Explaining autonomy variations across value chain activities in foreign-owned subsidiaries

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Abstract

This article combines the asset bundling model and neo-configurational perspective to explain autonomy variations across value chain activities in foreign-owned subsidiaries. We develop tentative answers to three research questions based on survey data of foreign-owned subsidiaries located in Taiwan and Thailand. We use fuzzy set qualitative comparative analysis technique to analyses the data. We found that competence bundles in primary and support activities are key for autonomy development across basic and advanced value adding activities. Links to local business networks are more important for autonomy development than links to universities or governmental institutions. Global city location plays a lesser role than expected.

1. Introduction

Decision making autonomy of foreign-owned subsidiaries is one of the traditional research areas in the field of international business (Young and Tavares, 2004; Cavanagh et al., 2017). Decision making autonomy is the freedom managers of subsidiaries have to make decisions without having to refer back to the headquarters. It is seen as crucial element for understanding subsidiary development and the balance of power within multinational

enterprises. However, autonomy is also important for policy makers in that host countries often assume that subsidiaries with greater autonomy can make a more valuable contribution to the host country economy (Holm and Pedersen, 2000; Narula and Pineli, 2017).

While autonomy has a long history, the concept keeps changing along with the very nature of multinational enterprises (MNEs) themselves. In early studies, foreign-owned subsidiaries (FOS) were merely seen as humble recipients of directives from the headquarters (Buckley and Casson, 2009). However, with increasing global competitive pressures and recent technological advancements this view has changed and decision making autonomy is much less straight forward as a result (Cavanagh et al., 2017). For instance, in order to remain globally competitive, MNEs have to bundle their resources and competences (or firm specific advantages) with local resources and competencies embedded in local networks (location specific advantages). Yet, those location specific advantages are not freely available to the MNE; instead the MNE has to compete for access to those assets with other multinationals as well as established local competitors (Hennart, 2009). Furthermore, due to technological advancements, MNEs are able to finely slice their value adding activities and distribute those throughout a worldwide network (Rugman and Verbeke, 2001). This degree of specialisation creates information costs and requires headquarters to cede decision making powers to subsidiaries.

While there are a plethora of studies on the topic across various fields in the management literature, they all fail to address the two critical issues of asset bundling and finely sliced value chain activities. This is also caused by a reliance on theoretical frameworks which do not recognise those new realities. For instance, internationalisation theory suggests that multinationals that do venture abroad need to find a fit between firm specific advantages (such as superior management practises) and location specific advantages (such as advanced supplier networks) in order to become successful (Buckley and Casson, 2009). The theory

does, however, ignore to a large extent the difficulties MNEs can face in the host location to actually access those location specific advantages. However; the success of the subsidiary depends on its ability not only to gain access to such location specific advantages, but also to combine them with firm specific advantages. The issues is addressed in the recently developed asset bundling model (Hennart, 2012). The asset bundling model has been hitherto predominantly applied in entry mode studies, but its implications for subsidiary decision making autonomy have so far not been investigated. Furthermore, studies often ignore the differential effects the fine slicing of value adding activities has on autonomy. For instance, because of their increased specialisation, it is less likely that a subsidiary will achieve autonomy across all value chain activities at the same time. On the other hand, headquarters are likely to rely on the competencies embedded in highly specialised subsidiaries. Both have implications for the decision making autonomy in a subsidiary. Lastly, the described associations between asset bundling and fine slicing of value adding activities and autonomy point towards causal complexity. For instance, it could be that bundles of competences in certain value adding activities lead to autonomy in those areas in combination only with access to certain location specific advantages. This dependence "on the alignment or conflict among interdependent attributes" (Misangyi et al., 2017, p. 256) requires an additional lens that can cope with multiple causes leading to the same outcome. Traditional frameworks and symmetric methods often ignore such causal intricacies.

