared to 9000. The stock value would be too much, in case we start building inventory for a make-to-stock supply chain – ASP, CEO

While giving an example, the ASP's CEO highlighted that the outsourcer asked to buy some 5 parts from a specific supplier. The price was 6000 euros, which was agreed between the outsourcer and part supplier. ASP purchased the parts and brought them into its stocks. So, there was a stock value of 30000 euros in ASP's financial statement. The normal turnover rate for the inventory is around 4 to 5 months. Therefore, the idle stock value also creates a challenge for the ASP, keeping in view its capital resources.

Twice a year, ASP checks those machine parts, which are not rotated for production from available inventory. In case there are some parts, which are not used at all, then ASP has to scrap those parts. Though, write-off value is not much, it's a waste of ASP's capital resource.

5.3. Changes in product specifications and design

ASP receives sales orders and design drawings through outsourcer's ERP system. ASP checks those drawings, if they same as the previous ones or if there are any changes in the design. From the following respondent's view, it can be understood that design changes are usual in their business. Secondly, due to the priority of deliveries, the outsourcer revises the production schedules and sequence of delivery.

In our business, we have many such changes and modifications; therefore, it is extremely important for us that our partner is flexible and willing to manage with us when we need them. It is very important in managing relationship. We do not expect them to say 'we will not do that' – Outsourcer, Senior Purchasing Manager

In case of changes, ASP's work-planning department creates a new bill of material according to the new order, with all the parts and activities from the start to finish. There are 1757 lines in a particular bill of material for a certain type of machine. Each line corresponds to a specific item or component in a sales order. Each line must also have correct quantity and correct specifications based on design drawings. If there were mistakes, the logistics service provider (LSP) would deliver the wrong components to the assembly factory for production.

When we start to produce a machine, a lot of changes happen during design and engineering phase. Even when it reaches the production stage, our engineers need to announce some modifications to meet customer's requirements. So accordingly, we make the changes. We inform (ASP) to either stop or hold the production for a certain period of time – Outsourcer, Senior Purchasing Manager

The ASP's CEO emphasized that keeping an up-to-date bill of material becomes a very difficult task, considering that outsourcer can request changes even after production process has started.

When customers instruct some changes in their product specifications or design, during the production phase, no matter big or small, it creates problems for us in manufacturing. In order to control and handle these changes, we need to reorganize many activities, sometimes the whole assembly position needs to be re-arranged in real-time. It requires some resources and re-work time – ASP, CEO

Keeping in view the nature of the services ASP is providing, it can be understood that reallocation of various resources would become a significant problem for the ASP to deliver its services.

It would cost us money, waiting cost in production and in worst case; it means that we would not be able to deliver our machine on time. So all the information must be right. I think, this has been a big challenge and it still is. We have been working a lot to resolve this issue. But this issue is something internal to us – Outsourcer, Senior Purchasing Manager

The above evidence shows that both parties understand the commercial and performance implications as a consequences of the changes in the design.

We follow every single operational and component cost that results from such changes and it goes to (our) cost accounting. The main challenge is how we can follow up all the changes at the right time. It can take quite long time before the changes are reflected in the first machine – ASP, CEO

Though, ASP has its cost accounting process resources in place. Yet, ASP considers these changes as a huge hindrance in performing its services and meeting delivery times.

6. DISCUSSION

6.1. Resource portfolios and resource manipulation

In line with the purpose of study, the alignment of supplier-outsourcer relationship is explored empirically from an assembly service provider's (ASP's) perspective. As respondents report, there are challenges for both organizations, which affect the delivery of the services and the ASP's performance in the outsourcer's supply chain. In order to support each other, both actors have combined some of their resources to form inter-firm resource portfolios.

From the empirical evidence, it is shown that the technology resource in form of the ERP system has been combined, which provides ease of data and information transfer between the actors. Acquiring outsourcer's readily available technology resources to combine with ASP's resources can also be seen as an example of formation of resource portfolio. The presence of inter-firm resource portfolios show a disciplined utilization of resources towards mutual benefits (Kinnunen et al., 2011).

The capital resources has been combined for the purchase of machine components. ASP buys 15% of the total manufacturing inventory. The outsourcer has divided its financial burden among actors in the outsourcing arrangement. Thus, achieving some flexibility in product development since its money is not held up in the inventory stocks.

The competence resource has also been combined to improve the operational processes of the manufacturing and assembly. The outsourcer has an opportunity to provide expertise and know-how related to the equipment and can get involved in the process during the production.

