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# Towards a typology of server capabilities of MNC subsidiaries in China

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## **Abstract**

Over the past 30 years of economic development, the role of subsidiaries in China has changed. China has become an important host country for subsidiaries of western MNCs because of the huge market potential it possesses. The objective of this paper is to strengthen researchers' and practitioners' perspectives on what are the descriptors of server capabilities based on subsidiaries role. These descriptors are identified through extensive literature review and validated by case studies of four Chinese subsidiaries of Danish-headquarter industrial companies. They provided empirical basis for this paper.

**Keywords:** Server capabilities, MNC, Subsidiaries

## **Introduction**

Companies are going abroad and their roles changes autonomously or independently leading to the development of activities according to their transformed roles. The transformed roles lead to an aftermath such as developing the subsidiaries which entails developing the required capabilities to function properly in the company's new roles. But, the descriptors of the required capabilities according to the role change vary and this paper seeks to present the descriptors of server capabilities of MNC subsidiaries. Recent theorizing (e.g. Ambos et al., 2006) conceives subsidiaries as organizations with the potential to take initiatives, develop value-added activities and implement autonomous decision making. These challenges previously held beliefs in two important ways. First, new theoretical models are emerging that question the strong hierarchical relation between an MNC's HQ and its subsidiaries, where all decision making is controlled centrally, and propose a rather lateral network where multiple centers of excellence exist for different aspects of an MNC's businesses (Hedlund, 1986). Second, and in effect, the role of subsidiaries as passive recipients of HQ's mandates is questioned. As multinationals are confronted with the simultaneous need for global standardization and local adaptation, subsidiaries may differ in their role in an MNC's strategy, the scope of their operations, their set of responsibilities, the importance of the markets they serve, their level of competence and their organizational characteristics (Taggart, 1998; Jarillo and Martinez, 1990; Bartlett and Ghoshal, 1986; White and Poynter, 1984) and, thus, the server capabilities required to alleviate the pressure to reduce time-to-market, increase customer service, improve or adapt products to local tastes, and collaborate with customers (Adeyemi et al., 2012).

Based on learning, knowledge accumulation and competence development, server capabilities are the abilities to develop, improve, adapt, distribute, market and sell products effectively. However, despite many researchers' interest in subsidiary characteristics during the zeroes (e.g. Birkinshaw et al., 2005; Benito et al., 2003), "... there has been very little research that looks explicitly at the role of foreign owned subsidiaries in a host country" (Hogenbirk and van Kranenburg, 2006) and the determinants of subsidiary roles (Manolopoulos, 2010). The next section introduces the theoretical background of the study. Following a description of the research design, four case studies are performed for the purpose of identifying the determinants of a server role from extensive literature review and consequently its' server capabilities. Based on identification, a number of descriptors of server capabilities are suggested. A discussion of the limitations of the study and directions for further research concludes the paper.

## **Theoretical background**

### *Subsidiary's role typology*

Barnevik (1994) and Porter (1990), proposed a set of motivations such as: advantages of competitive positioning and informational advantage, economies of scale and scope and shortening product lifecycle among others, for firms to formulate their global strategies. Thus, the key decision making for a MNC has been centered on how to configure foreign subsidiaries to take advantage of the potential benefits of global operations: namely, gaining access to new markets, acquiring essential supplies, utilizing local skilled and talented labor, gaining access to knowledge spillovers, and taking advantage of multinational market positions. Although the selection of the location of a foreign subsidiary defines its initial role in the MNC's global network, new roles evolution of a subsidiary is influenced by the level of its capabilities (Kim et al., 2011). Since an MNC can take full advantage of global operations only through the optimal roles played by its foreign subsidiaries, the studies of subsidiary management have focused on what strategic roles should be taken by subsidiaries from the perspective of global network optimization (Meijboom and Vos, 1997).