This article sets out to broaden our understanding of variations in decision-making autonomy in foreign-owned subsidiaries of Multinational Enterprises (MNEs). In particular, we aim to shed further light on what causes autonomy variations across different value chain activities. In order to do so we will employ the asset bundling model and the neo-configurational perspective. The asset bundling model originated from entry mode studies, but is useful for our purpose because it allows for location specific advantages to be costly to access for the

MNE and asset bundles need to be combined to achieve the desired outcomes. Furthermore, the neo-configurational perspective is based on the premise of causal complexity and characterised by three key features (Misangyi et al., 2017). First, conjunction, which means in our context that there are bundles rather than a single cause for autonomy variations across value chain activities. Second, equifinality which means that there is more than one combination of condition bundles that can lead to the same autonomy outcomes. Third, causal asymmetry, meaning that the conditions associated with high autonomy might be different from the conditions that cause the absence of autonomy. We use the two perspectives to explain decision making autonomy variations across value chain activities in foreign-owned subsidiaries located in the two emerging economies of Thailand and Taiwan.

2. Literature Review and Research Questions

2.1. Autonomy across value chain activities and the asset bundling model

Autonomy is defined as the authority managing directors of foreign-owned subsidiaries have to make decisions without consulting the headquarters. However, this degree of autonomy might not be the same across all value chain activities. This is because the possibility of finely slicing value chain activities and distribute those in a global network allows for increased specialisation with in the MNE (Rugman and Verbeke, 2001). We distinguish here between basic and advanced value chain activities. Basic value chain activities are those that are considered rather common among foreign-owned subsidiaries such as sales, product and service range decisions and production. As advanced we understand activities in Research and Development, Human Resource Management and Finance. Rugman et al. (2011) argues that the role the subsidiary plays within the overall MNE network and hence the decision making autonomy it has will not only depend on internal factors, such as the value chain

activities carried out in the subsidiaries, but also external environment. In line with that reasoning, Hennart (2009, 2012) argued that such those firm specific advantages need to be bundled with location specific assets in order sustain a firms competitive advantage abroad. Hennart et al. (2015) points out that those location specific advantages have transactional properties and are therefore traded under non-zero transactional costs. In other words, access to location specific advantages is not free for the subsidiary and its autonomy across value chain activities will depend on its ability to recombine firm and location specific advantages.

This is in line with adjacent studies. For instance, Dorrenbacher and Geppert (2010) showed that subsidiaries can increase their autonomy through collaboration with local business entities. Similar findings have been made in studies that investigated subsidiary influence (Ambos et al., 2010; Najafi-Tavani et al., 2014). But so far only Hennart et al. (2015) tested the asset bundling model empirically, and those authors limited themselves to entry mode considerations rather than decision making autonomy. We will now discuss the most crucial firm and location specific advantages and their impact on decision making autonomy in the light of the neo-configurational perspective to guide our arguments.

2.2. Local Networks, Competencies, Locational conditions and Autonomy

Local networks have long been known to influence decision making autonomy. We expand those early studies and distinguish between local business and non-business networks (Dahms, 2015). Local business network such as local suppliers, buyers, and competitors. Non-business networks such as universities and science centres or governmental institutions in the host country. Such network relationships can help the subsidiary to increase its autonomy for instance by accessing unique locational assets that are not available to other parts of the MNE network (Forsgren et al., 2005). On the other hand, such resource

dependencies might lead the headquarters to limit the autonomy of the subsidiary in order to control the transfer of newly created firm specific advantages throughout the MNE network.

Competencies of the subsidiary are also are key pillar of subsidiary development research with its roots in the resource based view of the firm. In line with Porter (1980), we distinguish between competencies in primary and support value adding activities. Primary value adding activities are sales production and logistics, while supporting value adding activities are research and development, purchasing, human resource management and other administrative functions such as legal or accounting. For instance, Collinson and Wang (2012) show that subsidiary autonomy varies with competencies in certain activities of foreign-owned semiconductor subsidiaries in Taiwan.

