Going downstream in a project-based firm: Integration of distributors in the delivery of complex systems

Abstract

Research on the integration of different actors in project business has centered on the upstream value chain and a project-based firm's relationship with suppliers. The downstream delivery chain also includes an integration challenge as some project-based firms use distributors to sell and deliver systems. The purpose of this paper is to highlight the importance of integrating with distributors in the delivery of complex systems. A qualitative case study was conducted in one project-based firm. Different distributor capabilities were identified and grouped into business, relational, marketing, and delivery capabilities. Different integration mechanisms were mapped at business and project levels, and divided into control-, cooperation-, and development-oriented mechanisms. The findings show that distributor capabilities related to complex system delivery develop through repetitive collaboration across projects. The stable position of distributors in the downstream value chain facilitate the use of integration mechanisms at the business level and development-oriented integration approach at the project level.

Keywords: Distributors, distributor integration, capabilities, system seller

1. Introduction

Project-based firms in the international field require various business relationships in the wider environment (Skaates and Tikkanen, 2003). These business relationships deal not only with the project itself but also with business more generally as the relationship between actors needs to continue even after the projects are completed (Hadjikhani, 1996). Project-based firms need to co-operate with various actors in their global network (Skaates and Tikkanen, 2003) and integrate multiple organizational units and geographies (Turkulainen et al., 2015) in project delivery and between projects. Integrating project-based firms with customers, suppliers, and other firms adds complexity to the business of project-based firms. As part of the global business environment, project-based firms that deliver complex systems sometimes utilize other firms as distributors to offer products and services to their target customers, and the project-based firm's relationship with distributors is the focus of this paper.

Literature on project-based firms has covered the supply chain and project-based firms' relationship with suppliers and buyers' relationships with contractors extensively. Researchers have emphasized the significance and dimensions of such primary relationships (Aagaard et al., 2015; Pinto et al., 2009). In addition, studies have paid attention to integration mechanisms and suggested different mechanisms for integrating suppliers with a project-based firm (Eriksson, 2010; Martinsuo and Ahola, 2010). However, little is known about what project-based firms expect from distributors and how project-based firms can integrate the distributors in the firms' business effectively. Distributors' status in the marketing channel has previously been covered in industrial marketing research in terms of distributor selection criteria (Cavusgil et al., 1995; Kaleka, 2002; Li and Chen, 2008; Piercy et al., 1999; Sharma et al., 2007; Zou et al., 2011) and the relationship between the focal firm and the distributor (del Bosque Rodríguez et al., 2006; Goodman and Dion, 2001; Ghosh et al., 2004; Liu et al., 2007; Nes et al., 2007). However,

researchers have directed less attention to the emerging requirements of manufacturers that provide complex systems than to standard products and services. The present study addresses this research gap by exploring the expected distributors' capabilities and required integration mechanisms with distributors in a project-based firm.

The use of distributors is particularly prevalent in engineer-to-order (ETO) manufacturing where the project-based firm sells, designs, and manufactures customer-specifically tailored systems, such as equipment or processes, repeatedly, based on customers' orders. In ETO manufacturing of complex systems for business customers, unique customer orders are handled as projects (Yang, 2013). Therefore, ETO manufacturing is characterized by time-limited projects that respond to specific customers' requirements with the same discontinuity aspect as engineering and contracting projects (Caron and Fiore, 1995). However, firms with ETO manufacturing are different from traditional engineering and construction firms mainly in terms of the repetitiveness of similar types of projects and the use of defined production systems (Caron and Fiore, 1995). This characteristic enables and even requires project-based firms with ETO manufacturing develop more durable relationships with their partners, in the upstream and downstream of the value chain.

The discontinuity of demand for projects, the uniqueness of each project, and the complexity of each project in terms of the number of actors involved throughout the supply process make project business different from other business-to-business marketing situations (Hadjikhani, 1996; Skaates and Tikkanen, 2003). Delivering customized systems requires specific project capabilities, including bidding, customer order-specific project design, implementation, and commissioning (Davies and Brady, 2000). However, the project-based firm does not always accomplish all these tasks by itself; the capabilities for unique projects may be scattered throughout the project business network, in the upstream and downstream value chains. In the

downstream value chain, distributors as possible collaborators with the project-based firm need to prepare, organize, and control a specific contract for each customer and potentially also promote or deliver post-project services. Integration with distributors is particularly important in project-based firms where relationships with customers are crucial in ensuring the success of projects (Dvir, 2005) and where they need early discussions and cooperation with customers to understand their strategic needs and priorities to sell and define the project (Brady et al., 2005). To benefit from distributor collaboration, project-based firms need to know and understand the capabilities of the distributors, as well as help the distributors develop new capabilities of system integration and solution selling.

1.1. Research goal and questions

This study focuses on a project-based firm's expectations for distributors' capabilities and required integration mechanisms with distributors in the delivery of complex systems. The goal is to offer new knowledge on how the project-based firms can "go downstream" by developing their distributor cooperation. The main research questions are:

1. *What capabilities does a project-based firm require from distributors in delivering complex systems?*
2. *How does the project-based firm integrate distributors in the delivery of complex systems?*

The study contributes by identifying the specific capabilities that project-based firms require from distributors and thus, offering information on the areas of distributor development for the project-based firm's collaboration in the downstream value chain. This study also initiates research on the role of distributors in delivering complex systems and highlights the need to consider different ways of integrating distributors.

To respond to the research questions, a single case study was conducted in a project-based firm that designs, sells, and delivers complex systems to business customers. The focus is delimited to ETO manufacturing of complex systems in a business-to-business setting—in this case, equipment and processes—where the focal firm has a central role and uses external distributors in system delivery to customers. More challenging integrated solutions delivered in project networks and ETO manufacturing in consumer businesses are not covered. By taking the inside project-based firm perspective, the study is delimited to viewpoints and experiences of the project-based firm's personnel. We leave for future studies the broader analysis of experiences from distributors' perspectives.

2. Literature review

2.1. Role of distributors in project-based firms

Project-based firms in industrial markets increasingly provide solutions that include complex product systems or capital goods and related services to industrial customers (Artto et al., 2015). Projects have been used as a common organizational form of delivering systems and integrated solutions (Davies and Hobday, 2005). Solution providers concentrate on creating value for customers to increase their business potential in the markets (Artto et al., 2008). Literature acknowledges that customers can be part of the value creation process. Customers can be an important information source, and close communication with customers can help firms have a better understanding of project needs (Kim and Wilemon, 2002) and ensure value-in-use is realized for customers (Storbacka, 2011). Studies on customer involvement have mainly focused on the relationship between project-based firms and customers (Dvir, 2005), and studies on project marketing have emphasized the interaction between a project-based firm and its customers in times of discontinuity (Cova et al., 2002; Hadjikhani, 1996). Although previous studies highlighted the need to study the relationships with key actors in the project milieu more

broadly (Cova and Salle, 2005), research on the intermediaries between the firm and the customer to explore what they can bring to the value chain and how they can be integrated in project business successfully is lacking.

