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Chapter 8

Unfolding the Intra-Organizational Perception Gap in Decision Making between MNE Headquarters and Subsidiaries

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Introduction

Decision making in multinational enterprises (MNEs) has long been an important area of international business research (e.g. Gates and Egelhoff 1986; Child and Hsieh 2014). Whilst the earliest stream of literature identified MNE decision making as either 'centralization' or 'decentralization' (Hedlund 1980; Gates and Egelhoff 1986), current research findings suggest a trend of moving away from these 'dichotomous' forms of arrangement, evolving towards a structure of internal differentiation (Aharoni et al., 2011; Kostova et al., 2016). Specifically, recent research suggests that the latest shift of MNE structure (i.e. from the early form of market-seeking ''hierarchy' to the recent 'interdependent network' of differentiated subsidiaries) has created an internal organizational environment of complexity and dynamism (Brauer and Heitmann 2013; Kostova et al., 2016; Papanastassiou and Pearce 1999). Such complexity and dynamism are predominately the results of subsidiary technology upgrades and mandate changes through multiple facets of network embeddedness (Mudambi et al., 2014). Consequently, the nature of the relationship between headquarters and subsidiaries in terms of decision making is likely to become less '*transparent'* and '*straightforward'* (Aharoni et al., 2011; de Jong et al., 2015; Mudambi et al., 2014). Furthermore, previous research has revealed that subsidiary power gaining (in terms of decision-making) through upgrades in its own technology-based charter (Nell and Andersson 2012; Mudambi et al., 2014) makes the decision-making in today's MNEs an ever more complex task, that can potentially lead to a greater perception gap (PG) between headquarters and subsidiaries. However, as of today the empirical investigation into the loci of decision making in light of the latest MNE evolution still remains limited.

Building on previous research, we take a bi-layered comparative approach to investigate the latest decision making in MNEs. Building on previous findings of subsidiary evolution (Kostova et al., 2016), headquarter-subsidiary conflict and power bargaining (Ambos et al.,

2010; Dörrenbächer and Gammelgaard 2011, 2016; Håkanson et al., 2016) as well as theories of cognitive limitation, we argue that the headquarter-subsidiary relationship is likely to lead - biased views of individual managers on each other's involvement in decision making. This chapter contributes to the literature by building on the work of Gates and Egelhoff (1986) in empirically linking decision making loci to organizational structure. We focus on Greek MNEs to investigate the dyadic views between headquarters and subsidiaries. The recent emergency and success of small-open-economy MNEs in the global arena offers fertile ground to investigate how such companies manage to take efficient decisions and avoid PG traps. Following the identification of PG in headquarter-subsidiary decision making, we bring awareness of the dyadic approach to future research on the broad area of headquarter-subsidiary relationship.

This chapter is structured as follows. We first provide a literature review and theoretical development, followed by methodology and findings. We then offer a discussion of the findings and conclusions with implications and recommendations.

Literature Review and Conceptual Development

Evolution of the MNE and decision making

The discussion on MNE organizational structure can be traced back to early international business research (Hedlund 1980; Gates and Egelhoff 1986) and continues to today's research (Birkinshaw et al., 2002; Jiang et al., 2015), reflecting the undeniable importance of the topic in contributing to the understanding of MNE organization. Early research into MNEs identified the first form of organizational structure as 'multi-domestic hierarchy' (Bartlett and Ghoshal, 2002; Papanastassiou and Pearce, 2009). This form of organisation describes a highly *centralized* internal arrangement explicated by tightly-controlled and resource-constrained subsidiaries and 'hands-on' headquarters. More

specifically, the centralized form emphasizes the role of headquarters in attempting to build global competitiveness through horizontal integration of home-based advantages in new markets, using subsidiaries as their vehicle (Birkinshaw and Morrison 1995; Papanastassiou and Pearce 2009).

International business has since witnessed the intensification of global competition through aggressive liberalization of trade and international investment, technological developments, economic integration efforts and the rise of emerging economies. Under such a dynamic global context and considering the effects of both the global and local environment (Cantwell et al., 2010) a prerequisite for MNEs has become to continuously evolve.