The last condition is location, which we distinguish between place and space (McCann and Mudambi, 2005). Space refers to the geographic distance between home and host country of the MNE. For instance, previous studies have shown that with increasing geographic distance, the familiarity of the MNE decreases, hence information costs increase as well as liability of foreignness (de Jong et al., 2015). Place on the other hand refers in this study to global cities. Global cities are special places for MNEs because of the cosmopolitan workforce, advanced producer services, and global interconnectedness which provides MNEs with potentially lower transaction costs due to their arms-length nature of transaction in such places (McCann and Mudambi, 2005; Goerzen et al., 2013). Belderbos et al. (2017) showed that subsidiaries located in global cities gain from being located closer to global knowledge pipelines which provides them with easier access to such knowledge assets.

While this review showed that a number of studies have addressed each of those dimensions, they have often done so only in isolation of each other. This leaves the question open as to what extent subsidiaries actually bundle those assets and how this affects their decision

making autonomy. We believe that the neo-configurational perspective can help us in highlighting those hidden complex connections.

2.3. A neo-configurational framework and the asset bundling model

The neo-configurational perspective is a mid-level theory that has only very recently been acknowledged by the wider management and international business research community. It distinguishes itself from the more commonly applied correlation based (or symmetric approaches) in the following four ways (list based on Misangyi et al., 2017). First, subsidiaries are seen as cases of set theoretic configurations. That means for instance that subsidiary attributes configured as belonging to certain theoretical sets. For instance, in our study, some subsidiaries might be located in a global cities and other have strong local business networks. This on the other hand implies that subsidiaries can be part of various sets and still share the same level of autonomy. Second is the calibration of subsidiaries in set memberships. That means that subsidiaries will be assigned membership based on theoretical considerations or the particularities of the subsidiaries in the sample. Third, necessary and sufficient relations between sets, which implies that some conditions might be crucial (i.e. necessary) while others can be sufficient (i.e. contributing only in some configurations). Last, it provides a counterfactual analysis of unobserved configurations, which means that the configurational analysis allows to consider all plausible configurations, even those that are not actually observed in the dataset itself.

This neo-configurational perspective hence actually allows for the analysis of asset bundles rather than the mere symmetric correlation between isolated variables. This leads us to three overarching research questions for this research.

Research question 1: Is there a single condition that is necessary for predicting high autonomy across value chain activities?

While our key conditions of local business and non-business network strength, primary and supporting value adding activity competencies, global city location and geographic distance have been investigated in isolation of each other. They have not yet been investigated in combination. This means that we have currently no insights if there is a single conditions that is necessary to explain high decision making autonomy in subsidiaries. For instance, while studies suggested that local network strength can contribute to autonomy development (Forsgren et al., 2005), those networks can be very different in nature depending on the location of the subsidiary. For example, global cities show more market based arm's length transaction while subsidiaries located outside such global knowledge hubs might develop fewer but more lasting relationships.

Research question 2: What are causal asset bundles that predict high autonomy outcomes across value chain activities?

Due to the symmetric nature of previous studies, we also have only very little insights in what kind of causal asset bundles could lead to high autonomy across value chain activities. For instance, it might well be that subsidiaries with high autonomy in advanced value chain activities might have strong business network relationships, high primary and supportive competencies, and are located in global cities. However, because of the high costs to retain a presence in such cities, it might well be that larger research and development centres, which can be located adjunct to major production clusters, have high autonomy levels but are far from global cities.

Research question 3: Is the absence of certain asset bundles also causing the absence of autonomy?

So far, we have few insights into the complex causes of autonomy across value chain activities. However, we have even fewer insights into the effects that the absence of certain conditions has on the autonomy development in foreign-owned subsidiaries. This is also because a lot of studies only focus on the most successful subsidiaries or even subsidiaries with special mandates (Holm and Pedersen, 2000). In other words, we lack understanding on when the absence of conditions also causes the absence of the desired outcome, in our case, decision making autonomy. For instance, some studies found that having strong relationships to local governmental institutions can be favourable for subsidiary development and survival (Monaghan et al., 2014). This allows subsidiaries for greater autonomy in order to undertake such relationship development. However, we cannot be sure if the absence of strong governmental relationships also decrease decision making autonomy in subsidiaries.