Distributors have an increased role in sales channels especially in manufacturing firms (Ghosh et al., 2004). Project manufacturing or ETO manufacturing firms are involved with selling, designing, manufacturing, installing, and commissioning complex systems to fulfill unique customer requirements (Caron and Fiore, 1995). In this high-tech manufacturing environment that delivers complex systems to customers, customers are involved actively in defining the result of the project (Yang, 2013). When firms are or become global, they need to be able to deliver projects to their global customers in different locations. The firms usually face the pressure of globalization through launching new operation sites in multiple geographic locations (Turkulainen et al., 2015) and/or distributing sales and service organizations globally (Artto and Kujala, 2008). Global firms that develop, sell, and deliver customized solutions use distributors to save money, utilize local expertise, and maximize coverage in their global markets (Lin and Chen, 2008).

Project-based firms that supply ETO manufactured systems and products utilize the distributors' vast amount of market and customer knowledge to find the right customers and maintain relationships with them. In the global business environment, distributors are the representatives of the firms in their specific markets and have a direct relationship with customers. This special role in finding new opportunities in the market makes the distributors' position more stable and continuous in the project business network in comparison with suppliers that are usually engaged only after the project is created. Distributors are independent business entities that can have different policies, procedures, and goals in comparison with manufacturers (Goodman and Dion, 2001). Distributors in the same way as customers seek

monetary and non-monetary benefits from relationships with project-based firms (Ghosh et al., 2004). These benefits and issues make building and maintaining project-based firms' relationships with distributors important and challenging. Because a large project is a dynamic network of organizations, the project must focus on integrated capabilities and not on an individual's actor capabilities (Ruuska et al., 2013). The previous literature mainly studied buyer–supplier and subcontracting relationships. However, it is necessary to go downstream in the value chain also, to analyze the integration mechanisms between firms and their distributors.

2.2. Distributor capabilities

Literature on distributor selection addresses different capabilities that firms should seek in their distributors. In this context, capabilities mean the firm's ability to combine, develop, and use its resources in order to create competitive advantage (Kaleka, 2002). Scholars have provided different categorizations for distributor capabilities. Several authors defined sets of capabilities (Cavusgil et al., 1995; Lin and Chen, 2008), and several authors identified individual capabilities (Sharma et al., 2007; Zou et al., 2011). Others divided capabilities into a set of resources and skills (Kaleka, 2002; Piercy et al., 1999). In addition to minor differences in defining the set of capabilities, there is a consistency in distributors' individual capabilities. We categorized the capabilities identified in previous studies into three general domains of distributor capabilities: business, technical, and relational capabilities.

Business capabilities refer to financial capabilities (Cavusgil et al., 1995; Kaleka, 2002; Lin and Chen, 2008; Zou et al., 2011), reputation (Cavusgil et al., 1995; Sharma et al., 2007), management ability (Cavusgil et al., 1995; Lin and Chen, 2008; Zou et al., 2011), physical facilities (Kaleka, 2002; Lin and Chen, 2008; Zou et al., 2011), and market experience (Cavusgil et al., 1995; Lin and Chen, 2008). Financial capability as one of the most-cited capabilities can be further analyzed as an ability to finance initial sales and subsequent growth,

to raise additional funding, to provide adequate promotion and advertising funds, and to maintain inventory (Cavusgil et al., 1995; Sharma et al., 2007). Reputation defines the position of the firm in managing the business and maintaining relationships with customers (Sharma et al., 2007). Cavusgil et al. (1995) suggest that companies need to evaluate the standing of distributors with current and past customers, suppliers, the local business community, and competitors. Management ability relates to the quality of the management team (Cavusgil et al., 1995) and operational competency (Lin and Chen, 2008). Physical facilities consist of the modern technologies and equipment required to carry out distribution tasks (Kaleka, 2002; Lin and Chen, 2008). Market experience is also considered an important strength that enables a distributor to gather relevant information, decrease uncertainty, and better handle managerial resources (Lin and Chen, 2008).

Technical capabilities consist of several crucial capabilities that have been categorized from different viewpoints. Generally, these capabilities include product, marketing, logistics, delivery, and innovation capabilities. Product capabilities mainly refer to product knowledge and providing compatible and complementary products (Cavusgil et al., 1995; Lin and Chen, 2008). Marketing capabilities generally include experience with target customers, geographic/market coverage, and sales strength (Cavusgil et al., 1995; Lin and Chen, 2008; Zou et al., 2011). Logistic capabilities refer to inventory management and ability to control logistics costs (Lin and Chen, 2008). Delivery capabilities are another key determinant of a successful distributor and refer to delivery efficiency, customer service (Cavusgil et al., 1995; Li and Chen, 2008), and flexibility to respond to special customer requests (Lin and Chen, 2008). Finally, innovation and product development capabilities have been identified as key success factors of distributors in previous research (Lin and Chen, 2008; Sharma et al., 2007). These capabilities

deal with the ability of the distributor to help the manufacturer with innovative suggestions for improvements (Sharma et al., 2007).

In addition to these tangible capabilities, relational capabilities affect the competitive advantages of distributors (Kaleka, 2002). Commitment and willingness are the main elements of this set of capabilities. Relational capabilities may include the willingness to share information (Frazier et al., 2009; Goodman and Dion, 2001; Lin and Chen, 2008), enthusiasm about building a relationship, and commitment to invest in the relationship (Kaleka, 2002; Lin and Chen, 2008). Moreover, willingness to maintain sufficient inventory, willingness to commit advertising dollars, commitment to achieving minimum sales targets, undivided attention to product, willingness to invest in sales training, and willingness to drop competing product lines (Cavusgil et al., 1995) can be considered relationship capabilities.

Previous studies mainly studied capability attributes through surveys in industrial manufacturing firms (Kaleka, 2002; Lin and Chen, 2008; Zou et al., 2011) or analyzed manufacturers' perspectives through interviews (Cavusgil et al., 1995; Sharma et al., 2007). In such studies, the focal firms have been industrial manufacturing firms that produce standard equipment in medium to high volumes instead of customer-specifically tailored complex systems and solutions. Wang and Kess's (2006) study of case studies representing Finnish manufacturers and Chinese distributors is one of the few studies that are closer to engineer-to-order systems than standard production. The study emphasized the importance of a product-centric relationship between a firm and its distributors. However, Wang and Kess's (2006) research tends to focus exclusively on the motives of partnership and mutual selection between manufacturers and distributors, instead of integration during projects.

Although some sets of capabilities (such as business, marketing, and relational capabilities) have been emphasized and analyzed with the help of literature on supplier selection, the

capabilities required for firms that deliver customized systems to target customers were not clarified in previous studies. Literature on project-based firms tends to focus on the upstream value chain and provides insights into the required supplier capabilities (Ruuska et al., 2013). Project-based firms that utilize distributors in their delivery chain are dependent on the distributors' capabilities in their customer relationships. Therefore, there is a need to study the downstream value chain to discover the required distributor capabilities for delivering complex systems to global customers.

2.3. Integration of external actors in project-based firms

An important question for project-based firms is how they can integrate the capabilities of external actors—in this study, distributors—and use them effectively, in their project business. Vertical and horizontal linkages in the value chain of a firm (Porter 1985) imply the need for integration, i.e., acquiring, sharing, and consolidating knowledge within the organization itself and with its external stakeholders (Swink et al., 2007). Previous studies have recognized different forms of internal and external integration and their effects on each other and organizational performance (Droge et al., 2004; Germain and Iyer, 2006; Swink et al., 2007).