The key feature of the renewed organizational structure is the revised roles of both headquarters and subsidiaries (Bartlett and Ghoshal 2002). In measuring the degree of centralization versus decentralization, research has predominantly focused on headquarter-subsidiary decision making as an important indicator (Hedlund 1980; Gates and Egelhoff 1986; Mudambi et al., 2014). For instance, Hedlund (1980) was among the first to discuss the link between headquarter control and subsidiary role by examining their decision- making rights. Hence, scholars have found decision making to be an inherent part of MNE organizational structure and the centralization/decentralization debate and discussions are predominantly nested in the core question of who makes what decisions.

Previously centralized MNEs have evolved from strictly hierarchical to coordinative and negotiating with their subsidiaries, while decentralized MNEs have moved away from local-responsiveness towards interdependent individualism (Papanstassiou and Pearce 2009). Such a structural shift exemplifies a move towards a more complex decision-making arrangement which often leads to inefficiency. For example, Hamel and Prahalad (1983) identify organizational challenges associated with MNEs' structural shifts during the initial transitional period, which *"cannot accommodate an emerging reality"* and that can lead to a

misfit or disharmony between "*strategic imperative and apportionment of strategic responsibility*" (Hamel and Prahalad, 1983:344).

The shift of a formerly centralized MNE towards a structure with headquarters resuming a more central role in decision making while leaving subsidiaries 'naked' of previous decision authority can lead to local resistance. Subsequently, decision-making arrangement becomes 'sensitive' and 'negotiated' between headquarters and subsidiaries (Dörrenbächer and Gammelgaard 2006). This makes a rather difficult question in today's MNEs of 'who makes what decisions?'

In particular, the 'sensitive' and 'negotiated or shared' decision making arrangement under the recent structure of interdependent networks reflects a highly complex phenomenon given the external embeddedness and idiosyncratic subsidiary technologies and associated power (Balogun et al., 2012; Mudambi et al., 2014). Indeed, the literature acknowledges that subsidiaries possess different degrees of relative power to headquarters' authoritative power, which has been developed through learning from deepened local network relationships overtime. Subsequently the roles of these subsidiaries evolve from technology 'implementers' towards 'centres of excellence' (Papanastassiou and Pearce 1999). Thus, the greater power the subsidiary possesses the more influence it is likely to have over decisions of resource allocation (Mudambi et al., 2014). Prior studies find that the more distinct the subsidiary technologies become, the greater the 'knowledge distance' between them and the knowledge pool of the rest of the MNE (Kostova et al., 2016). Consequently, whilst some subsidiary evolution is desired for diverse capability building across the MNE, there are instances when such an evolution has led to subsidiaries deviating from the benefits of the MNE and concentrating on local self-interest agendas (Brauer and Heitmann 2013; Mudambi et al., 2014).

However, in light of the recent evolution of subsidiary roles, the research on headquarter-subsidiary decision making arrangement has been limited (Aharoni et al., 2011).

Hence, the MNE evolution warrants new studies on antecedents and implications of decision making loci relating to 'who' and 'what' (Aharoni et al., 2011). We summarise relevant literature of the intended and unintended subsidiary evolution and the associated decision-making dynamics in Figure 8.1.

FIGURE 8.1. ABOUT HERE

Figure 8.1 leads us to draw three main conclusions. First, decision making arrangement has become more complex and therefore managerial perception of the loci is potentially ambiguous and diverged. Second, it is increasingly difficult to determine which decisions 'should' be organized more centrally compared to those that 'should' be taken at subsidiary level. Lastly, building on the existing literature, decision making arrangement can be an inherent *reflector* of organizational structure.

In what follows, we propose that there is a PG between headquarters and subsidiaries in terms of their own involvement in making various decisions and that the PG prevails at the organizational functional level. Previous literature on MNE structure suggests three main types of organizational arrangements: centralization, decentralization, and differentiated network (Hedlund 1980; Gates and Egelhoff 1986; Bartlett and Ghoshal 2002).