3. Research Design

3.1. Sample and data collection

The data for this research has been collected from foreign-owned subsidiaries in Taiwan and Thailand. Both countries have a long tradition of foreign direct investment and based on their geographic location are often seen as hubs for multinational enterprises for further expansion into Asian and ASEAN markets. The Taiwanese sample universe has been constructed from Dun & Bradstreet database of subsidiaries with more than 50% ownership. The Thailand sample was based on the Department of Business Development database published by the Ministry of Commerce. We also only focussed on subsidiaries with more than 50% foreign

ownership. We targeted in each country the managing directors of the subsidiaries. After several phone calls, emails, and postal waves we obtained 101 responses from Taiwan and 102 from Thailand. Further sample characteristics in table 1.

Table 1: Sample Characteristics

Size (number of employees)			**Years in foreign ownership**		
Employees	Freq.	%	Years in FO	Freq.	%
<25	67	33	<10years	73	36
26-100	74	37	11-20years	68	33
>101	62	30	>21years	62	31
Total	*203*	*100*	*Total*	*203*	*100*
Entry mode			**Industry**		
	Freq.	%		Freq.	%
Greenfield	136	67	Manufacturing	131	65
Acquisition	25	12	Service	72	35
Joint Venture	42	21	*Total*	*203*	*100*
Total	*203*	*100*			

3.2. Measurement

In order to measure the relevant constructs we largely relied on well-established constructs that have been used in previous studies. We also included secondary data in order to reduce common method bias (Chang et al., 2010). Decision making autonomy and network strength was adapted from Gammelgaard et al. (2012). The competencies construct was adapted from Birkinshaw et al. (1998). The complete constructs are provided in table 2. We derived the global city location from the postal addresses given in the respective databases. The geographic distance values have been taken from Dow and Karunaratna (2006) database.

4. Analysis

We analysed the data in two steps. The first step was an initial structured equation model-partial least squares (SEM-PLS). This has been done in order to ensure the constructs show appropriate reliability and validity, but also to provide z-scores for the subsequent fuzzy set

qualitative comparative analysis (fsQCA). In the second step we analysed the data using fsQCA in order to identify bundling configurations that lead to high or low decision making autonomy in foreign-owned subsidiaries and subsequently to develop answers to our research questions. We used WarpPLS 6.0 software for the SEM-PLS, and fs/QCA 2.5 software for the fsQCA.

4.1. SEM-PLS

We used confirmatory factor analysis to establish construct reliability and validity. The full results are presented in table 2. We found good support for our measurement model indicators. The factor loadings are well above the commonly applied threshold of 0.5 (Hair et al., 2012). This also meant that we did not have to drop items. Composite reliability and Cronbach alpha values are above the 0.7 threshold (Hair et al., 2012). Average variance extracted was above 0.5 and can hence be deemed satisfactory as for convergent validity.

Following Fornell and Larcker (1981), we assessed discriminant validity by ensuring that the square root of the average variance extracted (AVE) is higher than the correlation between the constructs. This is the case for all constructs. Furthermore, none of the variance inflation factor values was alarmingly high, which suggests that multicollinearity is not a major issue for our dataset. In sum, our measurement model results suggest that the analysis of our structural model is feasible.

Table 2: Measurement

		Convergent validity	Composite reliability	Cronb. Alpha	AVE
Autonomy					
Please indicate where the strategic (i.e. policy) decisions are made for the following areas.					
Basic value adding activities	Market Area Supplied	0.849	0.906	0.845	0.763
	Product /Service Range	0.896			
	Producing Goods / Services	0.876			

Advanced value adding activities	Research & Development	0.770	0.871	0.777	0.693
	Financial Control	0.885			
	Human Resource Management	0.838			
Subsidiary competencies					
Please indicate the capability or distinctive expertise of your site in the following areas relative to other units in the corporation e.g. headquarters and/or other subsidiaries (1 = far below average, 7 = far above average).					
Basic activity	Sales / Marketing	0.842	0.869	0.774	0.688
	Production of Goods or Services	0.822			
	Logistics/Distribution	0.824			
Advanced activity	Purchasing	0.814	0.884	0.824	0.656
	Research & Development	0.739			
	Human Resource Management	0.854			
	Other Administrative Functions (e.g. Legal, Financial, etc.)	0.829			
Network strength					
Indicate the strength of relationships you have with each of the following actors (please note: Local stands for businesses and other organisations in Thailand).					
Business networks	Local Customers	0.863	0.868	0.771	0.687
	Local Suppliers	0.850			
	Local Competitors	0.770			
Non-Business networks	Governmental Institutions in Thailand	0.880	0.873	0.709	0.775
	Science Centres, Universities in Thailand	0.880			