Accordingly, literature also suggests a multitude of ways to classify the strategic roles of subsidiaries: Enright and Subramanian (2007), propose a four-dimensional approach based on geographical scope, product scope and capabilities; White and Poynter (1984), classified subsidiaries roles in terms of the scope of market, the types of product and the range of value-adding activities; Bartlett and Ghoshal (1989), propose a two-dimensional framework of competence in the subsidiary and the importance to the company's global strategy. Jarillo and Martinez (1990), suggest the localization of functional activities and the degree of the integrations of the activities to provide a classification of subsidiaries roles. Gupta and Govindarajan (1991), attempts to categorize subsidiaries roles from the perspective of knowledge flows within the MNC across countries. Then, Birkinshaw and Morrison (1995) propose the integration of the findings of prior research. Ferdows (1997), also contributed to the understanding of MNC's global operations by suggesting a model of foreign plant (subsidiaries) that are: offshore, source, server, contributor, outpost and lead factories.

### *The role change of subsidiaries*

A subsidiary changes its role through an incremental process of integrating the various activities of the company (Malnight, 1995). The different roles that each subsidiary play determines the degree of autonomy it possesses. In a MNC network, some specific units are granted more autonomy, either because they have made their own strong strategic choices (Ghoshal and Nohria, 1989), or because they are perceived by a MNC as

strategic. More autonomy is demanded by subsidiaries that face a local environment which is complicated and volatile, or in which consumers' demands for localization is strong, so that local managers can bring their crucial local knowledge into play (Ghoshal and Nohria, 1989; Gates and Egelhoff, 1986). Therefore, the role of a subsidiary, shaped mainly by the factors of integration and local responsiveness, may be a key determinant of its level of autonomy. Strategic role changes demonstrate noticeable patterns of competence building that could later become a key capability.

To assess patterns of competence building in MNCs, Rugman and Verbeke (2001), developed an organizing framework based on three types of knowledge bundles: non-location bound firm specific advantages (FSAs); location-bound FSAs; and subsidiary specific advantages. The framework was developed by testing Bartlett and Ghoshal's (1989), classification of generic roles of subsidiaries based on the competence of the local subsidiary, and the importance of the local market to the parent company. Birkinshaw and Hood (1998), argued that a subsidiary's role and development could be determined by the interaction of the three aforementioned factors. This view is shared by Westney and Zaheer (2001) who maintain that a subsidiary's role is formed through a combination of its own capabilities, the decision-making processes of the MNC and the resources that are available in the local environment. Birkinshaw and Hood (2000), in their later work, present that the parents and local environment influences the determination of subsidiary roles and the additional influence of subsidiary management cannot be neglected. Schmid and Schurig (2003), assert that a subsidiary increasingly builds up its position in the local environment by acquiring alternative value-added resources with the help of external network partners and that could also be an effort to influence the determination of subsidiary roles.

Following Hogenbirk and van Kranenburg's (2006), earlier observation and Manolopoulos (2010), suggestion, the objective of this study is to present a set of descriptors of server capabilities as a step in determining the role of subsidiaries towards the development of management theory on server capabilities.

### **Research Design**

Following Tranfield et al.'s (2003) recommendations, an extensive review was conducted of relevant operations management, strategy management and international business publications, found using title, keyword and abstract content. This approach was supplemented by a citation review of the key literature. EBSCO, ProQuest and Scopus were searched with Google Scholar used for triangulation purposes. Most articles were systematically analyzed from the early nineties and the most promising ones were selected for further analysis. As a result, a range of descriptors of server capabilities were identified. In order to validate and, if necessary, extend this set of descriptors, a qualitative approach, i.e. case studies of four Chinese plants of Danish-based industrial companies was adopted. Interviews with key informants, annual reports, press releases, media materials, presentation material to customers and stakeholders, and other company documents were used as data sources. The interviewees were contacted by emails and telephone calls were used to follow-up in scheduling a convenient time and place for interviews. The interviews mostly lasted between 0.5-2 hours and plant tours during the interview sessions were used to ease the fatigue of conducting interviews. A case study protocol was developed to guide the data collection, validation and analysis (while allowing the identification of unexpected data relevant to the study). Based on the data, the dimensions of server capabilities were identified and validated by peers. The paper will systematically follow and analyze

researchers' perspectives of the determinants of subsidiaries role towards various subsidiaries roles typology.