A common aspect prevailing amongst them is the spatial and temporal differences between headquarters and subsidiaries. For instance, under the centralized structure, subsidiaries are mainly responsible for sales and marketing which enables them to gain host-country knowledge over a period of time. In contrast, headquarters spend the majority of their time and attention managing the rest of the value chain activities (Bartlett and Ghoshal 2002). In the case of a decentralized structure, subsidiaries are highly autonomous and responsible for a full range of value chain activities targeted at the local market. Their set of knowledge is therefore distinct from the knowledge of the headquarters whose main responsibility is on corporate financial performance and shareholder engagement (Bartlett and Ghoshal 2002). Lastly, under the interdependent network structure, subsidiaries are responsible for different stages of the global value chain. Whilst they are dependent on each other for carrying out different sets of value-adding activities, they are simultaneously distinct from each other, as they accumulate different sets of knowledge over time (Papanastassiou and Pearce, 2009).

Hence, we argue that despite structural difference, there is a likely PG between headquarters and subsidiaries.

In order to determine if a PG is present, we statistically compare the perceptions of headquarters and subsidiaries managers'. A comparative overestimation or underestimation between the managerial perceptions of headquarters and subsidiaries decision makings is defined as having a PG. Moreover, we rely on the terminology of 'overestimation' and 'underestimation' to compare perceptions of headquarters and subsidiaries. Accordingly, we determine two levels of PG in terms of involvement in decision making: headquarter *over*estimates/*under*estimates its level of involvement in intra-organizational decision making; subsidiary *over*estimates/*under*estimates its level of involvement in intra-organizational decision making. A comparative overestimation or underestimation between the two groups is defined as having a PG.

Furthermore, we argue that when the organizational structure is highly interdependent between headquarters and subsidiaries, the subsidiary autonomy is increased and as negotiable and shared decision-making responsibilities will occur, a greater PG is likely to be expected (Hedlund 1980; Gates and Egelhoff, 1986). Therefore, the greater the ability of subsidiaries to make sense based on their knowledge, the more likely they are to be more involved in decision making (Taggart, 1997, 1998; Schuler-Zhou and Schuller 2013). Consequently, the more involved the subsidiaries become in decision making across the entire product line functions, the more prevalent the PG is between headquarters and subsidiaries in terms of functional decision- making loci.

Methodology

Data Description

The literature on small open economies (SOE) as defined by Castello and Ozawa (2014) show that a handful of larger MNEs are responsible for the majority of outward FDI. Statistics from Forfas (2006) show that between 10 and 15 companies were responsible for the majority of Irish outward FDI. Bellak (1996) confirms that the leading 20 manufacturing Austrian MNEs comprised almost 75 per cent of total employment in overseas subsidiaries in 1989 (through a network of 669 subsidiaries) and that their investment in 1990 represented 40 per cent of the total Austrian OFDI. Similarly, Oxelheim and Gartner (1996) show that the top 10–15 MNCs from Finland, Sweden, Denmark and Norway, respectively, were the main overseas investors. Thus, when selecting Greek MNEs we identified and assessed the largest stock listed Greek MNEs in the ICAP database (2006) in terms of turnover and found a population of 50 companies that met our criteria of having established multinational operations through FDI[i]

In order to examine the dyadic PG, we follow the data collection approach used by Chini et al., (2005) and Ambos et al., (2006). A questionnaire was developed and sent to the headquarters and directed to the CEO of each MNE. We then asked each headquarter to provide data for 3 to 5 representative subsidiaries of their group (to maximise subsidiary response rate) aiming at an averaged population of 200 subsidiaries. A questionnaire was also developed and directed to the subsidiaries of these leading Greek MNEs. Further, considerations relating to language differences were taken to avoid language-related biases (Chidlow et al., 2014), and subsidiary questionnaires were in English whilst headquarters questionnaires were in both Greek and English. Questionnaire surveys were conducted in 2006.

We collected 13 valid responses from headquarter and 36 corresponding subsidiary responses[ii]. The response rate on the headquarters side was 26 per cent (13/50) and on the subsidiary side was 18 per cent (36/200). The dyadic pairs varied between 1 to 4 subsidiaries

per corresponding MNE. The response rate for both headquarters and subsidiaries aligns with response rates reported in previous studies (Harzing, 2000; Harzing et al., 2013; Chidlow et al. 2014).