The structural model was assessed by a stable path coefficient estimation method to assess statistical significance of the path coefficients (Kock, 2011). This is because a stable method does not rely on the replication of samples alone and produces stable path coefficients (Kock, 2014). The resulting z-scores have been used to calibrate the fsQCA conditions.

4.2. Fuzzy set Qualitative Comparative Analysis

fsQCA is a relatively recently developed method (Ragin, 2008). fsQCA provides configurations of conditions that emerge from its algorithm. Configurations can be seen as outcome variables, and conditions somewhat resemble explanatory variables as commonly found in regression analysis. The key difference between fsQCA and other symmetric

methods is that fsQCA allows for conditions to be part of several configurations i.e. outcomes. In other words, while symmetric methods allow variables only to have a one sided effect, fsQCA removes that restriction. This is important given that many outcomes in the management field can have multiple causes (Fiss, 2011; Dahms, 2017).

The first step was to calibrate our data into fuzzy sets. That means we distinguish cases that are either fully in, fully out, or in between of certain sets. In line with Jackson and Ni (2013) we use a two-step method. We use the z-scores from the SEM-PLS analysis as benchmarks for cut-off points. In particular, we chose a z-score of 1 as being fully in, -1 of being fully out and 0 as 0.5 cut off point. For example in terms of autonomy in basic value chain activities, the perspective taken here is that if a firm shows the expected autonomy i.e. a z-score of 0, it is considered as neither in nor out of a set. This is because our goal is to identify high autonomy subsidiaries relative to their networks, competencies, and locational conditions.

After the calibration, we tested for necessary conditions, in line with research questions 1. None of the conditions reaches a consistency value of >0.9, which indicates that none of the conditions is necessary (Ragin, 2008).

fsQCA provides truth tables according to which causal combinations are evaluated along their consistency level. In line with Ragin (2008) and Fiss (2011), we chose a consistency level of around 0.80 and a frequency threshold of 3 as cut-off points.

Last, we assess the intermediate solutions that emerge from the Boolean algorithm to gain an understanding of sufficient conditions that lead to the desired outcomes (Ragin, 2008). In our case, the outcomes are high and low autonomy in basic and advanced value chain activities. The intermediate solutions are given in table 3. Using the usual conventions ● means the condition is present, ⊗ means the condition is absent, and ‘blank space’ means do not care.

Larger ● and ⊗ indicate core conditions, smaller ones are peripheral. The results will be discussed next.

Table 3: fsQCA results

	High Autonomy Basic Value Chain Activities							Low Autonomy Basic Value Chain Activities							
Condition \ Solution	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Non-Business Networks		●	●		⊗		⊗	⊗	⊗		●	●	⊗	⊗	⊗
Business Networks			●	●	●	●	⊗				⊗		●	⊗	
Primary competences	●			●	●	●	⊗	⊗	⊗	⊗	⊗	⊗	●	●	●
Supportive competences	●	●			●	●	⊗	⊗	⊗	⊗		⊗	⊗	●	●
Global City		⊗	⊗	●		⊗	●	⊗		⊗	⊗	●	●	●	⊗
Geographic Distance	⊗	⊗	⊗	⊗			⊗		●	●	⊗	⊗	⊗	●	●
Raw coverage	0.46	0.25	0.26	0.24	0.27	0.29	0.10	0.31	0.30	0.25	0.17	0.14	0.09	0.11	0.10
Unique coverage	0.04	0.01	0.05	0.02	0.03	0.03	0.02	0.06	0.07	0.03	0.02	0.05	0.02	0.02	0.01
Consistency	0.81	0.78	0.75	0.85	0.80	0.78	0.78	0.89	0.82	0.84	0.84	0.85	0.86	0.81	0.80
Solution consistency				0.731							0.800				
Solution coverage				0.667							0.611				
frequency cutoff:				3							3				
consistency cutoff:				0.776							0.800				