The term server capabilities has become eminent, as the focus of western MNC subsidiaries transforms from low cost based operations to market based operations. The transformation demands new operational configurations, proper management of existing capabilities and building of new capabilities so as to cater for arising challenges and to achieve desired operations. Ferdows (1997), defined a server factory as one that supplies specific national or regional markets. It has very limited authority and competence in making minor modifications to products and production methods to fit local conditions. According to Manolopoulos (2010, p.845), operational configurations such as local servers are characterized by a very limited market scope (host country only) and, even where some of its activities are quite sophisticated, a low value added scope (it does not include production operations and therefore product development). And, in cases where local servers may have developed a quite strong individualistic ability in specific functions (usually locally focused marketing), their profitability is mainly sustained by locally imported goods. Building on these earlier definitions, and taking a broad perspective a server can be regarded as an operational configuration that develop, improve, adapt, distribute, market and sell products effectively in a local market, specific region or host country only.

An analysis of the case studies, particularly a confrontation of the cases with existing literature, aided the identification of the descriptors of server capabilities.

### **Case description**

#### *Subsidiary A*

The company is a subsidiary of a western MNC working in the industrial equipment sector. All its sales were focused on the Asian market, where the company sold a major part of its products and solutions through its sales offices, authorized distribution channels and another big brand group. In 2008 the company decided to move production and product development to China in order to provide better support for the local market and to avoid fluctuations in exchange rates. This meant that an entirely new capability would be required in China to fulfill local market demands. Subsidiary A already sold its products for light commercial and mobile applications in China. To serve the Chinese market better, the company expanded its business focus by introducing household applications. Based on a new platform, the new series of household products were a significant upgrade to a range that covers the entire field of household appliances. Being 50% more silent than comparable products, the new series offers a substantial advantage in applications that rely on low noise operation.

The product was adapted for low noise operation through its layout and installation coupled with additional pressure mufflers. The manufacturers of household appliances can also save considerable R&D and production resources when optimization was needed by utilizing the efficiency of the products. Furthermore, the products were available in an extra robust version for tropical adaptation, which is perfectly suited for markets (e.g. China) with high ambient temperatures and/or unstable power supplies. The company products also have quality (ISO 14001 and 9001) standardization. About 80% of the operations are outsourced in order to cater for the lack of technical competencies in the China office. The ratio between outsourced units and in-house production in the product have increased from 50/50 in the early 2000 to approximately 80/20 in 2011, requiring an augmented set of skills from purchasing to supply development. Subsidiary A is autonomous to the HQ and it uses varied product design, product adaptation and product scope to serve the market.

### *Subsidiary B*

The company is a subsidiary of one of the world's leading industrial equipment manufacturers. It later grew to have sales offices in each region of China to support its customers. The sales offices are managed by Chinese recruits because it is difficult for expatriates to sustain customer relationships in China due to language barriers. Most of the products and solutions sales in China were project related, and some through licensed dealers. The company moved production to China in 1997 in order to be present in a market that represents 25% of the company's global sales, grows 21% per year and will in 2025 have the same buying power as the US (USD 300Million). Establishing operations in China brought with it the need to establish R&D there, too, to support global product development and to develop local products. However, the company's R&D was set up in China by employees without formal training or experience in R&D. Therefore, it took a lot of time to build the competence suitable for local operations.

The Chinese market for industrial equipment is strategically divided into three levels. Level A concerns strategic products that are sold to environmental treatment plants, governmental and world financed projects. Level B is where the company competes with local brands under another name which cannot be traced to it. The purpose is to prevent the local competitors from graduating into level A where the company is having a strong competitive edge. Competing on level B also gives the case company the opportunity to develop new product variants with local customers to achieve performance levels that no other company could promise. Targeting local customers, level C is where the company competes under an entirely different name as well, with lower-quality products, which cannot be traced to it. These products are adapted to local customers' requirement in order to aid the customer's business.

