

# Subsidiary Decision-making Autonomy: A Systematic Literature Review of The Determinants

**Simone Ambroselli**

*Istat*

*Italian National Institute of Statistics*

*Rome, 00184, Italy*

*ambrosel@istat.it*

---

## Abstract

Over the past decades, subsidiary's autonomy has emerged as a focal point of research concerning Multinational Corporations (MNCs). The concept of autonomy has influenced the four research streams identified by the scholars within the subsidiary-management literature, Strategy-Structure, Headquarters-Subsidiary Relationships, Subsidiary Roles and Subsidiary Development, albeit with a different degree of intensity. However, despite the high number of contributions concerning this theme, only a few have dealt with the elements determining the autonomy of firms belonging to MNCs and a complete systematization of the empirical studies containing sets of variables able to explain subsidiary autonomy is still lacking. Aiming at contributing to fill this gap, a Systematic Literature Review methodology has been implemented to guarantee a rigorous procedure. The main findings of this paper are the identification of the explanatory elements for the autonomy, named differently by scholars during the forty years of this review, such as determinants, variables, or factors, and a further contribution in clustering them according to common characteristics. Research findings contribute to consolidate and synthesize the results into a comprehensive framework, providing the basis for further directions of future research concerning firm autonomy within business groups.

**Keywords:** MNCs, Firm Autonomy, Determinants, Systematic Literature Review.

---

## 1. INTRODUCTION

Over the past decades, subsidiary's autonomy has emerged as a focal point of research concerning Multinational Corporations (MNCs) (see among others, Garnier, 1982; Hedlund, 1986; Ghoshal and Bartlett, 1990; Birkinshaw et al., 1998; Taggart and Hood, 1999; Young and Tavares, 2004; Manolopoulos, 2006; McDonald et al., 2008; Cavanagh et al., 2017; Seus, 2021). Broadly speaking, "autonomy may be defined as the degree to which one may make significant decisions without the consent of others" (Brock, 2003: 58). In his book "Centralization and Autonomy", Brooke (1984) proposed that autonomy refers to an organization "in which units and sub-units possess the ability to take decisions for themselves on issues which are reserved to a higher level in comparable organizations" (Brooke, 1984: 9) while in the field of business groups studies, Young and Tavares (2004) developed an improved understanding of the notion of autonomy.

Scholars generally identified the end of the 1970s as the starting point for the subsidiary management literature stream (Gates and Egelhoff, 1986; Birkinshaw and Hood, 1998). Within the subsidiary management literature, four research streams have been identified (Paterson and Brock, 2002; Pisoni et al., 2013; Cavanagh et al., 2017): Strategy-Structure, Headquarters-Subsidiary Relationships, Subsidiary Roles and Subsidiary Development. The concept of autonomy has influenced all these research streams albeit with a different degree of intensity. In fact, they broadly follow a temporal order moving from centralization aspects related to headquarters (HQs) to subsidiaries and therefore more towards to the autonomy concept. The most relevant contributions to this paper, both theoretical and empirical, are ascribable to the last three streams.

Much of the contributions related to the Headquarters-Subsidiary Relationships stream are mainly quantitative-based (Hedlund, 1981; Garnier, 1982; Gates and Egelhoff, 1986) even if focused in some cases on the concept of centralization. Subsidiary Roles stream of research started from the seminal work by White and Poynter (1984). According to their findings, subsidiaries may have different roles within the MNC network and several contributions in the literature followed this first attempt to update and propose new roles for the subsidiaries (see among others, Bartlett and Ghoshal, 1986; Jarillo and Martinez, 1990; Birkinshaw and Morrison 1995). Finally, interesting contributions related to the autonomy concept derive from the subsidiary's initiative and development research stream (Birkinshaw and Hood, 1998; Birkinshaw et al., 1998; Ambos et al., 2010; Dörrenbächer and Gammelgaard, 2016).

However, despite the high number of contributions concerning this theme, only a few have dealt with the elements, named by scholars in different ways such as determinants, variables, factors, characteristics, measures or antecedents, useful in explaining the autonomy of firms belonging to MNCs and a complete systematization of the empirical studies containing sets of them is still lacking. For the sake of clarity, it is important to highlight that two recent and useful contributions have been made by Pisoni et al. (2013) and Dut (2013). However, different aims, methods and search strategies adopted limit the overlapping risks. In the former case, scholars did not adopt a systematic approach while the latter followed a narrow systematic approach focusing on highly ranked journals publishing research on subsidiaries and MNCs and limiting the period from January 2000 to June 2013. Moreover, these two contributions and other conceptual (Manolopoulos, 2006) and empirical (Gammelgaard et al. 2012) investigations have provided their own way of grouping the elements that can explain the autonomy according to their research purposes, but these results need to be improved to build a broader framework.

The contributions of the paper are in expanding the knowledge on the field of studies concerning MNCs and autonomy by looking at the literature findings over a period of forty years (1980-2019) and updating the model for interpreting the determinants of subsidiary decision-making autonomy. Therefore, the purpose of this paper is to answer the following research questions: *What are the elements that explain the autonomy of firms belonging to MNCs? How these elements can be grouped?*

Aiming at contributing to fill this gap, a Systematic Literature Review (SLR) methodology has been implemented to assess the variables useful to explain the degree of decision-making autonomy of a subsidiary. This approach guarantees a replicable, scientific, and transparent process (Tranfield et al., 2003) in comparison to samples selected via purely subjective criteria, as underlined by Newbert (2007).

For what concern the present study, research strings queried on two databases (EBSCO and Scopus) combine three basic elements, i) the determinants of ii) autonomy in decision-making iii) within MNCs. A total of 28 empirical contributions have been systematized. In order to cover the different facets of the topic under analyses and guarantee a comprehensive and rigorous research strategy, keywords have included a wide set of words related to those three basic elements.

The present work contributes to consolidating and synthesizing the results into a comprehensive framework and exploiting prior literature findings in order to identify the elements and the mechanisms that influence the phenomenon under analyses (Edmondson and McManus, 2007). The main findings are the identification of the explanatory elements of the autonomy used by scholars during the forty years of this review, and a further contribution in clustering them according to common characteristics. Both theoretical and practical implications emerged from this study and a conceptual framework has also been presented to support future research on the field.

The paper is organized as follows: section two illustrates the different streams of research concerning autonomy within MNCs. The research methodology is summarized in section three

while section four reports the research results. Section five identifies and discusses the main findings of the articles in the sample in terms of groups of variables and highlights the contributions. Section six concludes suggesting directions for further research.

## 2. THEORETICAL BACKGROUND

This section contains the conceptual background of the concept of autonomy within the subsidiary management literature stream of research.

Concerning subsidiary autonomy related literature, Young and Tavares (2004) in their seminal work proposed the following comprehensive definition: “the constrained freedom or independence available to or acquired by a subsidiary, which enables it to take certain decisions on its own behalf” (Young and Tavares 2004: 228). Starting mainly from this contribution, decision-making at a subsidiary level became the common denominator of other definitions of autonomy proposed in the literature (see among others, McDonald et al, 2008; Ambos et al. 2010; Gammelgaard et al. 2011). In a more concise way, the subsidiary autonomy has been also defined as “the extent to which the subsidiary can make decisions about its business operations” (Schüler-Zhou and Schüller, 2013: 330).

In a recent work to document the rise of autonomy in subsidiary management literature, Cavanagh et al. (2017) conducted a systematic literature review focusing on key articles published in leading international business and management journals until 2016. Besides Young and Tavares (2004) article, the second seminal paper they used as starting point for their research was by Paterson and Brock (2002) that is focused on subsidiary management literature stream of research. According to the latter contribution, four research streams have been identified: Strategy-Structure, Headquarters-Subsidiary Relationships, Subsidiary Roles and Subsidiary Development. Subsidiary autonomy received less or much attention according to the different streams and periods.

In the Strategy-Structure model, the ability of the subsidiary to undertake strategic decisions and actions is generally neglected because strategy is designed and determined by the MNC headquarters. According to Birkinshaw and Hood (1998) within this literature stream the basic assumption, mainly based on (Vernon, 1966) and (Johanson & Vahlne, 1977), is that “the subsidiary is an instrument of the MNC and, consequently, ... it acts solely with regard to head-office-determined imperatives (Birkinshaw and Hood, 1998: 775).

Interesting contributions related to the Headquarters-Subsidiary Relationships emerged during the 1980s. Much of these contributions, even if focused in some cases on the concept of centralization, were mainly quantitative (Gates & Egelhoff, 1986; Garnier, 1982; Hedlund, 1981) and investigated the dyadic relationship between the subsidiary and the head office (Pisoni et al., 2010). According to Brock (2003), autonomy and (de)centralization are two related constructs but autonomy refers to *the extent* of decision-making authority of an organization while centralization concerns *the locus* of decision-making authority in an organization that means “the extent to which decision-making is concentrated in a single point or diffused throughout the organization” (Brock, 2003; 61). Consequently, the variables able to measure both the concepts may be the same and for the purpose of this paper, centralization and decentralization have been added in keywords list.

Subsidiary roles research stream has been widely explored by scholars. Starting from the seminal contribution of White and Pointer (1984), the unit of analysis shifted from the headquarters to the subsidiaries. According to their findings, subsidiaries may have different roles within the MNC network and several contributions in the literature followed this first attempt to update and propose new roles for the subsidiaries (see among others, Bartlett and Ghoshal, 1986; Jarillo and Martinez, 1990; Birkinshaw and Morrison 1995, Ambos et al. 2020). These studies are strictly related to the theories in which subsidiaries are treated as nodes within a complex network of relationships, both inside and outside the MNC (Hedlund, 1986; Ghoshal and Bartlett, 1990; Forsgren et. al., 1999; McDonald et al., 2008). In the perspective of ‘Transnational organization’

of an MNC (Bartlett and Ghoshal, 1989) the resources of an MNC, seen as a portfolio of differentiated, but interdependent subsidiaries, are distributed geographically and each subsidiary control part of them (Rugman et al., 2011).

Finally, interesting contributions related to the autonomy concept derive from the subsidiary's initiative and development research stream (Birkinshaw and Hood, 1998; Birkinshaw et al., 1998; Ambos et al., 2010; Dörrenbächer and Gammelgaard, 2016). In his seminal work, Birkinshaw (1997) defined the initiative as "a discrete, proactive undertaking that advances a new way for the corporation to use or expand its resources" (Birkinshaw, 1997: 207) and identified four types of subsidiaries initiatives: global, local, internal and global-internal hybrid. In fact, as showed by Raziq et al. (2014) distinguishing types of initiatives is important to evaluate the impact on autonomy of different types of subsidiary initiatives as HQs may prefer some of them to others and, therefore, have different consequences for the autonomy of the subsidiaries.

Manolopoulos (2006) made a conceptual investigation on the concept of autonomy in the subsidiary management research. He defined the subsidiary autonomy as "the degree to which an MNC subunit may make significant decisions, referring to the whole spectrum of inter-and intra-firm relationships, with or without the consent of the HQs" (Manolopoulos, 2006: 49). According to his findings, subsidiary autonomy extent depends on the subsidiary's relationships with the HQs, the other subunits of the MNE group, and its embedded environment. Therefore, the variables able to explain the subsidiary autonomy generally concern the characteristics of the parent company, the subsidiary, and the institutional environment (De Jong and Dut, 2010; Pisoni et al. 2010). According to Gammelgaard et al (2011, 2012), autonomy is connected to intra-organizational relationships, both vertical linkages (parent-subsidiary) and lateral linkages (subsidiary-subsidiary) (Birkinshaw and Morrison, 1995), and inter-organizational relationships that are the links that the subsidiary has with its environment.

However, despite the high number of contributions concerning the concept of autonomy, only a few have dealt with the elements that determine the autonomy of firms belonging to MNCs. In many cases, autonomy level has been directly derived from surveys to managers (Birkinshaw et al. 2008; McDonald et al., 2008; Ambos et al., 2010; Golini et al., 2016) and synthesized by point scales values while, in other cases, autonomy or related concepts have been considered as an explaining variable for other topics, mainly R&D (see among others, Taggart, 1998; Iwata et al. 2006; Manolopoulos et al. 2007, Kim and Kim 2020). Moreover, scholars generally tend to consider MNCs as a whole to be investigated globally also for other interesting related concepts as shown recently, for example, for Corporate Social Responsibility and decision-making process (Dixit et al., 2020) or corporate governance aspects and performance (Alhaj, 2019).