Thus, our sample is fairly representative of Greek leading MNEs (Kosmidou et al., 2007). Indeed, the 13 Greek MNEs in our final sample represent a total employment of 113,346 employees from manufacturing and services sectors (based on company annual reports for 2010-2012), which is equivalent to 20.05 per cent of the total national industry employment of Greece. In terms of the final sample of subsidiaries, they are also representative of the Greek subsidiary population, as the total overseas employment of our sample subsidiaries corresponds to approximately 30,000 people, which is equivalent to 36 per cent of total overseas employees of all Greek overseas subsidiaries.

Table 8.1 provides a summary of the sample. Our sample of subsidiaries reflects homogeneity in terms of ownership type (i.e. either wholly-or majority-owned) as well as period of establishment (i.e. in 1990s).

TABLE 8.1. ABOUT HERE

Questionnaire Design

Decision making items were derived from Gates and Egelhoff (1986) and were further enriched with value chain associated activities as developed by Porter (1985), resulting in a total of 23 key decision variables capturing the product line functions (see Table 8.2[iii]). To ensure that we account for both headquarters and subsidiary perspectives, the 23 decision items were included in the questionnaires of both headquarters and subsidiaries. These decision items

were the same in both questionnaires, as the goal was to enhance response validity and account for potential discrepancies between the perception of headquarters and subsidiaries with regard to loci of decision making.

To statistically measure headquarters and subsidiaries' assessment of locus of each decision as well as of the similarity of understanding of each decision item, in both surveys a 7-point Likert scale was used where 1 indicates a decision taken at the headquarters (centralised) and 7 indicates a decision taken at the subsidiary level (decentralised). In order to capture the three levels of decision making loci (centralisation, decentralisation, and negotiated) within the MNEs, we follow Frost et al., (2002) to pursue the following categorization: scores of 1 and 2 of the 7-point Likert scale reflect a centralised decision- making structure; scores of 6 and 7 of the 7-point Likert scale reflect a decentralised decision making; whereas the scores in the middle reflect a 'negotiated' structure.

Data Analysis and Results

Our analysis consists of descriptive statistics and non-parametric estimations. To show the existence of the PG by evaluating any potential discrepancies in perceptions between headquarters and subsidiaries, we first describe and compare the mean/median scores between headquarters and subsidiaries for the same decision items and then perform non-parametric score comparison tests using Wilcoxon's signed rank test (Lehmann et al., 2006). Accordingly, we assess headquarter and subsidiary ranking of their level of involvement in each of the 23 key decisions. This provides a clear identification of the locus of each decision making, in both headquarters and subsidiaries surveys, but also allows a direct comparison of perception between headquarters and subsidiaries. It should be noted that the Likert scale scores – even though they are discrete numbers – are treated as continuous variables, because (a) the underlying concept they measure (degree of proximity to the decision-making locus) is

continuous, and (b) the seven points of the scale have enough variance to allow meaningful conclusions (Glass et al., 1972; Carifio and Perla, 2007).

Wilcoxon's signed rank test compares the related samples of headquarters and subsidiary to assess whether their population rank distributions differ in terms of perception in who has a more decisive role in decision making described by the corresponding item. The use of Wilcoxon's signed rank test is necessary when the score differences are not normally distributed.

The results in Table 8.2 show that there is a discrepancy in means/medians between headquarters and subsidiaries for the same decision items. For instance, the median of 1.50 in tradename/mark decision indicates a highly centralised authority whilst management of direct sales and relationship with customers are considered to be highly decentralised (median of 7.0), whereby subsidiaries are fully responsible for the decisions. The results of mean and ± standard deviation for each decision across HQs and subsidiaries quantify the difference in perception with regard to the locus and provides a measure of the variability of responses in each question. In particular, for headquarters, financial management decision is the item with the greatest variability in responses (± 2.38), whilst for subsidiaries, product pricing is the item with the greatest variability in responses (± 2.27).