In order to adapt to local market conditions, subsidiary B also gives aftersales licenses to some accredited companies to coordinate their services. It has likewise reduced the number of its dealerships by upgrading some of the previous dealers to licensed dealers. Those upgraded as licensed dealers are the dealers who are big enough in terms of annual turnover or those that have shown a steady growth in their business with a close relationship with the case company. In offshoring to China, the case company has discovered three fundamental challenges: 1) the need to speed up product development because the original three to four years lead time from business case to market launch was too long in the local market; 2) finding and retaining the right people to learn and understand the local needs; and 3) lack of international insight of local recruits. To address these three challenges, skilled local recruits are hired and deployed abroad for some period in order to acquire standardized skills and to adopt them on return. Service support employees are also recruited and located close to regional sales offices to provide customers with required services. Facilities or laboratories to encourage product testing and quality are also built.

Subsidiary B is also autonomous to the HQ and it uses varied product design; product adaptation, product scope and aftersales support to serve the market.

### *Subsidiary C*

The company is a logistics, sales and service support unit for highly manufactured distinctive and exclusive range of products that combine technological excellence with emotional appeal. Its basic strategy is to replicate key functions from HQ to China but the local knowledge, marketing and sales resources and proper product introduction skills are lacking in China. It has fifty-two (52) stores across the whole Greater China region to achieve its basic strategy, support growth ambitions, to be closer to the customers and to reinforce the brand awareness. Based on its growth initiative,

subsidiary C has a new business area and partners with four orient state-of-art OEMs having huge market share in China. To import products to China, it uses contract licensees before it got its importation license and it sells products through key account customers and master dealers. The products and service kits have a warranty of three years. Because of B–B relationship, the products are sent to the Chinese facilities of all the partners except one of them. It also built relationships with non-conventional partners in order to be socially embedded. Subsidiary C shares knowledge with its' business partners in a range of areas with strong focus on their partnerships.

Due to poor management of some of its dealership outlets, subsidiary C acquired some stores in China to initiate further growth and to set best-practice example of managing a dealership outlet. Subsidiary C's brand knowledge is limited on Chinese mindset and the companies' marketing budget has to be doubled to accommodate product launching at clubs and means of accessing local consumers on social media. Subsidiary C's products are very expensive and it is still competitive with factors such as brand value, emotions and heritage. Profits are generated from 'one time sales' of customers' solution that is, a whole range of subsidiary C's product for household usage. Subsidiary C has partial autonomy from the HQ and it uses market scope, local market mindset, product design and sales with OEM and aftersales support to serve the market. The main cities with developed infrastructures are targeted for regional sales.

#### *Subsidiary D*

The company produces and sells wooden and steel structural products for support and aesthetics in specific industries. 100% of the raw materials are sourced from China e.g. plywood. About 50% other woods such as peach, berg, harps comes from Romania, while the remaining percentage comes from France and Germany. It is being processed by suppliers before purchase and it has to go through quality control inspection before use. Subsidiary D also process finished products. Steel is sourced from two distributors from a big steel company in China. It is better to produce steel related than wooden related products in China owing to its' low cost of production than in the other sites. More than 90% of the products are manufactured in the Chinese factory and most of them are exported to the Danish site while approximately 5% are produced for other companies. The Danish site is involved in R&D, product design, production, marketing, and sales activities. Though, most of the product design is from Denmark but the Chinese employees are gradually involved with the design because sometimes, the design has to be adapted. A local Chinese company has been hired to work with the adaptation of product designs. To sell products in China, subsidiary D has difficulty in dealing with just one distributor to a city unlike other countries where they operate through chain stores with products availability. But, it built relationships with non-conventional partners so as to access local networks and to be socially embedded.

Attempts to penetrate the Chinese construction market pose difficult in terms of acceptable price and quality. Although, EU does not have a common standard for subsidiary D's product range, the standard varies from country to country in Europe, but it is compulsory that all products are tested to meet the required quality and safety standard of each country. And a lot of investment is made in the quality control department in order to have the specified quality. Subsidiary D is not autonomous from the HQ and it uses product design, product adaptation, and products scope to serve the market. It serves the markets exclusively through retailers (chain stores).