For what concern the present study, the main recent and useful contributions have been made by Pisoni et al. (2013) and Dut (2013). The former paper presents an interesting literature review of the main contributions concerning the evaluation of the variables that indicate the level of autonomy of subsidiaries of internationalizing companies. The latter contains a systematic approach to reviewing relevant theoretical and empirical studies in the context of subsidiary's decision-making autonomy.

Pisoni et al. (2013) summarized the most important variables used by scholars to explain the subsidiary autonomy. They considered 33 papers from 1971 and 2012 and the number of contributions for decade was quite homogeneous (six papers for the 1970s, eight for 1980s, nine for 1990s and seven for 2000s). Papers related to the Headquarters-Subsidiary Relationships literature stream were fourteen, but they contributed mostly in terms of different variables proposed to explain and measure the concept (sixteen out of twenty), demonstrating as the early research were mainly empirical and quantitative. Main theoretical implications of this research have been the adoption of a three-way grouping of the variables, subsidiary, parent and environmental characteristics, and the suggestion of a way to contribute on this field by focussing on different phases of the value chain and roles carried out by the subsidiaries. According to their findings, the most common variables used by scholars have been "subsidiary size" (13 empirical studies) and "subsidiary age" (10) followed by the "percentage of subsidiary social capital owned

by the headquarters” (7) and “subsidiary performance” (7). Generally, those variables were publicly available on financial statements and/or commercial database explaining mostly their success in empirical studies. Only three variables considered by those authors were referred to exogenous aspects, such as, “economic development of subsidiary country” (3), “political stability in the subsidiary’s country” (1), and “degree of uncertainty with respect to local environment” (1) while two concerned the distance (physic and geographic). The rest of the variables were the following: “degree of concentration in the subsidiary’s market” (3), “mode of establishment” (2), “subsidiary market share” (1), “level of information owned by the subsidiary” (1), “subsidiary dependence on headquarters’ product range” (1), “belonging to large international network(s) (1)”, “technology transferred from the headquarters” (1) and “pursuit of strategic aims at subsidiary’s local market level” (1), “% of purchase from headquarters” (1), “% of subsidiary export” (1) and “Industry” (1).

Dut (2013) adopted a narrower systematic approach to reviewing relevant theoretical and empirical studies on the field focusing first on highly ranked journals publishing research on subsidiaries and MNEs and limiting the period from January 2000 to June 2013. The selection was made according to a set of keywords, such as, subsidiary decision-making autonomy, subsidiary centralization/decentralization, decision-making autonomy, autonomy, decision-making authority, control, multinational, MNE, and subsidiary. The result was of eighteen empirical studies focused on the determinants of subsidiary decision-making autonomy, and thirteen studies on the consequences of subsidiary decision-making autonomy. The author evaluated the existing theories used in the context of subsidiary’s decision-making autonomy, such as the integration responsiveness framework (Prahalad and Doz, 1987), resource dependence theory (Pfeffer and Salancik, 1978), business network theory (Andersson & Forsgren, 1996), agency theory (Jensen and Meckling, 1976), institutional theory (Meyer and Rowan, 1977), information-processing theory (Galbraith, 1973), providing a theoretical framework useful for developing further research on the topic.

For the purpose of this research, our interest is on the studies aiming at explaining the drivers that determine differences in decision-making autonomy. Based on the most common characteristics of the independent variables used in these empirical studies, he classified the determinants of decision-making autonomy in five clusters distinguishing between the “determinants that relate to the strategic role of the subsidiary, organizational complexity, decision- and control structure, general MNE characteristics, and industry- and country-level features” (Dut, 2013: 31). According to his findings, variables related to the strategic roles have been used in 13 studies (out of 18) and have been related to the concept of internal embeddedness (or its opposite, external embeddedness) of the subsidiary in the MNC, proxied by variables, such as, subsidiary’s level of integration in value chain, subsidiary’s level of host market orientation, percentage of subsidiary’s purchases from parent, percentage of subsidiary’s sales to parent, subsidiary’s level of market share (market scope), subsidiary’s scope of activities, level of reverse transfer of knowledge to parent, innovativeness and mandate. Measuring the organizational complexity (16 studies) has been anchored to size variables, MNC or subsidiary, degree of product or geographic diversification, subsidiary’s research competence (R&D over sales), subsidiary’s marketing capabilities, subsidiary’s level of product specialization, and information owned by subsidiary. Eleven studies have also considered aspects related to decision and control, such as, number of parent’s representatives on subsidiary’s board, extent of parent ownership in foreign subsidiaries, mode of entry (greenfield over acquisition), subsidiary management, and monitoring of headquarters. Other general characteristics of the MNC (14 studies) have been fully exploited both on subsidiary side such as performance, language competence, location, age and exports, and parent side such as, international experience, legal status (state ownership), product division structure, area division structure, and international division structure. Finally, variables on industry and country level have been considered for 13 studies, in terms of sectors, functions, home and host environments, local’s managers perceptions, and cultural distance.

The conceptual framework derived from this section guided me in the development of the research strategy.

### 3. METHODS

The present section describes in depth the methodology adopted for this study.

In order to assess the elements useful to explain the degree of decision-making autonomy of a subsidiary, this study grounded on a Systematic Literature Review (SLR). This approach was chosen as it is more objective by adopting a replicable, scientific, and transparent process (Tranfield et al., 2003) in comparison to samples selected via purely subjective criteria, as underlined by Newbert (2007). Scholars generally identified the end of the 1970s as the starting point for the subsidiary management literature stream (Birkinshaw and Hood, 1998; Pisoni et al., 2013). Therefore, the field is in its maturity and it is possible to use the SLR to exploit prior literature findings and identify the elements and the mechanisms that influence the phenomenon under analyses (Edmondson and McManus, 2007). According to the aim of the paper, SLR appears also as the most suitable research design to consolidate and synthesize the results into a comprehensive framework (Cristofaro, 2019).

The research methods of our work basically conform to those adopted in several recent reviews on various management topics (Newbert, 2007; Cafferata et al., 2009; Mari and Poggese, 2013; Abatecola et al., 2013; Hoque, 2014; Leoni, 2015; Hansen and Schaltegger, 2016; Di Tullio et al. 2018; Hristov et al., 2021). The systematic approach for the review relied on the following set of criteria:

1. Search the Business Source Complete (EBSCO) and Scopus databases;
2. Search for peer-reviewed published journal articles in English, only;
3. Ensure substantive relevance by requiring that selected articles contained at least one of the following primary keywords in their abstract: 'autonomy', 'centralization' and 'decentralization';
4. Ensure substantive relevance by requiring that selected articles contained at least one of the following additional keywords in their abstract: 'business group\*', 'mne\*', 'mnc\*', 'corporation\*', 'subsidiary\*', 'parent-subsidiary\*', 'holding\*', 'headquarter\*' and 'head office\*'; the asterisk at the end of a search word allows for different suffixes (i.e., subsidiary or subsidiaries);
5. Ensure substantive relevance by requiring that selected articles contained at least one of the further additional keywords in their abstract: 'factor\*', 'determinant\*', 'variable\*', 'characteristic\*', 'measure\*' and 'antecedent\*';
6. Consolidate results from EBSCO and Scopus and eliminate duplicate articles;
7. Ensure substantive context by reading all remaining abstracts in order to evaluate their connection with the research topic;
8. Ensure substantive and empirical relevance by reading all remaining articles in their entirety in order to obtain papers aligned to the research goals with an adequate empirical content (i.e., statistical analyses);
9. Build the final dataset applying a reference and citation tracking (snowballing technique) in order to include any other possible relevant publications.

As shown in the previous section, subsidiary-autonomy concept emerged within the Headquarters-Subsidiary Relationships literature stream during the 1980s and, consequently, databases have been queried for a total period of forty years (1980-2019). Concerning criterion 2, restricting the present search to journal articles published in 'scholarly' journals, increased the quality of the articles returned "due to the rigorous peer review process to which articles published in such journals are subjected prior to publication" (Newbert, 2007: 125).

Phase	Description	EBSCO Result	Scopus result	Total
3	All articles containing the primary keywords in their abstract	13,898	6,500	20,398
4	All articles containing at least one of the additional keywords in their abstract	532	431	936
5	All articles containing at least one of the additional keywords in their abstract	170	154	324
6	Consolidation and removal of duplicates			225
7	Reading of abstracts			59
8	Full-text reading			25
9a	Snowballing technique			+5
9b	Removing similar articles			- 2
<b>Final dataset</b>				<b>28</b>

**TABLE 1:** The Systematic Literature Review process: summary of selection criteria.

The logic underlying the research grounds on the combination of three basic elements: autonomy in decision-making, MNC's subsidiaries and variables able to explain the presence or the development of the autonomy (see Appendix 1 for the complete strings of research). During the forty years considered for this review, some of the above-mentioned topics have been named differently (i.e., MNC or MNE), new areas of investigation emerged (i.e., business groups, parent-subsidiary relationships) and some fields of research have had alternating fortunes (headquarters vs subsidiaries, centralization/decentralization vs autonomy). In addition, explanatory elements for the autonomy have been named differently according for example to the statistical methods adopted (factor, measure, variable). Therefore, the keywords to ensure substantive relevance (steps 3-5) include a wide set of words to cover the different facets of the topics and guarantee a comprehensive research strategy.

Articles found in both the databases have been removed (step 6) before reading abstracts (step 7) and full articles (step 8). Results of step 8 do not include two articles based on the same data and with similar results of other two already included in the selection. Five articles have been added based on reference and citation tracking (step 9a). After that, two selected articles have been removed to make way for two much more complete articles by the same authors (step 9b).

At the end of the process, only articles that contain a set of variables (or similar terms, as described in step 5) able to explain the decision-making autonomy (step 3) of a unit belonging to an MNC (step 4) have been considered. Articles that did not meet these conditions were deleted from the dataset.

Table 1 shows the number of articles returned from this methodology at each step from steps 3 through 9b, with a final sample size of 28. According to recent literature contributions, this sample could be compared in size with the outputs of Pisoni et al. (2013), 33 papers, and Dut (2013), 18 papers. It should be noted that in the former case, scholars did not adopt a systematic approach while the latter followed a narrow systematic approach focusing first on highly ranked journals publishing research on subsidiaries and MNEs and limiting the period from January 2000 to June 2013.

In summary, the systematic approach returned me 28 articles in the final sample that have been analysed in the following sections.

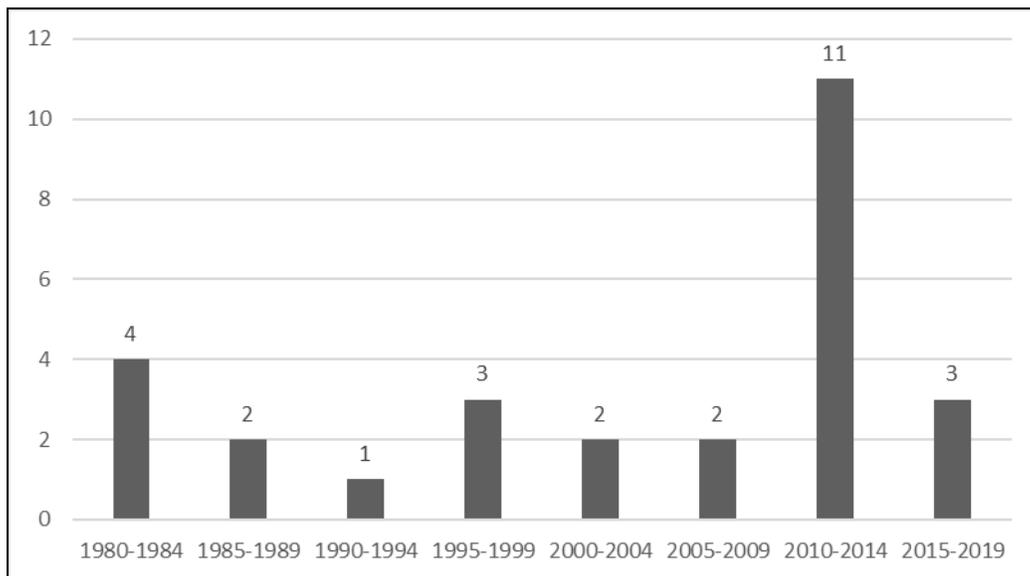
#### 4. RESULTS

Descriptive analyses of the articles in the sample are shown in this section. Papers have been analysed according to several aspects including year of publication, journals and research area, citations, main theme, research method and typology of the variables.