ASP has certified and highly skilled workers in its people resource base. In order to adjust the production capacity in the workshops, the ASP manipulates the people resources within workshops through allocating resources from assembly to the manufacturing department and vice versa. In fact, the ASP has the possibility in its production facility to adjust the capacity through people resource planning for the main production stages for various customers.

For the technology resources, the ASP has its own ERP system and Industrial and Financial Systems (IFS) applications. With the help of these resources, it follows up every single activity that is taking place at the production facility including manufacturing, purchasing and finance etc. Technology resources help ASP control everything it is doing as a company. Resource manipulation assist in the overall monitoring and control of the operations, which helps the ASP to increase or decrease its production capacity according to the outsourcer's needs.

Every time, when outsourcer makes changes to its business model, the biggest challenge they face is to adjust the production capacity to support their business needs. In our case, we can increase the capacity, we can double it and we can even drop it down to zero. In that sense, we are very flexible – ASP, CEO

The formation of resource portfolios in supplier-outsourcer relationship and manipulation of various heterogeneous resources is discussed in the above section from the ASP's perspective.

6.2. Relationship alignment mechanisms

Based on the empirical findings from this outsourcing case, this study argues that ASP manipulates its own resource base as well as combine its resources with those of outsourcer to form resource portfolios. However, relationship management is a complex process (Leuschner et al., 2013). Today's supply chain landscape is volatile and demands a lot more than resource commitment from the ASP in order to achieve outsourcer's satisfaction. Using the empirical findings from this case study, an exploration of mechanisms is carried out that influence the alignment of relationship from an ASP's perspective. This perspective is important since ASP plays an important role in the overall supply chain of the outsourcer to serve its end-users.

Coordination as an alignment mechanism

Keeping in view some of the challenges within make-to-order supply chain structure, as stated by the respondents, ASP faces many challenges in its business operations, to meet production targets, while trying to align its relationship with the outsourcer. At operational level, managers regularly coordinate with each other through feedback, review and improvement sessions; while at strategic level, higher managements meet to discuss market situations and future demands. Nomination of managers as single point of contact from both actors as well as combined use of ERP system are also examples of maintaining close coordination among resources. Secondly, coordination between ASP and the logistics service provider (LSP) is also an important factor in meeting the production schedules and delivery times. Since LSP prepares the sub-assemblies of several critical machine components and brings them to the table counter of ASP's workshop, hence is yet another example of coordinated activities. Besides its own suppliers and sub-contractors, the ASP coordinates with external component suppliers on outsourcer's behalf as part of its scope of service. The empirical evidence shows that coordination is one of the mechanisms that influence the manipulation of resources to create a fit between operations to enhance their mutual performance (Raue and Wieland, 2015), hence alignment of outsourcing relationship from an ASP's perspective.

Organizational culture as an alignment mechanism

ASP belongs to a family-owned group of companies. The group follows long-term business goals and takes care of all the people involved. In line with ASP's organizational culture, there is no bureaucracy in the organization and the decision-making is quite fast. The CEO of ASP can take decisions on his own almost about all the issues. For ASP, the customer satisfaction is the most important value as an organization. On the other hand, the outsourcer is an open-minded company, which tends to execute its business in an innovative manner. ASP and outsourcer follow an open-book transaction policy in this relationship.

ASP has a flat organizational structure. It has only ten customers including the outsourcer firm. ASP's target is to have such relationship with the outsourcer, which is based on deep cooperation. Its communication with outsourcer is in many levels including CEO, workshop managers, engineers and supervisors. There is no limit, only that who needs to interact.

From the respondents' comments, it is clear that during the course of this relationship, the outsourcer has gone through many organizational changes due to the overall transformation in its business model and outsourcing arrangement.

One thing, which was a negative issue, is that there have been organizational changes during the last few years in the outsourcer firm. Because of that, many people have changed and that was not good necessarily – ASP, CEO

So far, in this relationship, ASP has been trying to improve manufacturing and assembling of machines making them more profitable for the outsourcer. ASP believes that there is still a lot that it can do for outsourcer's business.