The project-based firm's distributor collaboration deals with external integration. We adopt the definition of external integration from Germain and Iyer (2006) and define external integration as "unified control of functions and processes across trading partners." Trading partners can usually be divided into the actors in the upstream and downstream of the value chain. The upstream integration research mainly studied supplier and contractor integration in manufacturing firms (Droge et al., 2004; Zhao et al., 2011). Studies on downstream integration have been limited to building collaborative relationships between manufacturing firms and customers (Germain and Iyer, 2006). As research on the integration of distributors with project-based firms has not been conducted, other relevant literature was studied to identify different

inter-organizational integration mechanisms, such as customer integration, the project-based firm–supplier relationship, the project-based firm–contractor relationship, and project networks.

Literature on customer integration mainly focuses on the effect of customer involvement on project success (Peled and Dvir, 2012), different aspects and interfaces for customer integration (Voss, 2012), customers as an important information source (Kim and Wilemon, 2002), and users as co-developers (Hsu et al., 2011). Such previous research has mainly been conducted in product development projects and not in the context of delivering complex systems. Moreover, the literature has mainly focused on the early phases of the project life cycle (i.e., design and development).

Literature on supplier integration emphasizes several benefits of supplier integration (Primo and Amundson, 2002; Ragatz et al., 2002; Song and di Benedetto, 2008) and has revealed the critical elements for enhancing the supplier relationship (Cheung and Rowlinson, 2011). Some studies also suggest mechanisms and practices for integrating with suppliers. Among those studies, researchers used similar categories for integration mechanisms: control-oriented (Martinsuo and Ahola, 2010) and cooperation-oriented (Martinsuo and Ahola, 2010; Sariola and Martinsuo, 2015). Control-oriented mechanisms deal with supplier selection, supplier assessment, and boundary objects. Cooperation-oriented mechanisms direct attention to managing the day-to-day supplier relationship during project execution (Martinsuo and Ahola, 2010). Table 1 summarizes the supplier integration mechanisms suggested in the literature.

Table 1. Summary of supplier/contractor integration mechanisms in previous research.

Mechanisms	References
Control-oriented mechanisms:	
Supplier selection	Martinsuo and Ahola, 2010; Watt et al., 2010
Shared goals, instructions, agreements, tools, etc.	Eriksson, 2010; Benjaoran, 2009; Martinsuo and Ahola, 2010; Brady and Davies, 2010; Badi and Pryke, 2015
Monitoring	Martinsuo and Ahola, 2010
Cooperation-oriented mechanisms:	
Integrative individual roles, e.g., liaison	Martinsuo and Ahola, 2010; Taylor et al., 2015
ICT integration and knowledge sharing	Cheung and Rowlinson, 2011; Fulford and Standing, 2014; Pala et al., 2014; Aloini et al., 2015; Taylor et al., 2015
Informal interaction/ communication	Martinsuo and Ahola, 2010; Taylor et al., 2015; Taylor et al., 2015
Shared office for project work	Eriksson, 2010
Team building/integrative teams	Eriksson, 2010; Martinsuo and Ahola, 2010
Development-oriented mechanisms:	
Training	Eriksson, 2010; Martinsuo and Ahola, 2010

As can be seen in Table 1, the majority of suggested mechanisms can be categorized as control- or cooperation-oriented mechanisms. The previous literature has additionally identified some development-oriented mechanisms (Eriksson, 2010; Martinsuo and Ahola, 2010), but they are discussed less. It has been recognized that supplier integration mechanisms require a long-term commitment between project-based firms and suppliers to enable the project-based firm to know the supplier well and align the roles and characteristics of the buyer–supplier relationship (Martinsuo and Ahola, 2010). Thus, previous research highlights the role of the focal firm in helping suppliers develop their capabilities over long periods. Furthermore, all previously studied integration mechanisms mainly happen during a specific project. It is not clear from previous studies whether mechanisms can be performed at the business level to improve integration between two actors. As an exception, Sariola (2018) identified different mechanisms at the project and business levels and considered development-oriented mechanisms. However,

his study was limited to construction projects and solely explored innovation practices instead of integration mechanisms more generally.

Literature on contactor management also emphasizes the benefits of integration, including exchanging knowledge and information among actors at different levels of interactions (Khalfan and Maqsood, 2012), developing a knowledge management system (Khalfan and Maqsood, 2012; Nesheim and Hunskaar, 2015), and promoting innovations (Badi and Pryke, 2015). The mechanisms identified for integrating a contractor's capabilities include transferring and retaining knowledge, encouraging a social network, appraising the contractor's performance, creating a capability development group (Taylor et al., 2015), and cooperating informally across sub-contractors (Aagaard et al., 2015).

Literature on project networks is another stream of research that studies inter-organizational mechanisms, especially in large and complex projects. However, previous studies mainly focused on creating and maintaining the relationship between actors, rather than integration mechanisms specifically. The network structure and new roles and responsibilities, such as coordinator, gatekeeper, and mediator, are highlighted as a means for smoother coordination of the relationships (Pauget and Wald, 2013). Cooperation develops in project networks by creating interpersonal relationships, maintaining open and efficient communication, identifying and expressing mutual benefits, and cooperating outside the projects (Sariola and Martinsuo, 2015). Informal mechanisms (such as shared offices for project work, informal social events, and continuity of personnel) can also enhance cooperation between actors (Bresnen and Marshall, 2002).

Altogether, integration with external actors has been recognized as one source of competitive advantage, and different mechanisms—techniques, tools, and approaches—were identified to develop external integration. Although previous studies on the downstream in the value chain

show mainly the importance of cooperation-oriented mechanisms with customers in the early phase of the project, literature on suppliers' and contractors' integration reports different control- and cooperation-oriented mechanisms during the different phases of the project life cycle. Given the relatively scarce literature on distributor management in project-based firms, this study focuses on the unique role of distributors in project business, where they need to understand customers' specific needs, transfer information to project-based firms, and deliver different systems to customers. With respect to the differences between governance of the customer and supplier relationship, suppliers and distributors have a similar perspective regarding the project-based firm: They are both independent business entities with different policies and procedures that provide complementary resources, skills, and knowledge to the focal firm. However, the upstream vs. downstream value chain position differentiates suppliers and distributors quite clearly. Thus, this research helps to open up new avenues to understand downstream integration in particular, compare relationships upstream and downstream in the value chain, and figure out possible different approaches to integration.

3. Research method

To deepen understanding of the distributor capabilities required for delivering complex systems and distributor integration mechanisms in project-based firms, a qualitative case study was conducted in a global technology leader firm that provides comprehensive process designs, parts, complex systems, and full services to business customers in a certain domain of the mechanical engineering industry. The case study allowed the researchers to analyze a phenomenon based on experiences and opinions of people in their real-life context (Yin, 2009). As the project business literature has not studied the relationship with distributors, a single case study was chosen to explore this topic and find relevant issues in an empirical setting.

The single case study was implemented to study a representative case (Yin, 2009, p. 48) using purposeful sampling (Silverman, 2010, p. 141). The case firm was selected based on its ETO manufacturing character and extended use of distribution channels to supply its customers with systems and after-sales services, and the firm's interest in developing distributors and distributor management. While previous studies in distribution management have been conducted in industrial manufacturers that offer standard products, we purposefully selected a manufacturing firm that delivers complex systems as projects. We also selected a firm whose distributors are not only resellers but also collaborated with the project-based firm while executing projects. The distribution management teams of the case company, located in different geographic regions, were selected as the level of analysis.