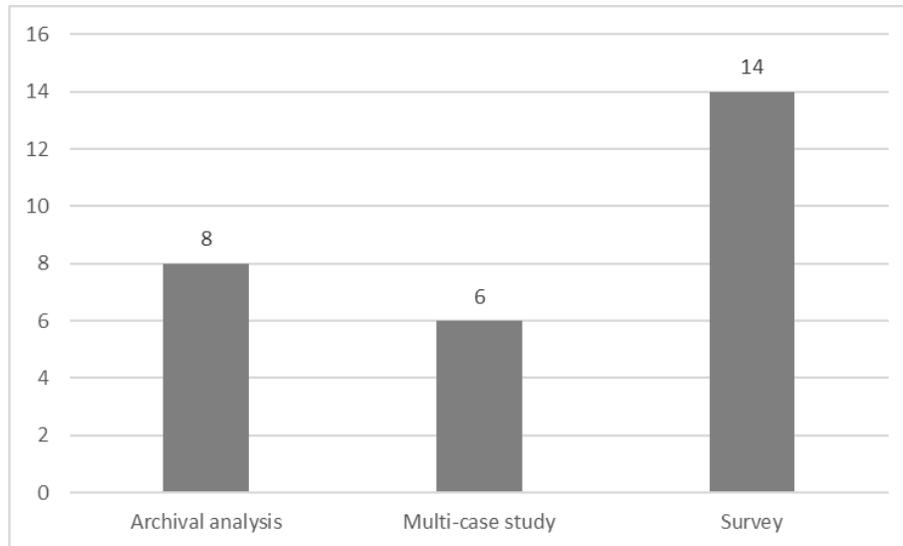
The final sample consisted of 28 contributions from 1981 to 2019. As described in the previous section, results of step 8 initially identified 27 papers but contributions from Alharbi et al. (2016) and Pisoni et al. (2010) have been excluded as virtually similar, for what concern the purposes of this research, to Singh et al. (2016) and Pisoni et al. (2013). Two authors, Hedlund and Welge, produced several contributions concerning autonomy and MNCs during the end of the 1970s and the beginning of the 1980s. According to the results of the snowballing technique (step 9b) the most complete papers of the two authors has been found in the volume 'The Management of Headquarters–Subsidiary Relations in Multinational Corporations' (Otterbeck, 1981). Due to the relevance of these two contributions the other two selected papers by the same authors have been removed (Hedlund, 1980; Welge, 1982).

The main elements of the selected articles are summarized in Appendix 2. The SLR of this study covered a period of forty years. For what concern our research themes, most of the contributions has been found in the last ten years (14 articles) following two decades in which only 4 papers have been selected each. The rest of 6 studies has been conducted during the 1980s. The year with the highest number of contributions has been the 2013 (5 articles). For the rest, one or two papers maximum have been found for each year. In details, Figure 1 shows the article distribution on a five-years basis.

Research method distribution is presented in Figure 2. Three main methods have been found, studies based on surveys, archival data and multi-case studies. Generally published documents and archival data were also used to supplement the results of questionnaires and interviews. Contribution of Gates and Egelhoff (1986) combined archival data and interviews and for the purposes of this study was considered as a wide multi-case study.



**FIGURE 1:** Article distribution on a five-years basis.



**FIGURE 2:** Article distribution by research method.

In terms of authors, 63 scholars contributed to conduct the selected studies. On average, just over two authors per article (maximum 4 in two cases) while six papers have been written by one author. It is interesting to note that ‘sole’ contributions have characterized mainly the first decade (4 contributions out of six) while starting from 2000 papers have been always drafted by two authors at least. Authors appear in one article only except for N. Hood who contributed to two papers (Young et al, 1985; Taggart and Hood, 1999).

Concerning the geographical distribution, it is possible to evaluate both home and host countries. In terms of home Countries, MNCs have been based on 22 different countries but the number is potentially higher considering that two contributions generically refer to EU and 6 to various Countries. MNCs from US are the most investigated (6 times) followed by UK, Germany and Italy (4 cases), Japan and Sweden (3) and Belgium, China, Denmark, Finland, France, the Netherlands and Switzerland (2). Rest of the Countries appears one time (Australia, Austria, Canada, Greece, Ireland, Norway, Portugal, Spain, Taiwan). Therefore, studies of the determinants of the subsidiary autonomy have been mainly produced for Europe and North America MNCs while studies from Asia and Oceania are present to a limited extent. Subsidiaries have been examined in 32 different countries while in 7 cases host countries have been not identified: in 4 cases hosts were based on many and various countries while in the other 3 cases the reference was to geographic areas (2 EU and 1 Mercosur). Concerning host countries, also other areas appear such as South and Central America (Argentina, Brazil, Mexico), Middle East (Saudi Arabia) and central eastern Europe (Bulgaria, Estonia, Czech Republic, Poland, Slovak Republic).

Except for Hedlund (1981) and Welge (1981), 26 papers have been published in 22 different journals (Table 2) covering various research areas and disciplines. *International Business Review* has the highest frequency (3) followed by *Journal of International Business Studies* (2) and *Strategic Management Journal* (2) while all the other journals appear one time. Based on the related journals, papers have been divided into four main areas of interest (Hristov et al., 2021): international business, general management, strategic management and marketing. International business research area contains the highest number of contributions (9) published in 6 different journals.

Journal	Frequency
<i>International business</i>	9
<i>International Business Review</i>	3

Journal of International Business Studies	2
Columbia Journal of World Business	1
Journal of Transnational Management	1
Management International Review (MIR)	1
Multinational Business Review	1
<b>General management</b>	<b>6</b>
Academy of Management Journal	1
Asian Business & Management	1
Benchmarking: An International Journal	1
European Management Journal	1
Journal for East European Management Studies	1
Problems and Perspectives in Management	1
<b>Strategic management</b>	<b>3</b>
Strategic Management Journal	2
Long Range Planning	1
<b>Marketing</b>	<b>2</b>
Journal of Global Marketing	1
Journal of International Marketing	1
<b>Others</b>	<b>6</b>
Human Resource Management Journal	1
Information & Management	1
International Labour Organization Working papers	1
Journal of Accounting, Auditing and Finance	1
Journal of Manufacturing Technology Management	1
University of Tartu - Faculty of Economics & Business Administration Working Paper Series	1

**TABLE 2:** Distribution of the articles by journal and research area.

The articles with more than 20 citations in the database Scopus are in Table 3 (source Scopus - July 2021). Kobrin (1991) with his integration index has the highest number of citations. Having no direct data on citations in the database for most of the contributions produced in the 1980s, articles have been searched within references to obtain a *proxy* value.

Authors	Citations	Year of publication
Kobrin	400	1991
Gates and Egelhoff	146	1986 *
Fenton-O’Creevy, Gooderham and Nordhaug	114	2008
Hedlund	95	1981 *
Taggart and Hood	77	1999
Young, Hood and Hamill	46	1985 *
Garnier	35	1982 *
Williams and van Triest	33	2009
Picard and Boddenwyn	29	1998
Vachani	28	1999
Mirchandani and Lederer	21	2004
Belizon, Gunnigle and Morley	20	2013

\* Search within references

**TABLE 3:** Number of citations per article (more than 20) in Scopus.

From a terminological point of view, the unit of analysis of the articles of the sample have been named very heterogeneously. In total, 32 unit of analysis have been found for the 28 studies and subsidiaries and MNCs have registered the highest frequencies, 10 and 7 cases, respectively. In 4 cases two levels of selection have been used: MNCs and subsidiaries. 'Firms' reference has been used 6 times mainly combined with other words such as manufacturing (4) and listed (1). 'Companies' and 'MNEs' have been sampled 2 times each while 'Affiliates', 'Branches', 'Corporations', 'Dyads' and 'Groups' have been used one time each. By 'Dyads', Homburg and Prigge (2014) have considered the headquarters-subsidiary relationship as the unit of analysis. Very interesting the fact that only the most recent selected article (Belenson et al., 2019) based the selection on corporate 'Groups'.

During the last forty years, scholars used various ways to indicate the explanatory elements for the subsidiary's autonomy and in 8 cases they used more than one word. Concerning the keywords adopted for the searching strategy (see Section 3, point 5) the results are the following: 'variables' (12 times), 'determinants' and 'factors' (10), 'measures' and 'characteristics' (2) and 'antecedents' (1). According to these findings, the term 'variable' has been used in Table 5 and in the rest of the article. An overview of the results in terms of variables, findings, main aspects and theories for all the selected articles are summarized in Appendix 2.

Articles have been grouped according to the main aspects underlying the studies: autonomy, centralization/decentralization and mixed references (Table 4). In the first case, papers referring to the 'autonomy' concept, 15 studies have been found starting from 1981 to 2014 while for the second cluster, 8 contributions from 1981 to 2018. Finally, mixed references and further related concepts such as integration and control, have been found in 5 studies.

According to the results of the review, a total of 251 variables useful for the purposes of this research has been found (Appendix 2). On average, authors used about 9 variables to explain subsidiary's autonomy with a minimum of 3 variables (Miozzo and Yamin, 2012; Fenton-O'Creevy et al., 2008) and a maximum of 22 (Garnier, 1982). Considering only contributions produced during the first two decades, mainly characterized by empirical papers, the average number of variables analysed by scholars increases (12) and, besides of Garnier (1982), other 5 studies dealt with more than 10 variables: 21, Hedlund (1981); 15, Gates and Egelhoff (1986) and Picard and Boddewyn (1998); 11, Young et al. (1985) and Taggart and Hood (1999). During the last 20 years, articles contained on average 7 variables; contributions with the highest frequencies have been the following: 18, De Jong and Dut (2010); 13, Chiao and Ying (2013); 11, Schüler-Zhou and Schüller (2013).

<b>Authors</b>	<b>Year</b>	<b>Main aspect</b>
Hedlund	1981	Autonomy
Garnier	1982	Autonomy
Yunker	1983	Autonomy
Taggart and Hood	1999	Autonomy
Vachani	1999	Autonomy
Männik, Hannula and Varblane	2004	Autonomy
Mirchandani and Lederer	2004	Autonomy
De Jong and Dut	2010	Autonomy
Belizon, Gunnigle and Morley	2013	Autonomy
Chiao and Ying	2013	Autonomy
Pisoni, Fratocchi and Onetti	2013	Autonomy
Raziq, Borini, Perry and Battisti	2013	Autonomy
Schüler-Zhou and Schüller	2013	Autonomy
Gilbert and Heinecke	2014	Autonomy

Homburg and Prigge	2014	Autonomy
Welge	1981	Coordination/Decentralization
Young, Hood and Hamill	1985	Coordination/Decentralization
Gates and Egelhoff	1986	Centralization
Williams and van Triest	2009	Decentralization
Loppacher, Cagliano and Spina	2010	Centralization
Miozzo and Yamin	2012	Centralization
Aoki and Miyajima	2012	Decentralization
Liu, Luo, and Yue	2018	Decentralization
Kobrin	1991	Integration
Picard and Boddewyn	1998	Centralization/Autonomy
Fenton-O'Creevy, Gooderham and Nordhaug	2008	Autonomy/Centralization
Singh, Wood, Alharbi and Darwish	2016	Control/Autonomy
Belenzon, Hashai and Pataconi	2019	Autonomy/Decentralization

**TABLE 4:** Clusters by main concept.

Finally, variables have been grouped according to their typology (Table 5). Apart from 4 specific variables concerning human resources (Belizon et al., 2013), 12 clusters of variables have been formed: age, size, industry, entry mode, nationality of the parent and ownership, control and coordination tools, internal embeddedness, diversification, geographical aspects, external environment, other variables for the subsidiary level and other variables for the MNC level (Appendix 3).