TABLE 8.2. ABOUT HERE

To test if the observed differences in perception between HQs and subsidiaries (in Table 1), are statistically significant, score comparisons between headquarter and subsidiary samples means are performed with the non-parametric Wilcoxon's rank-sum test[iv]. The negative values indicate that the headquarters had a lower score than the subsidiaries, which implies that headquarters perceived a greater involvement in that particular decision making than the subsidiary. The p-value of Wilcoxon's signed rank test (Table 8.3) shows that the difference is

significant for 13 out of 23 decision items. Thus, we find evidence for a significant PG between headquarters and subsidiaries in terms of decision-making loci.

TABLE 8.3 ABOUT HERE

In addition, to show the existence of a PG in terms of functional decision making we follow Gates and Egelhoff (1986)'s and Porter (1985) and we assign each of the 23 decision items to a particular factor (four factors in total), consisting of marketing, finance, manufacturing, and firm infrastructure respectively (Table 8.4).

*** TABLE 8.4 ABOUT HERE****

We then repeat the Wilcoxon's signed rank test, to test whether there are significant differences in the perception of decision making scores between headquarters and subsidiaries for the four factors in step one that represent the shared decision making.

To be able to compare the mean score of items corresponding to each factor between headquarters and subsidiaries, we average the item scores corresponding to each factor. The corresponding factors will be referred to as factor average scores. In the case of a statistically significant result, the headquarters and subsidiaries perceive themselves to have different involvement in a particular factor, whereas a statistically insignificant difference suggests concordance in perceptions between headquarters and subsidiaries.

The results of Wilcoxon's signed rank test show that mean difference scores are statistically significantly positive and for both 'Firm Infrastructure' and 'Manufacturing' factors. Thus, subsidiaries perceive themselves as having a greater involvement in decision making in these areas. The result for 'Marketing' indicates that subsidiaries view themselves as having a significantly lower involvement in this area. In contrast, for 'Finance', headquarters and subsidiaries show agreement in decision making. Therefore, except for 'Finance' related decisions, the results generally support the argument of the existence of a PG in terms of functional decision -making loci.

The results show that subsidiaries generally perceive themselves as having a greater involvement than their headquarters, as 3 out of 4 factors (apart from 'Marketing') show a positive difference combined with the scores being above the Likert scale mid-point. This set of results may be interpreted as the reflection of an increasingly autonomous group of subsidiaries as small-open-economy MNEs grow.

Discussion and Conclusion

This chapter contributes to the literature by unfolding the complexity of decision making in MNEs in relation to decision loci and organizational structure. At the individual locus level, we identify PGs across more than half of the decisions. At the functional level, we also find significant PGs in three out of four areas (statistical insignificance of Finance suggests a converged view). Finally, PG is also found at the organizational level whereby subsidiaries view they have more independence than headquarters perceive. Previous studies suggest that once subsidiaries become established in their local environment, they tend to experience enhanced capability and greater autonomy. This argument supports our finding that subsidiaries perceive themselves to be more independent than the view of headquarters. Hence, we can argue that in the case of Greek subsidiaries, there are no SOE idiosyncrasies found, as their view of greater autonomy is similar to the trend found in subsidiaries of advanced-economy MNEs. Upon reflection on our findings, an ex-post framework of HQ and subsidiary decision making is provided below in Figure 8.2.

*** FIGURE 8.2. ABOUT HERE***

Overall, the identified PGs in decision making loci and associated organizational structure suggest a high degree of disharmony between headquarters and subsidiaries. While this may be explained using the perspective of subsidiary evolution and embeddedness to reflect positive local development, the potential defects these may bring to performance outcomes may be more damaging in the long term. We argue that such a misalignment can lead to the creation of internal transaction costs and operational deficiency, which cause performance implications for the MNEs. This conclusion is also supported by Brauer and Heitmann (2013), Lunnan et al (2016), and Mudambi et al (2014) who note that the nature of subsidiary perceptions of internal operations is likely to significantly influence its performance.