3.1. Case context

The firm is the world's leading industrial manufacturer in its industrial markets. The case company is the brand name owner and system integrator that is in charge of project sales, deliveries, transactional deliveries, and assembly manufacturing of the complex systems (including a technical product system and related services). It is a typical example of project manufacturing or ETO manufacturing firm that handles unique orders as projects (Yang, 2013). The firm is considered a project-based firm as selling and delivering projects is their primary business, and they are the system integrator that integrates all the main business functions of the firm and external actors' knowledge into the complex systems (Hobday, 2000). System delivery can imply delivering a single piece of equipment or a broader manufacturing solution, including multiple different pieces of equipment. The complexity of the system delivery is mainly defined in terms of technological complexity (engineering requirements), commissioning complexity (environmental considerations and integration with manufacturing

system), and the size of the project (number of subsystems). Customers vary from small to big companies in a certain process industry.

The firm has divided the global market into 13 regions. Ten regions use distribution channel partners, and three have a direct sales organization owned by the focal firm. This study concentrates on the 10 regions that use distributors. Distributors are the main channel for selling equipment and systems and providing services in a given region and are responsible for the day-to-day contacts with customers. One of the main reasons for using distribution channels instead of a direct sales organization is to reduce overhead costs and save resources by transferring the responsibility of holding inventory to distributors. Another important benefit of distributors is that they provide local expertise and knowledge and provide maximum coverage and presence in the market.

For each region, the focal firm has distribution managers who manage the distributor portfolio in a few countries with the help of a distribution management team, possibly including service managers and specialists. Distribution managers are responsible for day-to-day management and interaction with distributors and usually report to a distribution director in a given region. Finally, the head of distribution manages all efforts at the global level: sets the vision, evaluates the total performance, and defines strategies and targets.

3.2. Data collection and analysis

Data were collected through semi-structured interviews with the head of distribution, eight distribution directors, a technical support director, and a training manager. The interviewees were selected in collaboration with the head of distribution team, because they are such key informants who had first-hand knowledge of the firm's current distributors, distributors' capabilities and tasks, the firm's own business and related requirements for distributors. In total,

11 interviews were conducted lasting between 38 and 90 min with an average of 60 min. Three interviews were held face-to-face, and eight interviews were held by telephone.

A thematic outline was designed for the interviews so that the interviewees were allowed to talk about their own experiences and expectations regarding distributors and distributor cooperation freely, but at the same time to enable sufficient consistency between the interviews. The questions were open-ended: No pre-defined categories were offered by the interviewer at this stage. The main themes of the interviews included the role of the distributors, the organizational structure for the distribution channel, distributors' required capabilities, relationship with distributors, integration with distributors in different phases of system delivery, and general issues in the firm–distributor relationship. Further detailed sub-questions were used to prompt and expand the interviewees' responses, where needed. All interviews were recorded and transcribed. In addition, different documents, such as distributors' evaluation process, training programs, and a sample of the training materials, were utilized to supplement the interviews.

The data analysis was conducted in four steps. First, the transcriptions were read through and explored inductively to identify distributor capability areas and recognize the areas where distributor integration occurred. At this point, the data appeared to be very suitable for the research intent, and the interviews offered sufficiently versatile data for the analysis. The discovered tentative topics were then reflected upon previous literature, to define more specific codes and categories for a more detailed analysis.

Second, by going back and forth between the literature and the data, a categorization and coding scheme was developed for coding the data for distributor capabilities and for integration mechanisms. For capabilities, a rough categorization of business, relational, marketing, and delivery capabilities was used, building upon previous literature, and further fine-tuned based

on the interview data. A more detailed coding for each category took place inductively, and the coding approach and illustrative quotes are shown in Table 2. For integration mechanisms, the data were categorized as business- or project-level actions inductively, as the interviews clearly differentiated between integrative actions in single delivery projects and such actions that took place more generally, concerning the business across and between projects. Project-level actions were those that could be mapped to each phase of the project separately. Other general actions were labeled as business-level actions. The coding structure, definitions, and further details are shown in Table 4. Furthermore, for project-level actions, the type and intensity of the relationship between the project-based firm and distributors were mapped in the life cycle of the system delivery based on interview data. The details of distributors' involvement in system delivery are shown in Fig. 1.

In the third step, the interviews were compared to each other to identify the level of emphasis of each capability, assessed based on how frequently the issue emerged as part of the interviews. We used the labeling system suggested by Hill et al. (2005): "General" includes capabilities that were stated by almost all interviewees. "Typical" includes capabilities that were found in more than half of the interviews. "Variant" includes capabilities that were emphasized in at least two interviews but fewer than half. We did not aim to quantify the qualitative data or to use this categorization instead of actual evidence, but we utilized the labels to illustrate the strength of the interview evidence and communicate the results. Moreover, the data concerning integration mechanisms were further coded according to the literature review and interview data in terms of the types of integration mechanisms into cooperation, control (in line with Martinsuo and Ahola, 2010), and development-oriented mechanisms. These details are included in Table 4. The transcriptions were analyzed based on the codes, and related quotations were identified.

To draw conclusions about the identified capabilities and integration mechanisms, we conducted the fourth step and looked at the capabilities and integration mechanisms in relation to the project-based firm. The capabilities were grouped based on their evolving nature throughout the distributor relationship, as the interviewees differentiated between their expectations toward new and experienced distributors and distributors from different cultures. The details of codes and related capabilities are shown in Table 3. The categorization of integration mechanisms defined in the previous steps was cross-tabulated, to map what type of integration mechanisms are more relevant at the project level and business level. Details are included in Fig. 3.

The given documents were utilized to triangulate the information expressed by the interviewees. Excerpts from the interviews are used in the Results section to highlight the viewpoints of interviewees on the required capabilities of distributors and integration mechanisms.

4. Results

4.1. Required distributor capabilities

The most important capabilities that the case company's distribution managers use to select and evaluate distributors are shown in Table 2. These capabilities can be categorized into four main groups: business, relational, marketing, and delivery capabilities. The most frequently stated capabilities are delivery and marketing capabilities. However, interviewees also emphasized the importance of financial capabilities as a central criterion for choosing distributors and relational capabilities as supportive requirements.

Business capabilities: Starting with business capabilities, respondents identified financial capability as the most important factor when choosing a distributor. The distributors need to have a strong financial level to take financial risks and purchase and stock the firm's equipment

and spare parts to meet the end customers' demands. As most distributors represent different brands in their region, the distributors need to have a special organization or at least specific staff dedicated to the firm's business. The distributors should have infrastructure such as a main office and branches (if needed), IT facilities, and warehouses to store the stock. Inventory management is another business capability. The distributors need to have the knowledge and skills to have the right inventory in their warehouses. Capability to work with the firm's IT-based tools is least important for distribution managers, but the importance increases over time. The head of distribution explained, "IT capability would be down the list of our priorities. However, five years ago, it was not on the list, and now, it is on our list. So I would expect, as things evolve, its position on the list will actually increase." The interviewees also preferred distributors that could provide complementary products to add value for customers.

Table 2. Required distributor capabilities from the project-based firm's point of view.