Articles	CI. 1	CI. 2	CI. 3	CI. 4	CI. 5	CI. 6	CI. 7	CI. 8	CI. 9	CI. 10	CI. 11	CI. 12	Total
Hedlund (1981)		x					x	x	x	x	x	x	7
Welge (1981)	x	x		x	x								4
Garnier (1982)	x	x		x		x	x		x	x	x	x	9
Yunker (1983)		x						x	x	x		x	5
Young, Hood and Hamill (1985)	x	x	x	x	x	x	x				x		8
Gates and Egelhoff (1986)	x	x	x		x		x	x		x		x	8
Kobrin (1991)							x					x	2
Picard and Boddewyn (1998)		x							x	x			3
Taggart and Hood (1999)	x	x	x		x		x	x			x	x	8
Vachani (1999)								x	x			x	3
Männik, Hannula and Varblane (2004)		x	x		x								3
Mirchandani and Lederer (2004)		x			x			x					3
Fenton-O'Creevy, Gooderham and Nordhaug (2008)	x						x			x			3
Williams and van Triest (2009)		x	x		x					x		x	5
De Jong and Dut (2010)	x	x			x		x	x		x	x	x	8
Loppacher, Cagliano and Spina (2010)						x				x		x	3

Miozzo and Yamin (2012)			x			x				x			3
Aoki and Miyajima (2012)		x			x	x							3
Belizon, Gunnigle and Morley (2013)	x	x	x			x				x			5
Chiao and Ying (2013)	x	x	x	x			x			x	x	x	8
Pisoni, Fratocchi and Onetti (2013)		x		x						x			3
Raziq, Borini, Perry and Battisti (2013)	x	x	x	x						x		x	6
Schüler-Zhou and Schüller (2013)	x	x	x		x		x			x	x	x	8
Gilbert and Heinecke (2014)									x				1
Homburg and Prigge (2014)		x					x		x	x	x		5
Singh, Wood, Alharbi and Darwish (2016)	x	x	x		x				x		x		6
Liu, Luo, and Yue (2018)		x											1
Belenzon, Hashai and Patacconi (2019)			x			x			x	x	x		5
<b>Total</b>	12	21	12	6	11	7	11	7	9	17	10	13	-

*Cl. 1 = Age; Cl. 2= Size; Cl. 3 = Industry; Cl. 4 = Entry mode; Cl. 5 = Nationality of the parent and ownership; Cl. 6 = Control and coordination tools; Cl. 7 = Internal embeddedness; Cl. 8 = Diversification; Cl. 9 = Geographical aspects; Cl. 10 = External environment; Cl. 11 = Other variables for the subsidiary level; Cl. 12 = Other variables for the MNC level.*

**TABLE 5:** Articles and clusters of variables.

Subsidiary age has been one of the most used variables: 12 papers have considered this information in the set of variables able to explain subsidiary's autonomy (in one case it is indicated in terms of "year of establishment"). Data concerning the size, mainly expressed in terms of employment, have been used in 21 articles. Sales and foreign operations also have been used but to a lesser extent. Unlike the age that has always been referred to the affiliates, the size variables used by scholars have been also associated to the parent company, the entire MNC or expressed in relative size (subsidiary relative size, subsidiary's sales expressed as a percent of parent's overall sales). Industry (or sector or activities) is generally an easy variable to find and scholars have used it in 12 articles mainly referring to subsidiaries but, in two cases, also to the parent company level. The mode of establishment (or the reasons for entering foreign markets) has been applied in 6 cases while control and coordination type variables in 7 studies. Concerning the latter, 3 papers have explicitly referred to the board's composition. The concept of diversification, mainly in terms of products and divisions, has been considered 7 times while geographical aspects have been used in 9 cases. Nationality of the parents and ownership aspects have been processed together even if the former always concerns the parent while the latter may refer to the subsidiary, the parent or outside ownership (local, foreign and institutional investors). The result consisted of 11 articles adopting these kinds of variables. Very interesting are the results concerning internal embeddedness: twenty different variables (generally named as intrafirm flows, internal networks, transfers or dependence) have been used by scholars to synthesize internal relationships covering 11 articles. External environment variables have been used in 17 studies and cover a wide and heterogeneous range of information such as cultural aspects, host country characteristics and risks and external embeddedness of the subsidiary.

Finally, 13 variables concerning the subsidiaries have been grouped as 'others' and other 26 have been labelled as 'others for MNC'. In the first case, the most frequent concepts have concerned the performance of the subsidiaries (4 articles).

To sum up, this section, Appendix 2 and Appendix 3 describe the results of this study in terms of contents and characteristics of the articles derived from the SLR.

## 5. DISCUSSION

This section summarises the key aspects of the articles in the sample according mostly to the clusters of variables presented in the last section (Table 5 and Appendix 3) that represent one of the main contributions of the present study.

From the research project 'Managing the relations between headquarters and foreign operations in Multinationals' conducted by the Institute of International Business at the Stockholm School of Economics (Otterbeck) from 1975 to 1982, two studies have been considered for this review, Hedlund (1981) and Welge (1981). The overall research project had two main objectives: producing studies for other areas than US and explaining internal mechanisms of multinationals overcoming their formal structures and products.

Hedlund (1981) seminal in-depth study on six Swedish MNCs contained different methods and comparative analysis with MNCs from other Countries for measuring the degree of autonomy. Concerning the determinants of subsidiary autonomy, the research contained the first attempt, for what concern the purposes of the present study, to group the variables according to some characteristics. In this case, the author had the intuition of distinguishing characteristics proper of the MNC system as a whole from those of the subsidiaries. Furthermore, he added another group of variables related in his view to the uncertainties that are referable to the external environment (such as market conditions, political conditions, labour markets). According to the clusters presented in the previous section, the study is chronologically the first considered for the 'autonomy' macro-theme while in terms of groups of variables the article resulted very rich containing variables of 7 typologies. In fact, it is possible to further distinguish inside the macro-characteristics the author adopted. Size and other variables are considered for both the MNC level and the subsidiary level but, according to the framework adopted in the present study, some characteristics are more specifically attributed to geographical, diversification and internal embeddedness aspects. The latter aspect mainly explained by 'inter-unit dependency' resulted very important to explain the subsidiary autonomy.

Welge (1981) in his study of six German chemical MNCs introduced a parallel between coordination intensity and centralization/decentralization concepts. According to their typology, four kinds of variables have been recognized, age, size, mode of establishment and ownership. The latter three have been recognized as important factors of influence concerning the interrelations between internal context and headquarter-subsiary design.

For what concern the autonomy aspect, Garnier (1982) study has been based on a large set of variables belonging to a great variety of typologies (9 in total) finding that degree of interchange of products, ownership, workflow integration, and size factors can be considered as the best predictors of the degree of autonomy. Control and coordination variables such as the number of parent company's representatives on affiliate's board, have been used. The use of two variables to measure the internal embeddedness, 'percentage of affiliate's sales going to parent' and 'percentage of affiliate's purchases coming from parent', represented a very interesting innovation to investigate intra-flows from both sides, parent and subsidiary.

Mainly size aspects, also in terms of number of country presence, constitute the set of variables adopted by Yunker (1983) in her study concerning autonomy and corporate and environment characteristics.

Young et al. (1985) in their study on foreign-owned multinational subsidiaries in the UK considered 11 variables able to influence the degree of centralization/decentralization of decision-making within MNCs. It is possible to recognize 8 different kinds of variables: size, age, ownership aspects, mode of establishment, industry, internal flows, coordination tools, subsidiary performance and other MNC characteristics. According to their findings, greater centralisation is linked to subsidiary size, integration and multinationality of the parent company.

Although focused on centralization, the study of Gates and Egelhoff (1986) has been the first in citing Hedlund (1981) and Garnier (1982) and using part of their results in defining their set of

variables. The result is of 15 variables distinguished according to the proposed framework in 8 different types including nationality and ownership, diversification, environmental aspects and intra-company relationships. Concerning the results, the authors found a relationship between centralization and measures of company-level complexity and less for what concern the subsidiary-level variables.

The study of Kobrin (1991) on the concept of global integration has been mainly focused on intrafirm flows. In particular, flows have been considered according to three perspectives: affiliate to parent, affiliate to affiliate and parent to affiliate.

Although the article of Picard and Boddewyn (1998) was explicitly focused on international-marketing decision-making some interesting elements have been found for autonomy and centralization aspects. In particular, the authors distinguished the company variables from those related to environmental aspect. Concerning the latter, they found 12 different features to be considered.

After the study of Yunker (1983) new articles related to the macro-theme 'autonomy' appeared after 16 years. Taggart and Hood (1999) and Vachani (1999) are very different studies. The former, is assimilable to the contributions produced in the 1980s while the latter is more focused on only one aspect, the global diversification. Taggart and Hood (1999) used 11 variables that according to the clusters defined in the previous section are attributable to 8 typologies: age, size, diversification ('market scope'), industry, other for subsidiaries ('complexity of R&D activity at the subsidiary'), other for MNCs ('export propensity'), ownership and internal flows. For the latter aspect, although based on other premises and sources, as done by Kobrin (1991), relationships among sister companies have been considered. Vachani (1999) specifically examined the linkage between components of global diversification and subsidiary autonomy and diversification and geographical related variables have been mainly used.

Männik et al. (2004) and Mirchandani and Lederer (2004) focused on autonomy but in relations to other specific aspects: knowledge and technology transfers, for the first, and information systems planning, for the second. From both, very few variables have been found and also the following contribution in chronological order by Fenton-O'Creavy et al. (2008) on human resources and centralization vs autonomy resulted only three variables useful for the present paper.

Proposing a new model for MNC decentralization in which the allocation of decision rights to subsidiaries is explained by aspects of both internal corporate culture as well as external national cultures has been the purpose of the contribution of Williams and van Triest (2009), while Loppacher et al. (2010) mainly considered cultural aspects and global supply strategies to explain Global Supply headquarters-subsidiary control systems.

The 'autonomy' stream continued in 2010 with a contribution of De Jong and Dut (2010) in which is shown as home and host country environments and subsidiary characteristics determine variations in the autonomy of subsidiaries. A wide and heterogeneous range of variables has been used: size, ownership, age, diversification, other subsidiaries and MNCs variables and internal and external embeddedness.

Miozzo and Yamin (2012) and Aoki and Miyajima (2012) contributed respectively on research on centralization and service sector MNCs and decentralization and control tools. In terms of variables, the first used industry, control and coordination tools and environmental aspects ('host country regulations') while the second explicitly considered the boards ('number of directors' and 'outside director ratio') and foreign shareholders.

The year 2013 presents five contributions concerning autonomy. Belizon et al. (2013) contribution examined the factors affecting Human Resources Management (HRM) autonomy using variables such as age, size and industry. Chiao and Ming (2013) study investigated the antecedents of the subsidiary autonomy from a network perspective by considering 13 variables of 8 clusters: internal and external embeddedness, size, entry mode, age, industry, subsidiary performance

and MNC experience. The authors' findings showed as external network range and strength have positive effects on subsidiary autonomy while the range and the strength of internal network affect subsidiary autonomy negatively. Apart from their fundamental review concerning autonomy and determinants, Pisoni et al. (2013) also contributed by proposing a model to measure the level of autonomy of subsidiaries of internationalizing companies assessing the impact of the following variables: size, reasons for entering the foreign market and local environment ('country development'). Raziq et al. (2013) model has considered 9 variables (6 groups according to the framework of this study) finding as subsidiary age and size do not affect subsidiary strategic autonomy, but subsidiary size may affect subsidiary operational autonomy. Schüler-Zhou and Schüller (2013) have analysed the parent–subsidiary relationship of Chinese subsidiaries located in Germany by distinguishing subsidiary and parent variables. Size, age, ownership, industry and local environment have been the main variables used in their contribution.

Gilbert and Heinecke (2014) used only variables defined at regional level while Homburg and Prigge (2014) introduced the dyads, that is the HQs–subsidiary relationship, as the unit of analysis. Cultural aspects, geographical distance, size, competence of the MNC, importance of the subsidiary and intra-group relationship ('dependence') have been the aspects considered in their study.

The concepts of control and autonomy have been recently investigated by Singh et al. (2016) by considering variables of different type: age, size, industry, nationality and ownership, geographical aspects and other subsidiary's characteristics.

Liu et al. (2018) have analysed centralization by using parent and consolidated variables. It is the first study in which is explicitly mentioned the concept of consolidation by using accounting values (consolidated financial statements and parent companies' financial statements) according to a double-disclosure perspective for the parent and the whole group.

Finally, Belenzon et al. (2019) have analysed the organizational distance, measured by the number of intermediate subsidiaries separating the subsidiary from headquarters, to explain the subsidiary autonomy within a corporate group. Industry, boards interlocks, environmental ('same ethnicity') and geographical aspects have also been considering. Very interesting has been also the choice to consider the 'overlap affiliate name' among the moderating aspects of the model.