Table 3 (continued)

	High Autonomy Advanced Value Chain Activities						Low Autonomy Advanced Value Chain Activities						
Condition \ Solution	1	2	3	4	5	6	7	8	9	10	11	12	13
Non-Business Networks			●	●				⊗		●	⊗	⊗	⊗
Business Networks		●		●	●	⊗	⊗					●	●
Primary competences	●	●			●	⊗	⊗	⊗	⊗	⊗	●	●	●
Supportive competences	●	●	●			⊗	⊗	⊗	⊗	⊗	●	●	⊗
Global City			⊗	⊗	●	●			⊗	●	●		●
Geographic Distance	⊗		⊗	⊗	⊗	⊗	⊗	●	●	⊗	●	●	⊗
Raw coverage	0.45	0.51	0.26	0.28	0.21	0.13	0.27	0.31	0.27	0.13	0.13	0.15	0.09
Unique coverage	0.04	0.14	0.01	0.06	0.02	0.03	0.10	0.07	0.05	0.02	0.01	0.02	0.01
Consistency	0.79	0.77	0.83	0.81	0.75	0.78	0.78	0.85	0.89	0.83	0.79	0.81	0.83
Solution consistency			0.731							0.782			
Solution coverage			0.734							0.606			
frequency cutoff:			3							3			
consistency cutoff:			0.790							0.809			

5. Discussion and Conclusion

Our first research question was: “Is there a single condition that is necessary for predicting high autonomy across value chain activities?”. Through the necessary condition analysis we showed that there is no single condition that by itself is necessary for autonomy in basic or advanced value chain activities. In our second research question we asked “What are causal asset bundles that predict high autonomy outcomes across value chain activities?”. The sufficient condition analysis in table 3 suggests that there exist asset bundles that are sufficient to develop autonomy. For instance, solution one in both models indicate that competencies in primary and supportive value chain activities are sufficient for subsidiaries to develop autonomy in basic as well as advanced value chain activities. This gives support to the importance of knowledge development for autonomy in subsidiaries. Solutions 5 and 6 in the basic value chain activities and solution 2 in the advanced value chain activities model suggest that competencies and business networks are key asset bundles for autonomy. Interestingly, global city location seems to play only a peripheral role overall. The last research question asked “Is the absence of certain asset bundles also causing the absence of autonomy?” The variety displayed in the solutions 8 to 15 in the low autonomy in basic value chain activities model and solutions 7 to 13 in the low autonomy in advanced value chain activities model suggest that the simple absence of asset bundles does not lead to the absence of autonomy per se. However, being located closer to the home country in terms of geographic distance is certainly an aspect that is contributing to autonomy development across value chain activities.

Our study contributes to the field on several levels. First, we are one of the first studies to explicitly investigate the impact of asset bundles on decision making autonomy in foreign-owned subsidiaries. We show that while there are a number of sufficient asset bundle combinations, there is none that is dominating. Hence, we show that competence based and

network perspectives are complimentary rather than substitutes in explaining decision making autonomy. This was possible to show because we combined the asset bundling model with the neo-configurational perspective which allowed us to identify this pattern. We believe that both perspectives provide ample of opportunity to further theoretical development in the field. We also provide policy and managerial implications. On the policy side, our results suggest, for instance, that high autonomy subsidiaries can also flourish outside crowed and expensive global city locations. That means that local policy makers are able to nurture, at least to some extent, autonomy in subsidiaries located outside global city hubs. From a managerial point of view, this might also be helpful for managers in headquarters as well as subsidiaries given that location expenses can be significant. We also highlight the importance of competence accumulation in subsidiaries for managers that are striving for autonomy.

While our research is based on a unique dataset of subsidiaries located in Thailand and Taiwan, we acknowledge that the cross sectional nature of our data is a limitation of our research. Future studies might be advised to investigate autonomy over a larger time period since it is a fluid rather than static status.

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