Categories	Capabilities	Sample quote	Level of emphasis by the interviewees
Business capabilities	Financial capabilities	*"Distributor should have solid financial background and be a profitable company, so they can invest in our business"*	General
	Dedicated organization or people	*"We are trying to see if there are some dedicated personnel in the organization for us. It's true that sometimes we share these people with other brands, but we want to have at least some people for capital sales and for service sales."*	Typical
	Capabilities related to inventory management	*"They should have enough space, enough wares, and a system that they can deliver to the customer quickly."* *"It is important that they do not have wrong items in inventory because then it is very costly, and they lose financial efficiency."*	Typical
	Capability to work with IT-based tools	*"We are implementing some new IT, CRM (customer relation management) tool so they would have to have the ability to use them."*	Variant
	Capabilities to provide complementary products	*"It is important to see how distributors combine our product along with the other products to add value to the customer."*	Variant
Relational capabilities	Sharing product development opportunities	*"They [distributors] are advisors; they give us positive or negative feedback that "This is the problem, this is the issue, and this is how it can be improved."*	Typical
	Sharing market intelligence	*"They are part of the local industry community. They go to different meetings, they know if any big projects is coming, they see activities of competitors in the market and share this information with us."*	Typical
	Enthusiasm and aggressiveness	*"We should look for a more hungry company that can devote time to our business."*	Variant
	Commitment to development	*"For example, it is not necessary that they have the right organization in place in the beginning, but they should have a commitment to develop it. They should be committed to take people on and participate in our training program."*	Variant
Marketing capabilities	Market and industry knowledge	*"We will look for a company who is actively engaged in our business. They may not be dealing with the same equipment but they may be dealing with equipment of any other peer group industry. That would be our preference. So they know about the industry, they also know about our customers. Then it will be easier for them to try to push our business."*	General
	Capabilities to manage customer relationship	*"After-sale relationship is critical. They have to have high business skills and excellent relationships with customer."*	General

Categories	Capabilities	Sample quote	Level of emphasis by the interviewees
	Sales capabilities	*"They have to be able to have all sales competencies; they can create an interest, negotiate, and close the deal on a reasonable number of occasions. We are also focusing on how well they are able to prepare quotations, to handle all these quotations, to know if they are also able to manage their receivables."*	General
	Geographic coverage	*"You [distributor] have to have the maximum coverage and presence in the market."*	Typical
Delivery capabilities	Technical knowledge and skills related to products and processes	*"Those guys [distributors] have considerable knowledge about the products and they have a lot of experience. We are also making sure that they have knowledge of the process. In our business, it is critical to know the process behind and the characteristics of material and environment."*	General
	Capabilities to deliver services	*"We would always look for distributors who have the service and support ability. It would be very high up in the list of requirement. You certainly would not want to be employing a distributor who has no service capability."*	General
	Capabilities to deliver customized solution/ systems	*"We are not only selling a standard product on the brochure. This is something that we have to consider. Distributors are the first contact for the customer for any kinds of projects. We [company and distributor] make the proposal together. We negotiate with the customer and close the deal."*	General
	Capabilities to deliver commissioning and start-up	*"So the expectation would be that anything that is not for the first time or unusual, the distributor would be able to commission it."*	Typical

Relational capabilities: Relational capabilities were not explicitly mentioned in the official list of the firm's distribution selection criteria or the evaluation process, but they were emphasized in some interviews. Interviewees preferred distributors that regularly share market intelligence and product development opportunities with the firm. The enthusiasm and aggressiveness of distributors to search for new deals, make contracts, and build relationships with the firm were important for some interviewees. Commitment to development was also important for some respondents. The distributors should be active in defining the development needs to respond to the market and participate in training events organized by the firm.

Marketing capabilities: Marketing capabilities are needed to expand the firm's business in each region. As distributors are local players in the market, they know the situation in the country, who the key actors are, and what products are in the market. Selling the firm's equipment, services, and systems is one of the distributors' key responsibilities. The distributors need to be able to approach the right customers, create interest in them, negotiate with them, understand their needs and requirements, identify opportunities, and prepare a suitable proposal to respond to customers' needs. The capability to manage customer relationships is also very important for the firm as a complex system provider. A distribution director explained, "The required investment in the business is high, and the environmental issues are very important. Thus, there are not many newcomers in our business." As the firm uses its distribution channels to maximize the firm's presence in each region, it is important that the distributors are capable of covering many areas in their territories.

Delivery capabilities: Delivery capabilities are directly related to providing products, systems, and services to customers. Technical knowledge and skills related to the firm's products and processes were very important for the managers. Technical knowledge has a direct effect on distributors' service capabilities. Distributors need to provide suitable services to customers,

including repair, maintenance, and provision of spare and wear parts. The distributors are not expected to provide more advanced service packages (such as life cycle services) yet, but this capability should be developed in the future. Although the firm supplies its distributors with standard equipment, fulfilling specific customer requirements requires going beyond the standard machinery and providing customized systems. Systems are combinations of equipment that should be assembled together, balanced, and put in operation, as well as provide the services required to use the system. A distribution director explained, "We are not only selling a standard product on the brochure. This is something that we have to consider." Therefore, capabilities related to analyzing customers' needs, identifying the required equipment, proposing the appropriate process, and preparing proposals are considered important for distributors. The distributors develop the required capabilities for commissioning the equipment and systems over time. The distributors usually need support from the firm the first time they install equipment or complex systems. However, the need for technical support decreases for subsequent orders and projects.

Distributor capabilities in the relationship with the project-based firm: The results show that although all identified capabilities are important for the firm, their importance may differ across the different distributors, and capabilities may emerge and evolve differently depending on the phase of the firm-distributor relationship. Through a further analysis of the interview data, Table 3 categorizes the capabilities into those that are required from the early stages of the project-based firm's relationship with distributors and capabilities that are required to evolve during the relationship.

Table 3. Categorization of capabilities based on their evolving nature during the relationship.

Required capability according to phase of the relationship	**Capabilities**
Capabilities that are required from the early stages of the relationship	Business capabilities Marketing capabilities Enthusiasm and aggressiveness (relational capabilities) Commitment to development (relational capabilities) Knowledge and skills related to products and processes (delivery capabilities)
Capabilities that are required to evolve during the relationship: *Capabilities that are dependent on the length of the relationship*	Capabilities to deliver customized solutions/ systems (delivery capabilities) Capabilities to deliver commissioning and start-up (delivery capabilities)
Capabilities that are dependent on the culture of the distributors	Sharing market intelligence (relational capabilities) Sharing product development opportunities (relational capabilities)

According to the interviewees, the first group of capabilities are less negotiable, and the firm uses these capabilities as the basis for distributor selection or expect the distributors to acquire the capabilities in the early stages of the relationship. This means that for new distributors, business capabilities, marketing capabilities, technical knowledge of products and processes, as well as enthusiasm, aggressiveness, and commitment to development, are particularly important, if they want to develop a relationship with the project-based firm. A distribution director explained the high importance of basic capabilities, such as good market coverage in his region: "The country is completely different, and we have an accessibility problem, due to safety issues. In this case, we want to find a distributor that is fully self-independent with the right coverage."