In this section, all the 28 articles in the sample have been discussed in terms of variables and their typology.

## **6. CONCLUSIONS**

Conclusions, implications, limits and a conceptual framework useful for future research are provided in this section.

The present paper aimed at contributing to fill the gap in the management literature concerning the assessment of the elements useful to explain the degree of decision-making autonomy of a subsidiary. During the last forty years, authors named differently these explanatory elements: variables (see among others, Vachani, 1999, Männik et al., 2004, Aoki and Miyajima, 2012, Singh et al. 2016), determinants (see inter alia, Taggart and Hood, 1999, Kobrin 1991, Miozzo and Yamin, 2012), factors (e.g., Garnier, 1982, Picard and Boddewyn, 1998, Belenzon et al. 2019), measures (Gates and Egelhoff, 1986), characteristics (Raziq et al., 2013) and antecedents (Chiao and Ying, 2013). A Systematic Literature Review (SLR) methodology over a period of forty years (1980-2019) has been implemented and the search strategy has been based on selecting articles containing primary keywords in order to define the main aspects, namely autonomy (early contributions for what concerns the purposes of this research, by Hedlund, 1981, and Garnier, 1982) and centralization (older contributions by Welge, 1981, and Young et al., 1985), and two additional keywords able to guarantee substantive relevance extracting articles concerning MNCs and the explanatory variables of the phenomena under analysis.

The advancements of this study mainly consist in (i) a complete systematization of the studies containing variables able to explain the autonomy of firms belonging to MNCs, (ii) the identification of these variables and (iii) a further contribution in clustering them according to common characteristics. Concerning the first, the systematic approach returned a total of 28 articles mainly produced during the 1980s and in the last ten years. The latter result demonstrates an increasing scholarly interest for the theme for which more and more authors are committed to expand the knowledge on the subject also in terms of new geographical areas involved as both host and home countries (Miozzo and Yamin, 2012; Raziq et al. 2013, Homburg and Prigge, 2014; Singh et al., 2016; Liu et al. 2018). Papers have been also grouped according to the main aspect underlying the studies: autonomy, centralization/decentralization and mixed references. Concerning the second and the third contributions, a complete framework of variables used by scholars in these last forty years in explaining the subsidiary autonomy has been provided. A deluge of different and heterogeneous variables has been found and an attempt of updating the model for interpreting the determinants of subsidiary decision-making autonomy has been made deriving 12 clusters according to their typology: age, size, industry, entry mode, nationality of the parent and ownership, control and coordination tools, internal embeddedness, diversification, geographical aspects, external environment, other variables for the subsidiary level and other variables for the MNC level.

Future research directions could consider these results in terms of proposed variables and clusters of variables as a starting point. The latter seems to be the most promising aspect also in the light of the possibility of investigating the topic according to a multilevel approach. On the basis of what emerged in this study, the variables useful to explain the degree of decision-making autonomy of the subsidiaries can be referred to: (1) single subsidiaries; (2) the parent company; (3) the whole MNC (or business group); (4) the internal relations of the units belonging to the MNCs (or business groups); and (5) the relations with the external environment.

Cluster of variables		Level of research				
		Subsidiary	Parent	MNC	Internal relationships	External environment
Cl. 1	Age					
Cl. 2	Size					
Cl. 3	Industry					
Cl. 4	Entry mode					
Cl. 5	Nationality of the parent and ownership					
Cl. 6	Control and coordination tools					
Cl. 7	Internal embeddedness					
Cl. 8	Diversification					
Cl. 9	Geographical aspects					
Cl. 10	External environment					
Cl. 11	Others for subsidiary					
Cl. 12	Others for MNC					

**TABLE 6:** Clusters of variables and possible level of analysis.

As shown in Table 6, the 12 clusters of variables are very heterogeneous with respect to the unit of analysis to be considered. Ownership and control and coordination aspects could be investigated for all identified levels, while several variables have been found as strictly referable to the internal relationships and the external environments.

This study provides several implications for scholars and practitioners. In terms of theoretical contribution, this study highlights the need to revise the research stream on the determinants of

the subsidiary autonomy according to a new comprehensive framework based on variables grouped by typology. Studies on several aspects concerning companies such as performance, productivity and CSR, could benefit from the results of this article especially focussing on the presence of internal and external variables able to influence the degree of autonomy of a subsidiary. According to this perspective also regulators, administrative bodies and public research institutes could profit of the results of this study for policies and analysis of MNCs in their countries.

Although a SLR guarantees the use of rigorous, transparent and replicable criteria, the present contribution presents some limitations concerning the search strategy and the analysis of the results. Even if the use of two databases, in this case Business Source Complete (EBSCO) and Scopus, limits the risks of not including some published studies on the field, it is not possible to consider the sample as exhaustive. However, according to the comprehensive nature of these two databases, the sample can be considered as representative of the full population of articles on the theme. Primary and additional keywords derive from the previous knowledge of the author. Although the research strings have been extensively articulated to obtain a wide range of papers, some authors may have covered similar topics by using different keywords. The application of the snowballing technique has limited this kind of risk but not completely eradicated. Finally, offering new ways of clustering the variables derived from the review, results have been analysed according to the researcher's knowledge and some interpretation problems may have affected the assignment of individual variables to the appropriate groups.

Future research could focus on overcoming some of the above-mentioned limitations. In particular, for what concerns the research of other arguments strictly related to the autonomy of affiliated-group companies, studies could focus on 'business groups' and 'boundaries of the firm' literature streams. Furthermore, the present paper has certainly contributed to providing a systematic framework useful to produce new studies able to positively answer to the question posed by Garnier ("Is it possible to predict beforehand the degree of autonomy of a specific manufacturing subsidiary? (Garnier, 1982: 906)) also for other industries and other geographical areas. Concerning the variables and the proposed clusters (Table 6), the most interesting prospects for future research seem to be mainly related to the internal embeddedness and control and coordination tools analyses. Furthermore, the level related to the internal relations seems to be the most suitable to be investigated due to its nature able to cover several groups of variables in terms of dual or multiple data analysis. Finally, investigating practitioners' perspectives and evaluating the variables according to their publicly availability should offer other interesting themes to consider for future research.

## 7. REFERENCES\*

- [1] Aoki, H., Miyajima, H. (2012). "Benchmarking business unit governance in turbulent times: the case of Japanese firms", *Benchmarking: An International Journal*, 19, 548-566.
- [2] Belenzon, S., Hashai, N., and Pataconi, A. (2019). "The architecture of attention: Group structure and subsidiary autonomy". *Strategic Management Journal*, 40(10), 1610-1643.
- [3] Belizon, M. J., Gunnigle, P., and Morley, M. (2013). "Determinants of central control and subsidiary autonomy in HRM: the case of foreign- owned multinational companies in Spain". *Human Resource Management Journal*, 23(3), 262-278.
- [4] Chiao, Y. C., and Ying, K. P. (2013). "Network effect and subsidiary autonomy in multinational corporations: An investigation of Taiwanese subsidiaries". *International Business Review*, 22(4), 652-662.
- [5] de Jong, G. and Dut, V.V. (2010). "The impact of the institutional environment on the autonomy of MNCs' subsidiaries". *Problems and Perspectives in Management*, 8(2), 53-63.

- [6] Fenton-O'Creevy, M., Gooderham, P., and Nordhaug, O. (2008). "Human resource management in US subsidiaries in Europe and Australia: centralisation or autonomy?" *Journal of International Business Studies*, 39(1), 151-166.
- [7] Garnier, G. H. (1982). "Context and decision making autonomy in the foreign affiliates of US multinational corporations". *Academy of Management Journal*, 25(4), 893-908.
- [8] Gates, S. R. and Egelhoff, W. G. (1986). "Centralization in Headquarters–Subsidiary Relationships". *Journal of International Business Studies*, 17(2), 71-92.
- [9] Gilbert, D. U., and Heinecke, P. (2014). "Success factors of regional strategies for multinational corporations: Exploring the appropriate degree of regional management autonomy and regional product/service adaptation". *Management International Review*, 54(5), 615-651.
- [10] Hedlund, G. (1981). *Autonomy of Subsidiaries and Formalization of Headquarters–Subsidiary Relationships in Swedish MNCs*. In Otterbeck, L., *The Headquarters-Subsidiary Relationship in Multinational Corporations*. Aldershot: Gower.
- [11] Homburg, C., and Prigge, J. K. (2014). "Exploring subsidiary desire for autonomy: A conceptual framework and empirical findings". *Journal of International Marketing*, 22(4), 21-43.
- [12] Kobrin, S. J. (1991). "An empirical analysis of the determinants of global integration". *Strategic Management Journal*, 12(S1), 17-31.
- [13] Liu, Y., Luo, T., and Yue, H. (2018). "Allocation of decision rights between the parent company and its subsidiaries". *Journal of Accounting, Auditing & Finance*, 33(3), 355-381.
- [14] Loppacher, J. S., Cagliano, R., and Spina, G. (2010). "Key factors in global supply headquarters- subsidiary control systems". *Journal of manufacturing technology management*.
- [15] Männik, K., Hannula, H., and Varblane, U. (2004). "Country, Industry and Firm Size Effects on Foreign Subsidiary Strategy. An Example of Five CEE Countries". University of Tartu Economics and Business Working Paper.
- [16] Miozzo, M. and Yamin, M. (2012). "Institutional and Sectoral Determinants of Headquarters-subsidiary Relationships: A Study of UK Service Multinationals in China, Korea, Brazil and Argentina". *Long Range Planning*, 45(1), 16-40.
- [17] Mirchandani, D.A. and Lederer, A.L. (2004). "IS planning autonomy in US subsidiaries of multinational firms". *Information & Management*, 41(8), 1021-1036.
- [18] Picard, J., Boddewyn, J. J., and Grosse, R. (1998). "Centralization and autonomy in international-marketing decision making: a longitudinal study (1973-1993) of US MNEs in the European Union". *Journal of Global Marketing*, 12(2), 5-24.
- [19] Pisoni, A., Fratocchi, L., and Onetti, A. (2013). "Subsidiary autonomy in transition economies: Italian SMEs in Central and Eastern European countries". *Journal for East European Management Studies*, 336-370.
- [20] Raziq, M. M., Borini, F. M., Perry, M., and Battisti, M. (2013). "Subsidiary characteristics and impact on subsidiary strategic and operational autonomy". *Journal of Transnational Management*, 18(3), 219-241.

- [21] Schüler-Zhou, Y. and Schüller, M. (2013). "An empirical study of Chinese subsidiaries' decision-making autonomy in Germany". *Asian Business & Management*, 12(3), 321-350.
- [22] Singh, S., Wood, G., Alharbi, J., Darwish, T.K. (2016). "Control mechanisms of MNEs: an empirical study". *Multinational Business Review*, 24(3), 279-300.
- [23] Taggart, J. H. and Hood, N. (1999). "Determinants of autonomy in multinational corporation subsidiaries". *European Management Journal*, 17(2), 226-236.
- [24] Vachani, S. (1999). "Global diversification's effect on multinational subsidiaries' autonomy". *International Business Review*, 8(5-6), 535-560.
- [25] Welge, M. (1981). "The Effective Design of Headquarter-Subsidiary Relationships in German MNCs". In Otterbeck, L., *The Headquarters-Subsidiary Relationship in Multinational Corporations*. Aldershot: Gower.
- [26] Williams, C. and van Triest, S. (2009). "The impact of corporate and national cultures on decentralization in multinational corporations". *International Business Review*, 18(2), 156-167.
- [27] Young, S., Hood, N., Hamill, J. (1985). "Decision-Making in Foreign owned Multinational Subsidiaries in the United Kingdom" (No. 992395053402676). International Labour Organization.
- [28] Yunker, P. J. (1983). "A Survey Study of Subsidiary Autonomy, Performance Evaluation and Transfer Pricing in Multinational Corporations". *Columbia Journal of World Business*, 18(3), 51-64.
- [29] Abatecola, G., Mandarelli, G., and Poggesi, S. (2013). "The personality factor: how top management teams make decisions. A literature review". *Journal of Management & Governance*, 17(4), 1073-1100.
- [30] Alhaj, N. (2019). "The Impact of Corporate Governance on Improving Overall Performance of the Companies". *International Journal of Business Research and Management (IJBRM)*, 10(2), 13-28.
- [31] Alharbi, J., Gelaidan, H., Al-Swidi, A., and Saeed, A. (2016). "Control mechanisms employed between headquarters and subsidiaries in multinational enterprises (MNEs)". *Review of International Business & Strategy*, 26, 493-516.
- [32] Ambos, T.C., Andersson, U., and Birkinshaw, J. (2010). "What are the consequences of initiative-taking in multinational subsidiaries?" *Journal of International Business Studies* 41(7), 1099-1118.
- [33] Ambos, T.C., Fuchs S.H., and Zimmermann, A. (2020). "Managing interrelated tensions in headquarters–subsidiary relationships: The case of a multinational hybrid organization." *Journal of International Business Studies*, 1-27.
- [34] Andersson, U., & Forsgren, M. (1996). "Subsidiary embeddedness and control in the multinational corporation". *International business review*, 5(5), 487-508.
- [35] Bartlett, C.A. and Ghoshal, S. (1986). "Tap your subsidiaries for global reach". *Harvard Business Review*, 64(6), 87–94.
- [36] Bartlett, C.A. and Ghoshal, S. (1989). *Managing across borders: The transnational Solution*. Harvard Business School Press, Boston.