#### **Analysis**

The four subsidiaries serve the Chinese market. They were established to supply global markets with standard products from headquarter so as to fulfill the company's

mandate. In the early stages, essential resources and capabilities necessary to perform a server role were transferred to the subsidiaries from their internal network members, HQs, and sister subsidiaries as practiced previously by Japanese firms (Florida and Kenney, 2000). The subsidiaries could also tap into headquarter resources, established global customers relationships, knowledge or competencies to ensure smooth operation while adapting practices. Due to the growth of the subsidiaries and their ability to sense and explore local opportunities; it became important to interact with local suppliers, more local customers and to gather information for the development of products towards satisfying local customer's requirements. Therefore, subsidiaries seek autonomy to reduce the control of headquarter in its operations. A transformation from subsidiary's initial basic responsibilities and standard products supply to an independent operational entity has both benefits and challenges. To turn the challenges of operating in a local market into benefits require the ability to leverage on headquarter competences (Bartlett and Ghoshal, 2002) and to build new capabilities. These capabilities could enable subsidiaries to fully explore, respond to local market opportunities and to cope with operational difficulties in order to satisfy local customers. All the subsidiaries except for subsidiary C have plant in China so as to be closer to the market they serve and to reduce operational complexity while adapting and developing products for the Chinese customers. They all involve value added processes (subsidiary A, B, C, D). In particular, varied product design, product adaptation and product scope (subsidiaries A, B, D) or product design, market scope, local market mindset or sales through OEMs, chain stores or after sales support (subsidiaries B, C, D) were adopted to serve the Chinese market. Subsidiaries A and B have state-of-the-art production facilities, as directed by the HQ's global strategy.

Furthermore, Subsidiary C, owing to the role of its HQ's and well established global management system and support have begun to change its' local employees' attitudes towards work and their mindset more systematically than the other three subsidiaries. All of these factors must have contributed to subsidiary C's initial attainment of employees' local mindset and social embeddedness. Subsidiary C initiated a new business area and partnered with other companies to reinforce its brand awareness and to share knowledge and site resources. Subsidiaries A and B have promoted the development of their initial outsourcing partners through trainings and effective collaboration. More involvement of the outsourcing partners' right from the early stages of product development and introduction has helped them to develop capabilities for integration and local responsiveness. On the other hand, subsidiary C is relying on its' importation of components and products, and therefore depending on the effective performance of its insourcing agents (e.g. UPS) in order to optimize its processes and to reduce lead time delivery of products to customers.

Subsidiary D is coping well with its activities as an outsourcing partner turned into a plant. Its' local responsiveness is enhanced due to its developed social embeddedness in local networks. Subsidiaries A and B now have autonomy from the HQ, this attribute enables quick decision making in connection with the exploration and exploitation of local resources to meet local customers' demand. Subsidiary C has partial autonomy but subsidiary D is still dependent on the HQ, though it is coping well due to its possession of server capabilities to optimize its processes and for integration in its internal network. Subsidiary A outsources about 80% of its operations due to lack of technical competences while subsidiary D produces more than 90% of its products due to availability of raw materials and production competences. Subsidiary B and C, also used aftersales support as a way of relating to customers, accessing social networks and for information gathering purposes. Subsidiary D also sells its products exclusively



through retailers (i.e. chain stores) in the European market but the approach is difficult to adopt in China due to difference in mindset and buying culture. Master and licensed dealers (subsidiary C), authorized distribution channel and local sales offices (subsidiaries A and B) are used for product sales and to penetrate local networks.

## **Discussion**

To provide a solid ground for server capabilities (theory building) research to be built upon, and based on the similarities/differences between the various authors perspectives, there is a need to narrow down and sharpen the large variation of opinions, as well as to develop new concepts and ideas to the term 'server capabilities'.

Through this study, we have identified different opinions concerning the components of server capabilities, its relation to the role of headquarter, site resources, product scope and value added processes. Thus, we argued for the need to narrow down the large variation by presenting our discussion:

As indicated by the subsidiaries, there are many possibilities for determining server capabilities. A subsidiary can, for example, choose to identify server capabilities based on its mode of entry into a geographic market, the strategy of the HQ/subsidiary, local innovation, customer relationships, local responsiveness, its' level of embeddedness and differentiation or the site resources. We found that some differences exist among the four subsidiaries in terms of the server capabilities operationalization constructs. Subsidiaries A and B develops various products in response to local requirements and the level of integration of its internal networks is managed properly than that of subsidiaries C and D. The proper management is as a result of their concerted efforts to explore the local markets and to increase local R&D activities aimed at reducing production costs and serving the demand of the Chinese market (Kim et al., 2011). In terms of process, subsidiaries A, B and D must have benefited from high level of market relationship and accumulated experience in China of HQ which has first entered China through the operations of local sales agents. The benefits reflect in their responsiveness to local requirements. Furthermore, subsidiary D has been delivering based on acceptable standards in export markets and its distribution network through its social embeddedness is also improving in the local market. Subsidiary C is exploring and developing its server capabilities in China through employees' local mindset and access into local social networks. The aim is to redress the blithe attitude of its employees and loss of sales to exclusive master dealers. However, the effects have led to increased efforts to improve and further optimize its processes while sensing and orientating towards local market requirements. It is worth noting that subsidiary D recently started to serve the Chinese market in an effort to have local business presence and to diversify their customer base. Subsidiary C developed a new business area in an attempt to do likewise and to develop its' domain (Delany, 2000) while managing its customer relationships and gathering information for innovation. Efforts are geared towards improving its server capabilities though the level of autonomy from the HQ remains low for both subsidiaries C and D.

We observed that both subsidiaries C and D could not develop products as much as subsidiaries A and B due to low technical/management skills and low level of autonomy from the HQ. Perhaps this observation could be explained by their activities because they are not directly involved with new product development (NPD) and other related tasks though they could be useful at gathering information for NPD. Based on the above analysis of the role of headquarter, site resources, product scope and value added processes; we can identify the determinants of a server role and consequently, the determinants of its server capabilities. After the transfer of capabilities in the early

stages, all the subsidiaries considered local site resources important in developing their own typical capabilities (Frost, 2001). And a number of studies have indicated the significance of the subsidiaries' environment as a prime source of new knowledge (Cohen & Levinthal, 1990; Lane & Lubatkin, 1998; Andersson & Forsgren, 1996, 2000; Andersson et al., 2001) that could perhaps aid organizational learning for the purpose of developing server capabilities.

The transfer of standard practices or production-process management practices from the HQ to the subsidiaries most probably needs adaptation or innovation and was evident in subsidiaries A, B, C and D. Subsidiaries C and D also benefited by developing relationships with non-conventional partners and being socially embedded in the local market because, that is also crucial and could improve the performance of subsidiaries (London and Hart, 2004). Subsequent to the overall evaluation, thoughts were developed, focusing particularly, on the improvement, development and adaptation of products, processes and services to meet local market requirements, and concluded by identifying a set of descriptors of server capabilities.

#### *Descriptors of server capabilities*

The server capabilities required to serve the emerging markets were operationalized using:

- *Role of headquarter.* Adapting and leveraging parent company competences, knowledge developed for foreign operations, their marketing and sales culture and established local customers' relationship (Bartlett & Ghoshal, 2002).
- *Site resources.* The competences and experience dominant in the site were expressed as knowledge based resources; market relationship and managerial skills/authority and this could be linked to the resource that dictates the strategic reason for the site according to Kim et al., 2011 & Ferdows, 1997.
- *Value added scope.* The range of activities that add value to subsidiary operation e.g. marketing, sales, services, distribution, product design, production and R&D (Manolopoulos, 2010 & Mudambi, 2008).
- *Product architecture and scope.* The range of modules (standard components) within a product, either fixed or flexible at the outset and products availability to the subsidiary and to the market (Cavanagh and Freeman, 2012; Ni and Wan, 2008 and White and Poynter, 1984).

Based on cross-case analysis and confrontation of the cases with existing literature, we identify common patterns with regards to realized descriptors such as: geographic scope, product architecture and scope and level of value added scope (White & Poynter, 1984). The strategic importance of the local plant and level of capabilities (Bartlett & Ghoshal, 1986), to exploit subsidiaries specific advantages signifies the server role of a plant. The role of headquarter (Bartlett & Ghoshal, 2002); autonomy of a local plant from its' headquarter and the decision making authority (Taggart, 1997) also suggests the server capabilities of server subsidiaries. The level of integration and responsiveness (Taggart, 1998; Jarillo & Martinez, 1990) to local requirements were also confirmed. What we found as a contribution with regards to descriptors of server capabilities in China were: the level of process optimization, social embeddedness into local networks, local market mindset of employees, local adaptation of value added processes and in particular, sales through OEMs and chain stores.