Delivery capabilities for complex systems or commissioning and start-up are more important in areas that have more developed and experienced distributors than new distributors. This also implies that the project-based firm can use more experienced distributors for more complex and potentially service-intensive project deliveries. For example, a distribution director explained,

“First, they need to learn about our products and processes. Then later, they can face more complex systems.”

Relational capabilities, such as sharing market intelligence and sharing product development opportunities, can also be affected by the distributors’ organizational culture. The interviews revealed that the distributor firms can be very different in terms of operating methods, particularly in the openness and sharing that they are willing to engage in with a manufacturing firm. For example, a distribution director explained, “It is a problem in this area because they are very keen to get information from you, but they are not so keen to give you some feedback or share market intelligence.” This kind of sharing is particularly important in novel and complex projects, and the distributors’ cultures may differ in how they support the required relational capabilities for such projects.

4.2. Distributor integration mechanisms

In contrast to the traditional viewpoint that looked at distributors as customers that could add some sales volume, the firm wants to have professional local partners. To achieve this goal, the firm tries to develop relationships with its distributors. The interviewees explained several actions that their teams perform to integrate with distributors. Table 4 presents the summary of these actions. Some actions are more at project level, and other actions are at business level.

Table 4. Summary of identified distributor integration mechanisms.

Integration mechanism	Description	Mechanism type
Project-level integration mechanisms		
Joint customer visits and meetings	Joint initial negotiation with customers	Cooperation-oriented
Support in developing proposals	Cooperate in preparing technical and financial aspects	Cooperation-oriented
Joint commissioning	Provide resources and on-site training for new systems	Cooperation- and development-oriented
Support for service business	Provide resources and on-site training	Cooperation- and development-oriented
Business-level integration mechanisms		
Evaluation of distributors	Annual evaluation of distributors based on specific criteria	Control- and development- oriented
Monitoring of distributors	Regular monthly or quarterly	Control- and development- oriented
Integrative ICT tools	Extranet portal to access business documents and tools	Control-oriented
Trust-building	Knowledge and information sharing	Cooperation-oriented
Informal activities	Day-to-day support through email, phone, and meetings	Cooperation-oriented
Training program	On-site training, classroom training, and e-learning	Development-oriented
Development of suitable organization	Finding and structuring suitable resources	Development-oriented
Shared offices for development activities	Irregular, temporary colocation with distributors	Development-oriented

4.2.1. Project-level integration mechanisms

Experienced distributors do not usually require support for standard systems. However, when the distributors are involved in more complex projects, the distributors need support from the firm's distribution management team. A distribution director explained, "The more complex the project, the less independent the distributor." Concerning project-level integration mechanisms, the emphasis was on cooperation- and development-oriented activities. Working together during projects provides an environment for cooperative activities and knowledge sharing. The relationship between the firm and its distributors is less dependent on formal roles and structures but more focused on interaction between actors, learning, and developing in real cases. For example, the distribution management team needs to organize several joint visits to

the factory and to the customer's site and provide an opportunity for the distributor to meet specialists of the case company and discuss the whole system or its parts. A distribution director explained, "So, it is not only the supplier–customer relationship. It can be far more than that." Fig. 1 shows the system delivery process and the roles of different players in each phase.

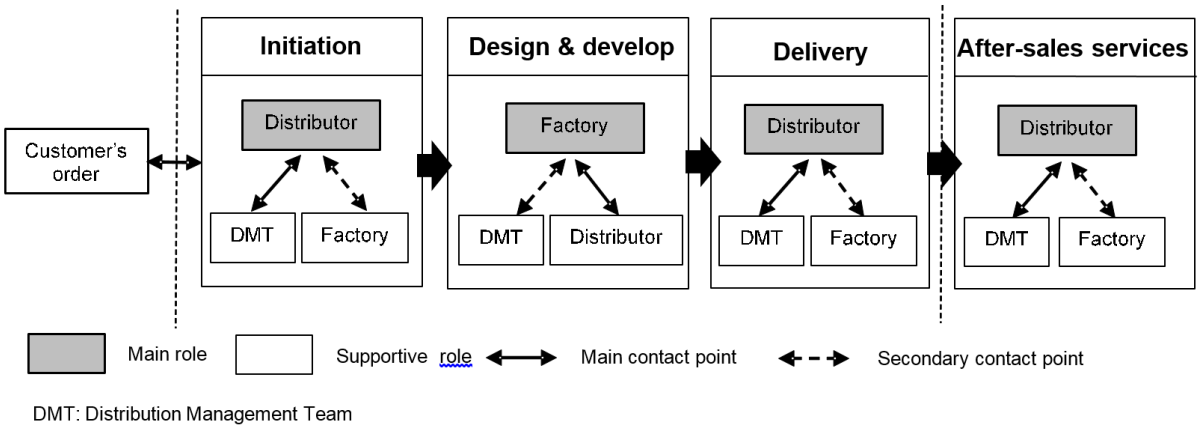

Fig. 1. Distributors' involvement in the system delivery process.

Most of the time, the distributors are the main contact point for inquiries about new projects from customers. The main negotiation with customers is done by the distributors. However, the distribution management team can provide support at this stage by accompanying distributors in the initial meetings with customers. Then, the distributor starts preparing the proposal. They usually need support from the distribution management team during this phase, especially regarding technical aspects of the potential project. A distribution director explained, "At certain points, they will need us to check the process or even to propose the process or to double-check if the process is ready to propose to the customer." The distribution management team may also help distributors regarding financial issues. A distribution director explained, "Right now, the business is very difficult. Sometimes, we help them to make special payment conditions or pricing conditions."

Then the distribution manager or director transfers the customer's request to one of the firm's factories to discuss the proposal and modify it, if needed. The final proposal is delivered to the customer through the distributor's channel. After the customer has accepted the proposal, the system is designed and developed by the case company's factory. Distributors do not usually have an active role during these phases, and the distribution management team acts as the contact point for handling related issues. A distribution director explained, "In most cases, they do not interfere with the design, except to make sure that some details of the proposal are met."

Finally, the system is delivered to the customer's site by the distributor. During the commissioning phase, the firm usually provides resources for more complicated projects. The head of distribution explained, "When a new piece of equipment or a complicated system is delivered in a region, we would send specialists to commission it and to educate the distributor so they can commission it the next time."

After-sales services are an important part of the distributors' portfolio. One of the important reasons that increases the importance of providing services to the customer is related to the number of potential customers: The number of customers that buy these complex systems and machinery is limited. A distribution director explained, "So, by force, the distributors have to be strong on the service side. When you sell the equipment, then you have to service it because customers will not buy new equipment from you, unless you are able to provide services and support them." The firm provides customized equipment and systems that differ in size, model, design, and applications. Thus, service processes vary for complex machinery, and distributors do not necessarily have all the required knowledge and skills to maintain these systems. The distribution management team needs to support the distributor in these complicated cases by providing service specialists and developing distributors by providing on-site training at the customer's site. However, improving the service business occurs not only by developing service

capabilities among distributors. Thus, the firm also tries to improve the service organization in the distribution management team. The team should have at least one dedicated specialist for service business. A distribution director explained the reason: "We need to be sure that the distributors have good support, good training, and good vision for selling services."