- [37] Birkinshaw, J. (1997). "Entrepreneurship in multinational corporations: The characteristics of subsidiary initiatives". *Strategic Management Journal*, 18(3), 207-229.
- [38] Birkinshaw, J.M. and Morrison, A.J. (1995). "Configurations of Strategy and Structure in Subsidiaries of Multinational Corporations". *Journal of International Business Studies*, 26(4), 729-753.
- [39] Birkinshaw, J. and Hood, N. (1998). "Multinational Subsidiary Evolution: Capability and Charter Change in Foreign-Owned Subsidiary Companies". *The Academy of Management Review*, 23(4), 773-795.
- [40] Birkinshaw, J. and Hood, N., Jonsson, S. (1998). "Building Firm-Specific Advantages in Multinational Corporations: The Role of Subsidiary Initiative". *Strategic Management Journal*, 19(3), 221-241.
- [41] Brock, D.M. (2003). "Autonomy of individuals and organizations: Towards a strategy research agenda". *International Journal of Business and Economics*, 2(1), 57-73.
- [42] Brooke, M. Z. (1984). *Centralization and autonomy: A study in organization behaviour*. Praeger Publishers.
- [43] Cafferata, R., Abatecola, G. and Poggesi, S. (2009). "Revisiting Stinchcombe's Liability of Newness: A Systematic Literature Review". *International Journal of Globalisation and Small Business*, 3(4), 374-392.
- [44] Cavanagh A., Freeman S., Kalfadellis P. and Herbert K. (2017). "Assigned versus assumed: Towards a contemporary, detailed understanding of subsidiary autonomy". *International Business Review*, 26(6) 1168–1183.
- [45] Cristofaro, M. (2019). "The role of affect in management decisions: A systematic review". *European Management Journal*, 37(1), 6-17.
- [46] Di Tullio, P., Valentinetti, D. and Rea, M. (2018). "Integrating The Business Model Puzzle: A Systematic Literature". *International Journal of Business Research and Management (IJBRM)*, 9(1), 1-46.
- [47] Dixit, D., Sinha, A.S. and Shrivastava, R. (2020). "Process and Content Model of CSR Decision-making—A Stakeholder Approach". *International Journal of Business Research and Management (IJBRM)*, 11(1), 1-15.
- [48] Dörrenbacher, C. and Gammelgaard J. (2016). "Subsidiary Initiative Taking in Multinational Corporations: The Relationship Between Power". *Organization Studies*, 37(9), 1249-1270.
- [49] Dut, V.V. (2013). "Subsidiary decision-making autonomy in multinational enterprises". *Doctoral Thesis, University of Groningen. Groningen, the Netherlands*.
- [50] Edmondson, A. C., and McManus, S. E. (2007). "Methodological fit in management field research". *Academy of management review*, 32(4), 1246-1264.
- [51] Forsgren, M., Pedersen, T. and Foss, N. J. (1999). "Accounting for the strengths of MNC subsidiaries: the case of foreign-owned firms in Denmark". *International Business Review*, 8(2), 181–196.
- [52] Galbraith, J. (1973). *Designing complex organizations*. Reading, Mass.

- [53] Gammelgaard, J., McDonald, F., Tüselmann, H., Dörrenbächer, C., and Stephan, A. (2011). "Effective autonomy, organisational relationships and skilled jobs in subsidiaries". *Management Research Review*.
- [54] Gammelgaard, J., McDonald, F., Stephan, A., Tüselmann, H., and Dörrenbächer, C. (2012). "The impact of increases in subsidiary autonomy and network relationships on performance". *International Business Review*, 21(6), 1158-1172.
- [55] Ghoshal, S. and Bartlett, C.A. (1990). "The Multinational Corporation as an Interorganizational Network". *The Academy of Management Review*, 15(4), 603-625.
- [56] Golini, R., Patricia, D. and Scherrer-Rathje, M. (2016). "Exploiting the potential of manufacturing network embeddedness: an OM perspective". *International Journal of Operations & Production Management*, 36(12), 1741-1768.
- [57] Hansen, E. G., and Schaltegger, S. (2016). "The sustainability balanced scorecard: A systematic review of architectures". *Journal of Business Ethics*, 133(2), 193-221.
- [58] Hedlund, G. (1980). "Autonomy of subsidiaries and formalization of headquarters–subsidiary relationships in Swedish MNC's". *Strategic Management Journal*, 1(1), 23-36.
- [59] Hedlund, G. (1986). "The hypermodern MNC—A heterarchy?" *Human Resource Management (1986-1998)*, 25(1), 9-35.
- [60] Hoque, Z. (2014). "20 years of studies on the balanced scorecard: trends, accomplishments, gaps and opportunities for future research". *The British accounting review*, 46(1), 33-59.
- [61] Hristov, I., Appolloni, A., Chirico, A., and Cheng, W. (2021). "The role of the environmental dimension in the Performance Management System: A systematic review and conceptual framework". *Journal of Cleaner Production*, 126075.
- [62] Iwata, S., Kurokawa, S., and Fujisue, K. (2006). "An analysis of global R&D activities of Japanese MNCs in the US from the knowledge-based view". *IEEE transactions on engineering management*, 53(3), 361-379.
- [63] Jarillo, J.C. and Martínez, J.I. (1990). "Different roles for subsidiaries: The case of multinational corporations in Spain". *Strategic Management Journal*, 11(7), 501-512.
- [64] Jensen, M. and Meckling, W. (1976). "Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure". *Journal of Financial Economics*, 3(4), 305-360.
- [65] Johanson, J., and Vahlne, J. E. (1977). "The internationalization process of the firm—a model of knowledge development and increasing foreign market commitments". *Journal of international business studies*, 8(1), 23-32.
- [66] Kim, B.G., and Kim, G.B. (2020). "An Empirical Analysis on the Determinants of Foreign Subsidiary's Local Embeddedness: Focusing on Korean MNCs in China". *The Journal of Asian Finance, Economics, and Business* 7.1, 205-215.
- [67] Leoni, L. (2015). "Servitization and Productization: two faces of the same coin". *RESER* 2015.
- [68] Manolopoulos, D. (2006). "The Concept of autonomy in the subsidiary management research: A conceptual investigation". *Journal of Transnational Management*, 11(4), 45–62.

- [69] Manolopoulos, D., Papanastassiou, M., and Pearce, R. (2007). "Knowledge-related competitiveness and the roles of multinationals' R&D in a peripheral European economy: Survey analysis of Greece". *Management International Review*, 47(5), 661-682.
- [70] Mari, M., and Poggesi, S. (2013). "Servicescape cues and customer behavior: a systematic literature review and research agenda". *The Service Industries Journal*, 33(2), 171-199.
- [71] McDonald F., Warhurst S. and Allen, M. (2008). "Autonomy, Embeddedness, and the Performance of Foreign Owned Subsidiaries". *Multinational Business Review*, 16(3), 73-92.
- [72] Meyer, J. W., and Rowan, B. (1977). "Institutionalized organizations: Formal structure as myth and ceremony". *American journal of sociology*, 83(2), 340-363.
- [73] Newbert, S. L. (2007). "Empirical research on the resource- based view of the firm: an assessment and suggestions for future research". *Strategic management journal*, 28(2), 121-146.
- [74] Otterbeck, L. (1981). *The management of headquarters: subsidiary relationship in multinational corporations*. Gower.
- [75] Paterson, S. and Brock, D. (2002). "The Development of Subsidiary- Management Research: Review and Theoretical Analysis". *International Business Review*, 11(2), 139-163.
- [76] Pfeffer, J. and Salancik, G.R. (1978). *The External Control of Organizations: A Resource Dependence Perspective*. Harper and Row, New York.
- [77] Pisoni, A., Onetti, A., and Fratocchi, L. (2010). "Internationalization of Italian firms in Central and Eastern European countries: Headquarters–subsidiary relationship". *Journal of East-West Business*, 16(2), 89-117.
- [78] Prahalad, C. K., and Doz, Y. L. (1987). *The multinational mission: Balancing global integration with local responsiveness*. New York, NY.
- [79] Raziq M. M., Borini F. M. and Perry M. (2014). "Subsidiary initiatives and subsidiary autonomy: Evidence from New Zealand and Brazil". *International Entrepreneurship and Management Journal*, 10(3), 589-605.
- [80] Rugman, A. M., Verbeke, A. and Yuan, W. (2011). "Re-conceptualizing Bartlett and Ghoshal's Classification of National Subsidiary Roles in the Multinational Enterprise". *Journal of Management Studies*, 48(2), 253-277.
- [81] Seus, F. (2021). "Perception Gaps in Headquarters-Subsidiary Relations". KIT Scientific Working Paper, 158.
- [82] Taggart, J. H. (1998). "Strategy shifts in MNC subsidiaries". *Strategic Management Journal*, 19(7), 663-681.
- [83] Tranfield, D., Denyer, D., and Smart, P. (2003). "Towards a methodology for developing evidence- informed management knowledge by means of systematic review". *British journal of management*, 14(3), 207-222.
- [84] Vernon, R. (1966). "International investments and international trade in the product cycle". *Quarterly Journal of Economics*, 80, 190-207.

- [85] Welge, M. K. (1982). "Planning in German multinational corporations". *International Studies of Management & Organization*, 12(1), 6-37.
- [86] White, R.E. and Poynter, T.A. (1984). "Strategies for foreign owned subsidiaries in Canada". *Business Quarterly*, 49(2), 59-69.
- [87] Young, S. and Tavares, A. (2004). "Centralisation and Autonomy: Back to the Future". *International Business Review*, 13(2), 215-237.

*\*References 1-28 are results from the SLR.*

## APPENDIX 1 – SLR: STRINGS OF RESEARCH

### EBSCO

Interface - EBSCOhost Research Databases

Search Screen - Advanced Search

Database - Business Source Complete

Search Alert: "AB ( (autonomy or centralization or decentralization) ) AND AB ( ("business group\*" or MNE\* or MNC\* or corporation\* or subsidiary\* or "parent-subsidiary\*" or holding\* or headquarter\* or "head office\*" ) ) AND AB ( (factor\* or determinant\* or variable\* or characteristic\* or measure\* or antecedent\*) ) Scholarly (Peer Reviewed) Journals; Published Date: 19800101-20191231; Publication Type: Academic Journal; Document Type: Article; Language: English AND Apply equivalent subjects on 2020-04-05 05:05 AM"

Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 19800101-20191231; Publication Type: Academic Journal; Document Type: Article; Language: English

Expanders - Apply equivalent subjects

Search modes - Boolean/Phrase

### SCOPUS

ABS ( ( autonomy OR centralization OR decentralization ) ) AND ABS ( ( "business group\*" OR mne\* OR mnc\* OR corporation\* OR subsidiary\* OR "parent-subsidiary\*" OR holding\* OR headquarter\* OR "head office\*" ) ) AND ABS ( ( factor\* OR determinant\* OR variable\* OR characteristic\* OR measure\* OR antecedent\* ) ) AND PUBYEAR > 1979 AND PUBYEAR < 2020 AND ( LIMIT-TO ( SRCTYPE , "j" ) ) AND ( LIMIT-TO ( SUBJAREA , "BUSI" ) ) AND ( LIMIT-TO ( DOCTYPE , "ar" ) ) AND ( LIMIT-TO ( LANGUAGE , "English" ) )

The asterisk at the end of a search word allows for different suffixes.