#### **Conclusions, limitations and further research**

The research shows that serving a local market and server capabilities matters. On the basis of the cross-case analysis we identify common patterns with regards to realized

descriptors such as: geographic scope, product architecture and scope and level of value added scope. The strategic importance of the local plant and level of capabilities to exploit subsidiaries specific advantages also signifies a server role of a plant. The role of headquarter, autonomy of a local plant from its' headquarter and the decision making authority determines a server role of the Chinese subsidiaries, and that therefore, suggests the capabilities it required. The level of integration and responsiveness to local requirements were also confirmed. What we found as a contribution with regards to descriptors of server capabilities in China were: the level of process optimization, social embeddedness into local networks, local market mindset of employees, local adaptation of value added processes and in particular, sales through OEMs and chain stores.

In addition, based on a review of the literature and supported by data collected through interviews and the subsidiaries' documents, the principal contribution of this paper is to shed more detailed, albeit initial, light on "... the role of foreign owned subsidiaries in a host country" (Hogenbirk and van Kranenburg, 2006) and the determinants of a subsidiary role (Manolopoulos, 2010). Thus, the principal contribution of this paper is a presentation of a set of descriptors of server capabilities based on a server role of subsidiaries that capture companies' development, improvement and adaptation of products and processes to build market server capabilities in China. The findings are relevant on how to determine a subsidiaries' role, and could add to the theory on capabilities.

The study suffers from the usual limitations associated with the use of qualitative methodology. While it aims to provide an essential platform, further, larger-scale, research will be needed to test, and generalize beyond the Sino-Danish context, a set of descriptors of server capabilities proposed in the paper towards subsidiaries role typology. Though there are many possibilities of determining a server role and/or capabilities, the objective of this paper was to develop a theoretical understanding on server capabilities and, as a result of that, to strengthen researchers' and practitioners' perspectives as to the descriptors of server capabilities. The authors wish to express their appreciation to the Sino-Danish Center for Education and Research (SDC) for funding this study.

## References

- Adeyemi, O.A., Slepnirov, D., Wæhrens, B.V. and Boer, H. (2012), Building server capabilities in China, 19th International Annual EurOMA Conference, July 1-5, 2012, Amsterdam, Netherlands.
- Ambos, T.C., Ambos, B. and Schlegelmilch, B. (2006), "Learning from subsidiaries: an empirical investigation of headquarters' benefits from reserve knowledge transfers", *International Business Review*, Vol. 15 No. 3, pp. 294-312.
- Andersson, U. and Forsgren, M. (1996), "Subsidiary embeddedness and control in the multinational corporation", *International Business Review*, Vol. 5 No. 5, pp. 487-508.
- Andersson, U., & Forsgren, M. (2000), "In search of centre of excellence: Network embeddedness and subsidiary roles in multinational corporations", *Management International Review*, Vol. 40 No. 4, 329–350.
- Andersson, U., Forsgren, M., and Pedersen, T. (2001), "Subsidiary performance in multinational corporations: The importance of technology embeddedness", *International Business Review*, Vol. 10 No. 3, pp. 23.
- Barnevik, P. (1994), *Global Strategies: Insights from the World's Leading Thinkers*, Harvard Business School Press, Boston, MA.
- Bartlett, C.A. and Ghoshal, S. (1986), "Tap your subsidiaries for global reach", *Harvard Business Review*, Vol. 64 No. 6, pp. 87-94.
- Bartlett, C.A. and Ghoshal, S. (1989), *Managing across Borders: The Transnational Solution*, Hutchinson Business Books, London.
- Bartlett, C.A. and Ghoshal, S. (2002), *Managing across Borders: The Transnational Solution*, Harvard Business School Press, Boston, MA.
- A full list of references is available upon request from the corresponding author (oaa@business.aau.dk)**