4.2.2. Business-level integration mechanisms

Business-level integration mechanisms consist of several control-, cooperation-, and development-oriented integrative activities. Various continued control-oriented activities were emphasized in the interviewees' experiences for business-level integration. The distribution managers evaluate the distributors in the given region annually based on the goals that were set for the distributors. The evaluation criteria include service capability, financial stability, past performance in terms of sales and claims, warranty claims, customer feedback, etc. The distribution managers in cooperation with the distributors also prepare the business plan for the next year. During the year, the distribution managers perform monthly or quarterly reviews to compare the distributors' performance with the defined targets, identify any issues, and perform corrective actions. Information and communication technology (ICT) tools play an important role in the global distribution network. The firm provides distributors with an extranet portal to help them price the equipment and spare parts, access technical data and product information, have sales presentation materials and documentation, and process warranty claims.

The interviewees emphasized the importance of building a relationship with distributors and improving the distributors' trust in the firm. For example, the firm is promoting life cycle services as part of their system delivery. The distributors are not very active in offering these services to customers, yet. A distribution director explained: "It is an investment that they should do, but then the return on investment can be long. They need to be sure that the business is profitable." The distributors need to be educated about the potential profit they may lose by

ignoring this business. To improve awareness, the firm's global analytics team provides analytic reports about potential business in each region. The distribution management teams try to have a close relationship with distributors. The teams provide day-to-day support through email, phone, meetings, campaigns, and seminars to be sure that the distributors are updated about the latest news on new products and services, and they have the same concepts about those offerings and are able to promote them.

While the firm tries to develop distributors by close cooperation and integrative teams in each project, the interviewees also emphasized the use of organized training programs. Analyzing the distributors' capabilities and investing in developing the distributors are among top priorities for the case company. The head of distribution explained, "When you have an external distribution network, then the network gives you significant cost savings compared to a direct sale. Thus, some of those cost savings have to go into training and developing the distributors." The training program is one of the important deliverables of the distributor evaluation process. A distribution director explained the training program: "It is a long process. They need to be developed in three main areas, including sales and marketing, technical training, and after-sale services." The training program includes different levels and topics and training at the distributors' sites and at the case company's factories. E-learning is an effective tool that saves costs and provides comprehensive training materials for different equipment and services. In addition to the training program, the distribution management team helps less-developed distributors find the right people and create a suitable organization. The team also tries to spend some time in the distributor's organizations to know the real business issues and develop the distributor's capabilities.

5. Discussion

5.1. Distributors' required capabilities for delivering complex systems

The first research question dealt with the requirements of a project-based firm for distributor capabilities in delivering complex systems. We offer an initial framework for future research on the required distributor capabilities in complex system delivery (Table 2). The result shows that different capabilities are expected from distributors: business, relational, marketing, and delivery capabilities. Some capabilities could belong to more than one category and affect other capabilities; the categorization helped the researchers build a holistic view of the distributors' required capabilities.

The empirical findings complement previous research on high-volume manufacturing firms by identifying capabilities and offering empirical illustrations directly related to the delivery of complex systems and services, which is particularly central for project-based firms. Although all capabilities are required for a successful business for the project-based firm and the distributors, some capabilities are more directly connected to system delivery, including marketing and delivery capabilities. Both types of capabilities were emphasized in the interviews with the project-based firm's staff, and they offer a more elaborate idea of the nature of the capabilities, compared to the term "technical capabilities" that was suggested based on previous research in other contexts. The results support previous studies on distributor selection regarding the high importance of technical knowledge and skills (Cavusgil et al., 1995; Lin and Chen, 2008) but also draws attention to the process competences needed in delivery capabilities. A project-based firm requires distributors that are capable of understanding customers' specific needs and delivering the required systems. A project-based firm also requires delivery of high-quality services that complement the project delivery and add value for customers during discontinuity between projects (Kujala et al., 2013).

The results of the case study contribute to previous research by confirming the importance of marketing capabilities (Cavusgil et al., 1995; Lin and Chen, 2008; Zou et al., 2011) and suggesting more emphasis on marketing capabilities, especially regarding customer relationship management due to the discontinuous nature of the project-based firm's business (Cova and Salle, 2005). The present results highlight that project-based firms need distributors that can go beyond the standard products and are capable of understanding customers' specific needs and requirements, prepare suitable proposals to respond to those needs, and persuade customers to buy the systems from the distributors.

The results support the literature by showing that project-based firms require distributors that are committed to developing their relationship (Kaleka, 2002; Lin and Chen, 2008) and have a stable business level (Cavusgil et al., 1995; Zou et al., 2011). In general, relational capabilities and business capabilities are independent of certain projects, but these capabilities were identified as the basic requirements for distributors to develop the relationship and run the business.

This study contributes to literature on organizational capabilities by complementing previous research on developing project capabilities in project-based firms. Literature has mainly discussed developing the required capabilities within project-based firms (Davies and Brady, 2000). Not enough focus has been placed on how other actors can learn from the projects and build organizational capabilities to support the business of the project-based firm. The project-based business increases the complexity of the capabilities required for distributors as distributors no longer sell standard products, but the distributors face new customer requirements that need new solutions and subsequently, a new set of capabilities. However, project-based firm with ETO manufacturing may repeat the new solution in other similar

projects but with varying complexity. This characteristic increases the importance of learning from project to project also for the partners of the project-based firm.

The results show that although some capabilities are required in the beginning of the relationship (such as business capabilities), other capabilities may develop over time, during the relationship and various projects, offering supportive evidence to previous research (Cheung and Rowlinson, 2011). Evolution of capabilities through the relationship of the case company and the distributors validate the bottom-up, project-led phases of organizational learning (Brady and Davies, 2004). Capabilities such as delivering complex systems develop through learning from delivering the first kind of system and gradually become organizational capabilities of distributors.

Business-led learning through top-down strategic decisions (Brady and Davies, 2004) have not been observed in the relationship with distributors previously, mainly due to the independence of distributors as separate organizations. This organizational separation makes refocusing the strategy on new required project capabilities very difficult, if not impossible. However, the findings highlight the important role of a project-based firm's training service as a top-down approach to developing the required capabilities in distributor firms. Altogether, the interviewees did not expect to find a distributor that has all types of capabilities to start with, but they expect to have distributors that are committed to developing and accepting the main roles in selling and delivering systems in the distributors' specific markets, and learning from experience.

5.2. Distributor integration in project-based firms

The second research question inquired into how a project-based firm integrates distributors in the delivery of complex systems. This research has contributed by shedding light on the role of

distributors as intermediaries between a project-based firm and its customers. Literature has, in general, discussed direct relationships with customers and emphasized the benefits of customer involvement (Dvir, 2005; Hsu et al., 2011; Kim and Wilemon, 2002). Previous research suggested that the discontinuities between transactions in project-based firms increase the importance of building and maintaining relationships with customers (Pinto and Rouhiainen, 2001). The findings open up the new topic of the role of distributors in the project sales channel. The role of distributors extends beyond a single project: They have a direct connection with customers, they can create repeat project business, and thus, they have a more stable role in the project-based firm network.