## APPENDIX 2 – AN OVERVIEW OF THE SELECTED STUDIES (part I)

Author (s)	Aim	Country	Observation period	Sample and research method	Variables
Hedlund (1981)	Evaluating the autonomy of the subsidiaries and the formality of headquarters-subsidiary relationships.	Home: Sweden; Host: various.	1976-1980	6 MNCs; 24 subsidiaries. Multi-case study.	MNC system as a whole: complexity of technology; international experience; inter-unit dependency; geographical heterogeneity; market concentration; size; degree of diversification; mode of entry on international markets. Characteristics of the subsidiary: uncertainty of subsidiary's environment; cross-shipments of goods; technology transfers from HQs to sub; technology transfers from sub to HQs; size of subsidiary (turnover); relative size of subsidiary; intensity of competition; market share; performance. Areas of uncertainty: market conditions; political conditions; supply conditions; capital markets; labour markets.
Welge (1981)	Exploring the way MNCs design the coordination intensity of HQs-subsidiary relationships.	Home: Germany; Host: France, India, US.	1976-1980	6 MNCs; 15 subsidiaries. Multi-case study.	Size (employment); size (sales); age; mode of establishment; ownership.
Garnier (1982)	It is proposed that a limited number of key variables can explain the degree of autonomy of any foreign unit.	Home: US Host: Mexico, France.	-	144 manufacturing firms. Survey.	Age of local affiliate, Method of acquisition, General policy on participation to foreign affiliates' equity, Percentage of responding affiliate's equity held by parent, Number of parent company's representatives on affiliate's board, Size of foreign affiliate, Size of multinational group, Relative size, Number of products or product lines, Market to be served, Percentage of local affiliate's products identical to parent's, Degree of integration of activities of members within group R&D budget (as of sales), Percentage of affiliate's sales going to parent, Percentage of affiliate's purchases coming from parent, Performance of affiliate (deficits), Comparative rate of return, Percentage of group's total revenues earned abroad, Number of countries in which group has affiliates, Perception of local laws on foreign investment, Perception of local government's attitude, Perception of differences in executives' attitudes and values, Perception of value of local system of education
Yunker (1983)	Shedding empirical light on multinational corporate policy formulation and accommodation for three policy	Home: US	1980-1981	52 corporations. Survey.	World sales of the corporation, number of subsidiaries, number of countries in which the company operates, foreign subsidiary ratio, foreign sales ratio, short-run profit orientation, perceived environmental variability.

	areas: subsidiary autonomy, performance evaluation and transfer pricing.				
Young, Hood and Hamill (1985)	Examining the issue of decision-making within the subsidiaries of foreign multinational enterprises (MNEs) operating in the United Kingdom.	Home: various; Host: UK.	1984	154 companies. Survey.	Nationality, percentage of ownership, subsidiary age, mode of establishment, subsidiary size, relative size of the subsidiary, industry, degree of inter-subsidiary production integration, subsidiary performance, multinationality of parent company, organizational structure of parent company
Gates and Egelhoff (1986)	Attempting to add clarity to the situation by re-testing many of the existing hypotheses with data from a recent study of centralization in 50 large US, UK and European MNCs.	Home: US, UK and EU countries. Host: Brazil and Europe.	-	50 MNCs. Multi-case study.	Company level: Size of foreign operations; size of MNC; Foreign product diversity; Product modification differences; Extent of outside ownership; Extent of foreign acquisitions; Industry; Nationality; Age of company abroad. Subsidiary level: Relative size of subsidiary; Size of subsidiary; Product change; Competitive climate change; Intracompany imports (purchases) by subsidiary; Age of subsidiary.
Kobrin (1991)	The primary concern of this paper is the structural characteristics of an industry that generate returns to transnational integration: manufacturing scale economies and technological intensity.	Home: US	1982 1986	56 manufacturing industries containing US-based firms. Archival analysis.	Integration index: Intrafirm flows - affiliate to parent; affiliate to affiliate; parent to affiliate. Determinants: technological intensity, manufacturing scale, advertising intensity and internationalization.
Picard and Boddewyn (1998)	Answering the question: who makes the standardization vs. adaptation decisions in MNCs.	Home: US Host: EU.	1973 1983 1993	78 manufacturing firms. Survey.	Company variables: size of the MNC, percentage of investments (relative size), percentage of product sold in EU which are produced in EU and ownership percentage. Environmental variables: economic recession, nationalistic feelings, national government regulations, differences in consumer incomes, differences in tastes/habits, language barriers, shortage of communication media, lack of uniform transportation facilities and regulations, differences in technical standards, different currencies, consumeristic movements, competition from EU firms.
Taggart and Hood (1999)	Evaluating the level of autonomy vested in German- and Japanese-owned manufacturing subsidiaries in the British Isles and consider how	Home: Germany, Japan. Host: British Isles.	1995	725 manufacturing affiliates. Survey.	Subsidiary age, employment level, sales, export propensity, market scope, nature of production operations at the subsidiary, proportion of outputs sent to sister subsidiaries for further processing and/or final assembly, proportion of material inputs coming from other group plants, proportion of material

	this has evolved over time.				inputs sourced in the local economy, complexity of R&D activity at the subsidiary.
Vachani (1999)	Examining the linkage between components of global diversification and subsidiary autonomy, which has been identified as a critical aspect of organization design.	Home: US	1990	63 MNCs. Survey.	Related product diversification (RDP), Unrelated product diversification (UPD), Related geographic diversification (RGD), Unrelated geographic diversification (UGD), Product division, Area division, International division, Hybrid division, Outcome (versus process).
Männik, Hannula and Varblane (2004)	Analysing the contribution of FDI to knowledge and technology transfer into five CEE economies on the choice of the subsidiaries' strategies.	Host: Estonia, Hungary, Poland, Slovakia, Slovenia.	2000-2001	433 manufacturing branches. Archival analysis.	Country, industry, firm-size and foreign ownership
Mirchandani and Lederer (2004)	Extending the prior research by testing hypotheses with variables that may predict subsidiary autonomy for information systems planning.	Home: various. Host: US.	-	55 US subsidiaries. Multi-case study.	Foreign product diversity, Product modification differences, Extent of local ownership, Subsidiary's sales expressed as a percent of parent's overall sales, Size of the subsidiary, Degree of product change in subsidiary Competitive climate change faced by subsidiary, Intracompany purchases, subsidiary age.
Fenton-O'Creevy, Gooderham and Nordhaug (2008)	Exploring determinants of subsidiary autonomy in setting HRM practices within US parented MNEs, in Europe and Australia.	Home: US Host: Ireland, Australia, Switzerland, Spain, Netherlands, France, Sweden, Denmark, Finland, Portugal, Belgium, Norway, Italy, Germany, Austria.	1999	441 foreign subsidiaries. Archival analysis.	Control variables: industry, relative size of the subsidiary, subsidiary age.
Williams and van Triest (2009)	Developing and testing a model of multinational corporation (MNC) decentralization in which the allocation of decision rights to subsidiaries is explained by aspects of both internal corporate culture as well as external national cultures.	Home: various (15) Host: various (18).	-	119 managers of subsidiaries. Survey.	Independent variables: Corporate innovativeness, Shared values, Home and host country cultures. Control variables: industry, home (US or not), size.

De Jong and Dut (2010)	Presenting a first attempt to explain how variations in the home - and host country environments, next to and on top of parent company - and subsidiary characteristics, determine variations in the autonomy of subsidiaries.	Home: Europe Host: Europe	2005	263 subsidiaries 18 MNCs. Archival analysis.	Proxy of subsidiaries autonomy based on ten dummy variables: R&D, Manufacturing, Marketing, Sales, Market scope (foreign markets), Network (subsidiary engages in network activities within the MNC), Outsourcing, Cooperation (the subsidiary cooperates with external organizations), Export-import, Subsidiary establishment (the subsidiary has its own subsidiary). Explanatory variables: strategic approach of the MNC (LME or CME countries); degree of institutional embeddedness of the subsidiary in the host country. Control variables: MNC characteristics, in particular the degree of product diversification and company size; subsidiaries characteristics, subsidiary age, economic performance, extent of ownership and subsidiary size.
Loppacher, Cagliano and Spina (2010)	Shedding some light on how key variables affect Global Supply headquarters-subsidiary control systems and their complementary behaviours across culturally similar business units.	Home: Italy Host: Mercosur area.	2003-2005	7 MNCs. Multi-case study.	Global Supply headquarters-subsidiary control systems, cultural proximity, global sourcing and purchasing strategies, globalization process evolution.
Miozzo and Yamin (2012)	Pointing to distinctive factors impinging on headquarters-subsidiary relationships in service multinationals	Home: UK Host: Argentina, Brazil, China, Korea	-	8 MNEs. Multi-case study.	development of co-ordination tools, the sector of operation and host country regulations
Aoki and Miyajima (2012)	Examining how corporate headquarters control business units, the governing of which has emerged as a vital issue as business portfolios have grown increasingly complex due to diversification, globalization, and corporate group expansion via spinoffs and mergers and acquisitions.	Home: Japan	2007	92 listed firms. Survey.	Number of directors, outside director ratio, foreign shareholders, institutional investors, average size of subsidiaries

Belizon, Gunnigle and Morley (2013)	Examining the factors affecting HRM subsidiary autonomy within multinational companies (MNCs).	Home: US, Denmark, Finland, Sweden, France, Germany, Austria, Belgium, Switzerland, Italy, The Netherlands, Japan, Australia, Canada, UK. Host: Spain.	2007-2009	242 foreign MNEs. Survey.	Typology of capitalism, global mandates, HR body, HR data reported, IT system for HR, HR shared services, Age of the subsidiary, Sector of operations, Size of the subsidiary.
Chiao and Ying (2013)	Considering the lack of empirical evidence on the subsidiary autonomy of firms from Asian developing countries, which are usually smaller in size and have limited international experience, this study investigates the antecedents of subsidiary autonomy from a network perspective.	Home: Taiwan	2002	1,473 manufacturer firms. Archival analysis.	Independent variables: Internal network range, Internal network strength, External network range, External network strength. Control variables: MNC size, MNC experience, Entry mode, Subsidiary performance, Subsidiary age, Differences of social customs and business practices, Local market competitiveness, Political and economic instability, Industry - Metal and machinery, Industry - Chemicals and plastics, Industry - Food, textile and others.
Pisoni, Fratocchi and Onetti (2013)	Shedding new light on the variables that indicate the level of autonomy of subsidiaries of internationalizing companies assessing the impact of three variables on the subsidiary's autonomy: the size; the strategic aim in the local market.	Home: Italy Host: Romania, Bulgaria, Poland, Slovak Republic, Hungary, Czech Republic, Slovenia.		72 subsidiaries. Survey.	Subsidiary size, reasons for entering foreign market - looking for new markets, reasons for entering foreign market - reduction of labour costs, country development.
Raziq, Borini, Perry and Battisti (2013)	Examining the relationship of MNE subsidiary characteristics (age and size) to subsidiary strategic and operational autonomy	Home: various. Host: New Zealand, Brazil		332 subsidiaries. Survey.	Subsidiary age, subsidiary size. Control variables: parent MNE industry, home Country environment, subsidiary entry mode, subsidiary industry, investment origin, subsidiary age and subsidiary relative size.
Schüler-Zhou and Schüller (2013)	Analysing the parent-sub subsidiary relationship of Chinese subsidiaries, taking those located in Germany as an example.	Home: China Host: Germany		45 subsidiaries. Survey.	Subsidiary: size, year of establishment, ownership, market orientation, sector and business activity, strategic resource capability, reverse knowledge transfer, local environment; Parent: size, ownership structure (State) and business activity.