Limitations and Recommendations

Our analysis is based on a small but representative sample of Greek MNEs and their corresponding subsidiaries. Given the small sample size, the analysis is based on statistical techniques that are fit to incorporate such samples and attenuate sampling errors. Larger databases are usually desirable, as they increase statistical significance in test analysis. However, based on the statistically significant results of the test, we find evidence of PG in decision making between headquarters and subsidiaries. Researchers should not take our findings to imply that high-quality solutions can be obtained routinely using small samples. Rather, it is the choice of appropriate statistical techniques that are applied and interpreted correctly that matter for the quality of result. Furthermore, our results are generalizable only to the service and manufacturing industry of an SOE, namely, Greece. We urge future research to test our results to a wider industry base, and larger MNEs from developed economies. Furthermore, we recommend that future research should explore any potential sector-related differences or similarities across a larger sample. This study offers a new approach to testing dyadic perceptions as well as statistical methods for assessing organizational decision making and structures. Other studies are recommended to apply these techniques to larger or different samples. Although the Greek MNEs have a relatively higher level of homogeneity of firm-level variables, we recommend that future studies test for subsidiary age, role, and location using larger and indigenously diverse samples.

We also recommend that, as the main focus of our study is on exploring headquarter-subsidiary PG on decision making loci, future studies build on our findings to test for a series of potential PG implications. Although our study is not concerned with PG implication, the identified PG in the case of Greek MNEs lead us to believe that it is important that future studies explore potential organizational and performance implications of headquarter-subsidiary PG. We believe that an SOE context, as represented by Greek MNEs, is a useful first step. Additionally, it is hoped that following the identification of PG in headquarter-subsidiary

decision making, future research relating to the broad area of headquarter-subsidiary relationship can incorporate the possible gaps and therefore a dyadic approach is encouraged to identify discrepancies and draw more balanced conclusions.

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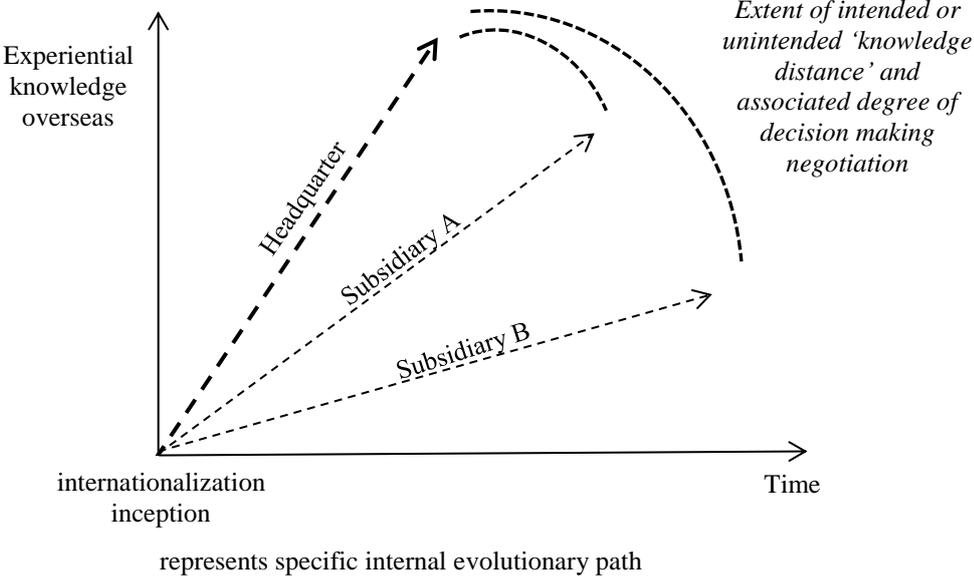
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Figure 8. 1. Evolution of Headquarter-subsidiary Relationship.

Experiential
knowledge
overseas

*Extent of intended or
unintended 'knowledge
distance' and
associated degree of
decision making
negotiation*

Headquarter

Subsidiary A

Subsidiary B

internationalization
inception

Time

represents specific internal evolutionary path

Source: authors' own conceptualization

Figure 8.2. Headquarter-subsidiary PG of Decision making.

Shared Decision-making   Intra-organizational PG

Figure 2.