Integration, in this case, was demonstrated as a continuous set of activities, roles, and tools that are not limited to executing the project. The findings reveal 12 mechanisms that project-based firms use to integrate with distributors and categorize the mechanisms using two dimensions: the type of mechanism (control-, cooperation-, and development-oriented) and the usage level (project- or business-level mechanisms). This study adds to previous research through showing that project-based firms utilize various development actions to integrate distributors in their business. Previous studies on supplier integration identified several control- and cooperation-oriented integration mechanisms (Eriksson, 2010; Martinsuo and Ahola, 2010; Taylor et al., 2015), while also acknowledging development orientation as part of cooperation. The present results demonstrate that the stable position of distributors in the network require the project-based firm go beyond control- and cooperation-oriented mechanisms and implement a long-term plan to develop the required capabilities in the distributors, surpassing those required for marketing and selling standard products.

The results emphasize the importance of project-level integration mechanisms and show that distributors have active roles in the initiation, delivery, and after-sales phases of projects.

However, the study results suggest that distributor integration is not limited to certain transactions or system deliveries but also occurs during the discontinuity between projects (business-level integration). Fig. 2 maps the integration mechanisms in these two defined dimensions and offers a novel framework for future analytical purposes. In practice, some of the integration mechanisms could belong to more than one category.

	Project level	Business level
Development oriented	Joint commissioning; Support for service business	Training program; Development of suitable organization; Shared offices for development activities
Cooperation oriented	Joint customer visits and meetings; Support in developing proposals	Trust-building; Informal activities
Control oriented		Evaluation of distributors; Monitoring of distributors; Integrative ICT tools

Fig. 2. Mapping integration mechanisms based on the type and usage level of the mechanism.

At the project level, delivering complex systems requires close interaction of the project-based firm and the distributor for continuous sharing of knowledge and working together during the project life cycle. The firm uses the temporary duration of a system delivery as a learning environment for distributors. Thus, during system delivery, the project-based firm has a cooperation- and development-oriented approach to the relationship. The majority of previous research on supplier integration focused on integration mechanisms during project execution (Aloini et al., 2015; Cheung and Rowlinson, 2011; Fulford and Standing, 2014; Martinsuo and Ahola, 2010; Pala et al., 2014; Taylor et al., 2015). Our findings show evident differences in the nature of distributor integration compared to supplier integration, in terms of the low appearance of control-oriented integration. It is possible that this stems from the active business-level, control-oriented integration setting the foundations for effective project-level cooperation and development.

At the business level, different approaches are taken by a project-based firm to cooperate with distributors, control their performance, and identify improvement areas in the distributors' capabilities and develop them. In comparison with control-oriented mechanisms in supplier integration (Martinsuo and Ahola, 2010), defining goals, structures, guidelines, or monitoring is not limited to single projects but happens at the business level and has a close connection to development-oriented mechanisms. Where previous research has pointed out the usefulness of business-level mechanisms for utilizing the innovation potential of suppliers in construction projects (Sariola, 2018), our study shows that the business-level integration mechanisms may be used to build basic routines that enable the independence of distributors and their fluent cooperation and development with the project-based firm during projects.

The type of integration mechanisms used at the project level and business level can vary across distributors. Although the result lends support to previous research concerning supplier integration in that different relationships require different combinations of integration mechanisms (Martinsuo and Ahola, 2010), we reported novel evidence particularly concerning how integration can be used to develop the project-based firm's relationship with its distributors. A previous study on supplier integration pointed out the temporal duration of the relationship and discontinuities between projects as important factors affecting the type of integration mechanisms used (Martinsuo and Ahola, 2010). Although the relationship duration increases through repetitive projects in ETO manufacturing, distributor integration requires that the relationship is retained and even strengthened during discontinuities, which is not compulsory in supplier integration. In fact, the distributors' customer interface role during discontinuities (i.e., project sales and services) makes them quite different from suppliers as integration partners for the project-based firm. This study suggests that the repetitiveness of projects over time and the distributors' customer interface role together can enable the

differentiation between project- and business-level integration mechanisms and that the business-level integration mechanisms (e.g., control-oriented) may enable a certain kind of project-level integration approach (e.g., development- and cooperation-oriented). Thus, the findings draw attention to the evolving relationship between project-based firms and distributors, and suggest differentiation and proactive improvement of the integration mechanism package over the life cycle of the distributor relationship.

6. Conclusion

This paper contributes to research on inter-organizational relationships particularly concerning project-based firms and their distributors in project business. We identified several distributor capabilities and categorized them into business, relational, marketing, and delivery capabilities, thus contributing to research on organizational capabilities required in inter-organizational project business. We showed that marketing and delivery capabilities become important when the firms are involved in complex system delivery. The study also shows the complexity of the required distributor capabilities in project-based firms. By categorizing capabilities into those that are required from the early stage of the distributor relationship and those that evolve during the relationship, the study highlights the dynamism in distributor capabilities. In particular, the capabilities related to complex system delivery develop through learning during the repetitive collaboration across projects and become part of the distributors' organizational capabilities.

The paper highlights the role of distributors as central stakeholders in the milieu of project-based firms and points out the actions required to enhance integration in the project business. By analyzing the relationship between a project-based firm and its distributors, we identified several integration mechanisms and categorized them into project- and business-level mechanisms, as well as control-, cooperation-, and development-oriented mechanisms. The study shows a very different approach to integration mechanisms concerning distributors,

compared to previous research concerning suppliers. The stable position of distributors in the downstream value chain facilitates the use of integration mechanisms at the business level, in addition to mechanisms at the project level. This characteristic and the repetitiveness of projects in ETO manufacturing highlight the role of a development-oriented integration approach in the projects over time, which deviates clearly from the control orientation in supplier integration stemming possibly from separate competitive tendering for each project.

The empirical findings suggest different configurations of integration mechanisms for different distributors in terms of their stage of relationship with the project-based firm, which paves the way for further research. The case study offered evidence for how distributor capabilities evolved from the early relationship toward readiness for more complex systems, and at the same time, the discontinuities between projects and repetitiveness of new projects enabled the project-based firm to use business-level integration mechanisms. The findings point out possible links between distributor integration and capability, and emphasize the project-based firm's needs for and important role in developing the maturity of the distributor relationship.

The focus on a single case limits the generalizability of the findings, and broader sample studies are suggested to confirm and expand the findings. Capabilities and integration mechanisms can depend on the context of the industry and the type of project. Thus, further research is required to understand how distributor integration mechanisms differ across regions, contexts, and project types, how these mechanisms affect distributor capabilities, and how the distributor relationship evolves over time.

The study took the project-based firm's perspective and used interviews with the focal firm's staff. Further research is required to investigate the distributors' perceptions of the expected capabilities and efficiency of integration actions. The finding creates an initial framework for

future research on distributor capabilities and integration. The frameworks could be utilized in quantitative studies, as well as managerial toolboxes in distributor assessment and development.

This study directs attention to the downstream of the value chain in a project-based firm. Further research is required to demonstrate the differences between the positions of different actors in the project network and subsequently, the different integration mechanisms that need to be implemented by a project-based firm. Moreover, distributors are used as substitute for internal sales organizations. We suggest further research to compare distributor capabilities and a project-based firm's internal sales channel capabilities.

Further research is also required to design the appropriate structure and the creation of new roles in the project network to facilitate the coordination of the relationship. The initial findings of the current study identified three roles in the project-based firm, including a strategic planning team or person who sets the goals and criteria and monitors the distribution network, a regional director who evaluates the distributors' performance and provides specific development plans, and a direct manager who performs day-to-day cooperation with the distributors. More research is required to understand the governance of the project-based firm's distributor relationships.

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