We started our relationship in 2006, since then we have been telling them all the time that we believe in their company. Even if their staff could not sell a single machine unit, we do not reject them. We believe in their business even if we have some bad times, like sudden drop in the economic situation. We believe that this is a temporary situation and we would not kick them off from our customers list. Even if they want to make some changes to the design of the machines, we are listening very carefully that what their customers want. This is our message to them all the time. I think that is how we kept the relationship going on – ASP, CEO

The above description from the ASP's CEO shows the value ASP has given to the outsourcer, which is a direct result of the ASP's organizational culture. It has helped the ASP to maintain its relationship with the outsourcer. These findings reflect a link with literature as discussed.

7. CONCLUSION, CONTRIBUTIONS, LIMITATIONS & FUTURE RESEARCH AGENDA

In line with the purpose of this study, resource portfolio based alignment of business-to-business outsourcing relationship is empirically explored between an assembly service provider (ASP) and one of its outsourcer firms. The empirical evidence shows that capital, process and technological resources, from both actors are combined to form inter-firm resource portfolios, which support the execution of operational activities and hence, provide a means for possible effective performance. This study finds that the ASP continuously manipulates its physical assets, capital, technology and people resources to match the required production capacity according to the supply chain needs of the outsourcer, in order to achieve ASP-outsourcer relationship alignment.

The empirical findings suggest that even in make-to-order and assemble-to-order supply chain structures, there are several challenges tackled by the ASP in order to deliver effective supply chain performance. Some of the challenges are discussed including held-up inventory and idle stocks of various machine parts, unrealistic sales forecast and unstable monthly production volumes, and changes in the product design and specifications from the outsourcer after the production process has been initiated. These factors affect ASP's resource planning and utilization; ultimately influencing the alignment of outsourcing relationship between the supplier and the outsourcer.

The study also explores the mechanisms applied by the ASP to align its relationship with the outsourcer. In response to the research gap that addresses the question that how supplier-outsourcer relationship alignment is achieved. This study empirically shows that manipulation of resources is one of the ways of achieving alignment between organizations. Secondly, the study highlights that coordination and organizational culture are among few mechanisms that influence the alignment of outsourcing relationship from a focal ASP's perspective.

This study is connected with the existing body of knowledge within supply chain management and organizational strategic management fields. In order to expand our existing knowledge by providing a better understanding of the phenomenon of alignment of outsourcing relationships, this study makes the following contributions. First, this study is one of the few studies that explore the resource portfolios based alignment of outsourcer-supplier relationships. The findings of this study imply that through inter-firm (ASP-outsourcer) resource portfolio formation and resource manipulation, ASP increases its operational performance. Second, since

current literature lacks insights on alignment mechanisms that are relatively important for ASP's performance, this study provides evidence on the coordination and the organizational culture as two mechanisms that influence the alignment of outsourcing relationship from an ASP's perspective. Third, in previous studies, the resource portfolio approach has been used from only one focal firm's perspective. In this study, this approach has been used to analyze the formation of inter-firm resource portfolios in dyadic setting, where resources from the ASP and the outsourcer are combined together. The study gives insight into the formation of resource portfolios in ASP-outsourcer context. Thus, this study provides new knowledge and expands our earlier understanding.

The empirical findings of this study also provide guidance to the operations managers pertaining to resource manipulation to achieve inter-firm alignment in ASP-outsourcer context. First, operations managers should realize that internal and external resources from counterparts can be combined to form resource portfolios. Second, even in make/assemble-to-order supply chain structures, the production managers may face challenges like held-up inventory, idle valuable stocks, unrealistic sales forecast, unstable production volumes, and changes in the product design and specifications during production, which influence the resource allocation and capacity planning. Third, managers should strive to gain access to counterpart's readily available resources without having to invest own resources, capital and time in developing the same internally. Finally, empirical findings provide insights to the managers pertaining to the possible alignment mechanisms that can be applied to align outsourcing type of relationships.

Like other empirical studies, this study also has few limitations. It should be noted that semi-structured interviews were conducted based on the personal experiences of the respondents, who were involved in this outsourcing relationship from both ASP and outsourcer firms. Therefore, there may be some bias in their responses to questions related to the phenomenon under investigation. The data for this study is gathered in Finland using only one ASP with limited number of respondents. Thus, care should be taken in generalizing its findings. This study focuses on a specific outsourcing arrangement, possible future studies can be conducted in other branches of assembly and manufacturing, where the ASP has different portfolio of resources, which are combined in a different context within assembly outsourcing. Lastly, a similar study can be initiated using a case organization from another industry. This study is a successful attempt to advance our existing knowledge by providing a better understanding of the resource portfolio based alignment of business-to-business dyadic outsourcing relationship within a supply chain context.

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