The MNE

| Finance |
| Manufacturing |
| Firm infrastructure |
| Marketing |

Evolution (time and knowledge)

Headquarter Perception   Subsidiary Perception

Evolution (time and knowledge)

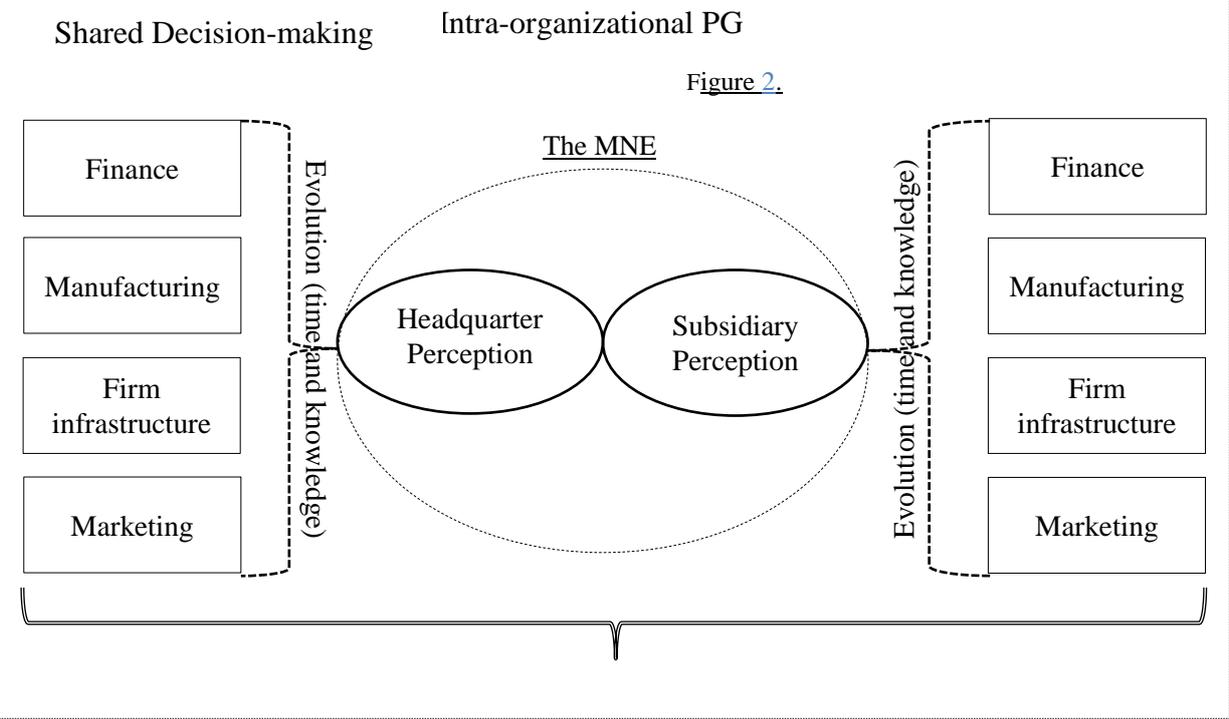| Finance |
| Manufacturing |
| Firm infrastructure |
| Marketing |

Table 8.1. Overview of Participating Sample.

Sector Classification	No. of MNE	Country of Origin	Level of Internationalisation (no. of countries in range)	Number of Participating Subsidiaries	Host Region (of participating subsidiaries)	Subsidiary Ownership Type	Subsidiary Age (since)
Services (Banking and ICT)	6	Greece	3 - 28	16	Balkans/ EU/ROW*	WO/MO**	1990s
Manufacturing	7	Greece	2 - 25	20	Balkans/ EU/ROW*	WO/MO**	1990s
Total	*13*			*36*			

*ROW represents 'Rest of the World' which consists of small parts of Africa and America, **WO/MO represents wholly-owned and majority-owned.

Table 8.2. Means, Standard deviations and medians of the item responses of subsidiaries and headquarters.

ITEM	Subsidiaries		Headquarters	
	mean (± standard deviation)	median	mean (± standard deviation)	median
New product	4.06 (±2.19)	5.00	3.69 (±1.97)	4.00
Tradename/mark	2.53 (±2.12)	1.50	2.69 (±2.21)	2.00
Selection of suppliers	4.44 (±1.70)	4.00	4.62 (±1.94)	5.00
Relationships with distributors network	6.31 (±1.14)	7.00	5.69 (±1.55)	6.00
Relationship with competition	5.47 (±1.25)	6.00	4.69 (±1.80)	5.00
Relationship with customers	6.28 (±1.28)	7.00	5.92 (±1.26)	6.00
Market segmentation	5.44 (±1.70)	6.00	4.85 (±1.68)	5.00
Product positioning	5.56 (±1.54)	5.50	4.62 (±1.80)	4.00
Advertising	5.22 (±1.42)	5.00	4.83 (±1.57)	5.00
Corporate communication	4.56 (±1.98)	5.00	4.38 (±1.85)	4.00
Public relations	5.19 (±1.88)	6.00	4.77 (±1.59)	4.00
Manpower recruiting	4.86 (±1.40)	5.00	4.15 (±1.63)	4.00
Training	5.11 (±1.62)	5.00	4.31 (±1.65)	4.00
Measuring productivity	5.56 (±1.52)	6.00	4.77 (±1.74)	5.00
Rewards system	4.03 (±2.01)	4.00	3.85 (±1.91)	3.00
Budgeting	4.14 (±1.44)	4.00	4.08 (±2.06)	4.00
Financial management	4.19 (±2.38)	5.00	5.00 (±2.00)	6.00
Accounting	5.47 (±1.70)	6.00	4.77 (±1.24)	5.00
Legal services	5.17 (±1.72)	5.00	5.85 (±0.99)	6.00
Operations management	5.89 (±1.30)	6.00	4.83 (±1.86)	5.00
Corporate development	3.67 (±1.67)	4.00	3.08 (±1.12)	3.00
Product pricing	4.65 (±1.80)	4.65	4.15 (±2.27)	4.00
Management of Direct sales	5.89 (±1.58)	7.00	5.77 (±1.24)	6.00
Inventory management	5.40 (±1.50)	5.70	3.77 (±1.88)	3.00

Table 8.3. Differences in locus scores between headquarters and subsidiaries.

	ITEM SCORE COMPARISON	
Decision Item	**Mean Difference**	**p-value** (Wilcoxon's signed rank test)
Inventory management	-1.457	0.000
Market segmentation	-0.861	0.001
Product positioning	-1.056	0.003
Manpower recruiting	-0.639	0.004
Public relations	-0.639	0.005
Measuring productivity	-0.722	0.021
Relationship with competition	-0.722	0.023
Training	-0.722	0.036
Rewards system	-0.611	0.050
Financial management	1.000	0.061
Accounting	-0.556	0.065
New Product	-0.667	0.071
Management of Direct sales	-0.114	0.112
Relationships with distributors network	-0.222	0.125
Operations management	-0.514	0.169
Advertising	-0.355	0.185
Corporate development	-0.417	0.213
Corporate communication	-0.306	0.268
Budgeting	-0.194	0.618
Tradename/mark	0.083	0.630
Product pricing	-0.129	0.833
Selection of suppliers	0.028	0.940

Table 8.4. Assignment of items to factors.

Factor	Firm infrastructure (Porter 1985)	Finance (Gates and Egelhoff 1986)	Marketing (Gates and Egelhoff 1986)	Manufacturing (Gates and Egelhoff 1986)
Items	Corporate communication	Budgeting	Trade name/mark	Selection of suppliers
	Public relations	Rewards system	Product pricing	Operations management
	Manpower recruiting	Financial management	Management of direct sales	New product development
	Corporate development	Accounting	Relationship with customers	Measuring productivity
	Advertising		Market segmentation	Inventory management
	Training		Product positioning	Relationship with competition
			Relationships with distributors network	

[i] See, Oladottir et al., (2012), on comparative study of MNEs from Iceland, Israel and Ireland; Damijan et al., (2007), on Slovenia's MNEs impact on productivity; Barry et al., (2003), on Ireland's outward FDI.

[ii] This is the final number of usable questionnaires that have answered the items of the surveys analysed in this chapter.

[iii] For similar classifications see O' Donell 2000, Slangen and Hennart, 2008 and Gammelgaard et al., 2012.

[iv] The differences are also tested for normality when discrepancies between t-test and Wilcoxon test significances are observed and decisions are based on the valid test, i.e. the t-test when normality was confirmed and Wilcoxon's test when the differences were not normally distributed.