Gilbert and Heinecke (2014)	Examining the factors that drive the success of multinational corporations (MNCs) in their pursuit of regional strategies	Global	96 companies. Archival analysis.	Regional management autonomy measured by: regional strategy development, regional market development, regional market coordination, regional operation administration.
Homburg and Prigge (2014)	Shedding light on subsidiaries' desire for autonomy, the authors investigate its consequences and determinants by drawing on reactance theory to develop an integrative framework focusing on marketing decision-making in subsidiaries.	Global: 29 countries	133 dyads. Survey.	Cultural characteristics: power distance; Individualism. Subsidiary characteristics: size, competence, dependence, importance and geographical distance.
Singh, Wood, Alharbi and Darwish (2016)	Exploring variations in the extent of control mechanisms, according to country of origin and organizational characteristics, in a challenging country of domicile	Home: various. Host: Saudi Arabia.	147 subsidiaries. Survey.	Four categories of dependent variables signifying level and variety of controls: 'Centralised' Controls (CC), which includes the level of autonomy in the subsidiary to decide its own strategies; 'Formal' Controls (FC), 'Output' Controls (OC), 'informal controls' (IF). Independent variables: subsidiary employment; employees worldwide; number of expatriates in subsidiary; subsidiary age; Industry; Country of the MNC; nationality of the subsidiary (Saudi or third country); ownership status of the subsidiary (majority-owned or joint venture); subsidiary function.
Liu, Luo, and Yue (2018)	Examining the determinants of allocation of decision rights between the parent company and its subsidiaries, and the economic consequence of suboptimal power structure	Home: China	16,062 firms. Archival analysis.	Parent's sales revenues, parent's operating expenses, parent's operating assets, consolidated sales revenues, consolidated operating expenses, consolidated operating assets. Control variables: size, age, financial leverage, SOE, Industry diversification. External environmental uncertainty: volatile sales pattern across time.

---

Belenzon, Hashai and Patacconi (2019)	Examining the relationship between strategic decision-making at the subsidiary level and organizational structure.	Home: UK, France, Germany, Spain, Italy, Norway, Sweden, Finland, Denmark, Ireland, Belgium, Netherlands, Switzerland, Portugal and Greece. Host: Europe and US	53,944 groups. Archival analysis.	Organizational distance; moderating aspects: same industry, family managers, same ethnicity, board interlocks, overlap affiliate name, and same geographical region.
---------------------------------------	--	--	-----------------------------------	--

---

## APPENDIX 2 – AN OVERVIEW OF THE SELECTED STUDIES (part II)

Author (s)	Contribution	Methods	Findings	Explanatory elements: names	Theory
Hedlund (1981)	Evaluating the results according to different ownership structures (wholly owned/minority joint ventures) and location (developed country/less developed country).	OLS; correlation.	Autonomous subsidiaries and informally managed HQs-subsidiary relationships explanations: some importance for factors such as the inter-unit dependency in the companies and the size of the MNCs and its subsidiaries; particularly important is the degree of integration in terms of product-flows. The latter is more powerful for operational than for strategic decisions.	Determinants	Not specified
Welge (1981)	Exploring differences with respect to coordination intensity between headquarters and subsidiaries and interpret these differences.	Correlation	Low coordination intensity of headquarters-subsidiary relations paired with internal decentralization of decisions is most likely to be correlated with above-average economic and social effectiveness.	Factors	Not specified
Garnier (1982)	Contributing to the debate concerning the division of decision-making authority between the headquarters and the various operational units.	Correlation matrix; regression.	It was found that four groups of factors—namely, degree of interchange of products, ownership, workflow integration, and size of the multinational group—are the best predictors of the degree of autonomy.	Variables Factors	Not specified
Yunker (1983)	Investigating corporate characteristics which might have an effect on the various policy dimensions.	Survey; descriptive statistics; correlation.	Corporate policy in various areas is systematically related to corporate characteristics and environment.	Variables; factors	Not specified
Young, Hood and Hamill (1985)	The paper deals both with the question of "who makes?" or "at what level?" are decisions made within the MNE; and also, with the decision-making process - the "how" of decision-making.	Survey; descriptive statistics.	The factors leading to greater centralisation were linked to subsidiary size, integration and multinationality - broadly the significance of the subsidiary and of international operations generally to the corporate whole. Greenfield facilities seemed to be more closely controlled, but again there is a link with integration; the more centralised American companies and more centralised chemical, mechanical and electrical engineering industries revealed a number of these same	Factors	Not specified

			characteristics. With multinational growth, therefore, the implication would be that centralisation would increase and this is evident from the findings.		
Gates and Egelhoff (1986)	It examines how the degree of centralization inherent in the headquarters-foreign subsidiary relationship varies in response to a variety of company-wide and subsidiary level conditions.	Correlation matrix	The relationship between centralization and various measures of company-level complexity is quite consistent across both measures and studies. The relationship between centralization and the six subsidiary-level variables produces a somewhat different picture.	Measures; variables	Contingency theory
Kobrin (1991)	Contributing to transnational integration and globalisation debate.	OLS	Technology is the primary determinant of cross-border integration and the importance of manufacturing scale has been overestimated.	Determinants	Transnational theory
Picard and Boddewyn (1998)	Investigating the factors affecting centralization in international-marketing decision-making.	t-tests; factor analysis.	The company-specific factor most linked to the decentralization of international marketing decisions is the relative weight of subsidiaries' own production in their total sales.	Factors	Not specified
Taggart and Hood (1999)	Specific attention was devoted to the linkages between level of autonomy and a range of operational and strategic variables, and to whether there is a causative relationship between the variables and level of autonomy.	Survey; OLS regression.	Subsidiaries with higher levels of autonomy were significantly more export intensive, and they were involved in much higher levels of R&D complexity than their low-autonomy counterparts. They also tended to be older and smaller, to use higher levels of production technology, and to be more locally responsive and less tightly integrated into the parent's international network.	Determinants variables.	Not specified
Vachani (1999)	This research contributes to research on multinational management by developing a theoretical framework that distinguishes between the effects of the four components of total global diversification on organizational design. It demonstrates the value of making this distinction by empirically	OLS regression model; regression.	The predicted effect of RPD in reducing subsidiary autonomy was observed to be significant for multinationals with product, international and functional division structures but not for multinationals with area and hybrid structures. Related geographic diversification was significant in raising autonomy in product and area division structures. UGD had the effect of reducing subsidiary autonomy as hypothesized.	Components; measures; variables.	Information-processing theory

	establishing the effect of the four components of TGD on an important aspect of multinational control, subsidiary autonomy.				
Männik, Hannula and Varblane (2004)	The task of the current paper is to bring out the distinctions of the autonomy across business functions by country, industry sector, firm size and foreign ownership; then to make the generalisations of different subsidiary types.	Principal component factor analysis, ANOVA and MANOVA.	Unequivocal for all the Countries Subsidiaries from the more developed CEE countries had the highest scores for the autonomy, especially in terms of management and financial autonomy. Minority foreign owned subsidiaries are more autonomous than majority owned, even taken into account all other variables. Not unequivocal More productive manufacturing industries have more autonomous subsidiaries More autonomous subsidiaries exist among large firms.	Variables	Not specified
Mirchandani and Lederer (2004)	The current study has extended the research on decision-making autonomy to information systems planning autonomy.	Pearson correlations.	The study found support for the hypothesis that the percentage of intracompany purchases correlated negatively with IS planning autonomy (H8). Also at a statistically significant level, it contradicted the hypotheses that foreign product diversity (H1), extent of local ownership (H3), and age of the subsidiary (H9) correlate positively with IS planning autonomy.	Characteristics	Corporate governance theory Agency theory

Fenton-O'Creevy, Gooderham and Nordhaug (2008)	Examining the effects of the strategic role of the subsidiary and the institutional environment in which the subsidiary is located, in relation to the degree of centralization of control of HRM policies imposed by corporate headquarters.	Centralized control index; Negative binomial regression.	Findings indicate both strategic and institutional context to be important determinants of subsidiary autonomy. The strongest determinant of subsidiary autonomy in regard to HRM is strategic, in the sense of whether the subsidiary is serving a purely domestic market or whether it is serving international markets. Subsidiaries with a domestic market orientation have a significantly greater measure of local HRM autonomy than those with international market responsibilities. Findings also indicate that the institutional location of the subsidiary and the degree to which it confronts labour unions are significant determinants of subsidiaries' HRM autonomy.	Determinants	Institutional theory
Williams and van Triest (2009)	We propose and test a new model of MNC decentralization, one based on management control theory applied in an international context.	Correlation regression models	US MNCs tend to be more centralized in our sample. Being in a services industry is likely to produce more decentralization.	Factors Determinants	Management control theory
De Jong and Dut (2010)	Our results emphasize that the institutional environment in combination with parent-company and subsidiary characteristics simultaneously determine the autonomy of subsidiaries. Although individual characteristics have been addressed elsewhere, ours is one of the first that explicitly focuses on the institutional environment and that offers an integrative perspective of subsidiary autonomy.	Exploratory factor analysis and cluster studies; logit and probit models; negative binomial regression.	MNCs located in CMEs will grant more autonomy to their subsidiaries than MNCs located in LMEs. The degree of institutional embeddedness of subsidiaries in the host-country environment negatively affects the autonomy level of the subsidiaries granted by an MNC.	Variables Determinants	Institutional theory
Loppacher, Cagliano and Spina (2010)	Enabling better understanding of the impact of and interactions between key driving factors in global supply headquarters-subsidiary control systems in cases of strong cultural similarities.	Case study	Although cultural similarities strongly influence MNCs' GS headquarters-subsidiary control systems, other factors, such as purchasing and globalization sourcing strategy centralization and globalization process evolution, lead	Variables	Not specified

companies to implement complementary formal control systems that are consistent with the sharply personalized profile set by cultural proximity

Miozzo and Yamin (2012)	Our contribution is a conceptual framework that identifies the particular determinants of headquarters-subsidiary relationships in service multinationals	Case study	A first determinant of headquarters-subsidiary relationships is that globalisation is triggering greater subsidiary integration in service multinationals through the application of corporate practices and global sourcing, reinforcing central co-ordination. Headquarters-subsidiary relationships, however, are strongly contingent on two additional set of determinants, namely, the characteristics of the service industry and host country regulations in which the multinational operates.	Determinants	Not specified
Aoki and Miyajima (2012)	To examine the characteristics of the new decentralized organizational arrangements, the methods that company headquarters uses to control business units, both in-house divisions and wholly owned subsidiaries, and the potential costs associated with new decentralized organizations.	OLS	Governance of decentralized business units was clearly different for internal organizations and subsidiaries. The granting of corporate status to an internal business unit via spinoff had real consequences that could undermine strategic objectives.	Variables	Agency theory
Belizon, Gunnigle and Morley (2013)	The identification of those factors influencing the extent of local autonomy over HR practices in foreign-owned MNCs in Spain.	Structural equation model	Lower levels of HR subsidiary autonomy have been found in MNCs coming from countries with more flexible labour market regimes. Higher levels of HR subsidiary autonomy have been found in the MNCs originating in countries more similar to Spain regulation wise	Factors Determinants	Institutional theory
Chiao and Ying (2013)	Considering a subsidiary's internal and external networks simultaneously, this study intends to explore how internal and external range and strength, including a subsidiary's technology, raw	Regression	External network range and strength have positive effects on subsidiary autonomy. Conversely, the range and the strength of internal network affect subsidiary autonomy negatively.	Antecedents	Business network theory

	material and component suppliers, and distribution networks, affect the autonomy of a subsidiary.				
Pisoni, Fracocchi and Onetti (2013)	This paper aims to contribute to research on the headquarter-subsidary relationship by analysing variables influencing subsidiaries' autonomy.	Spearman's rank correlation coefficients	Which regarded the relationship between subsidiary autonomy and its size in terms of number of employees, we unexpectedly found a negative correlation that differed significantly from 0. Subsidiaries looking for penetrating the local market are generally more autonomous than the ones pursuing cost-cutting strategies. Autonomy reflects local country characteristics, but not the economic development.	Variables	Not specified
Raziq, Borini, Perry and Battisti (2013)	The study contributes to the theory of subsidiary characteristics and their association with subsidiary strategic or operational autonomy and to the empirical evidence of MNE subsidiaries in Brazil and New Zealand where there is comparatively little prior evidence examining the significance of subsidiary autonomy.	Regression	It is found that subsidiary age and size do not affect subsidiary strategic autonomy, but subsidiary size may affect subsidiary operational autonomy. It is concluded that subsidiary size affects subsidiary operational autonomy if the subsidiary has as local market focus.	Characteristics	Resource dependence theory
Schüler-Zhou and Schüller (2013)	This study uses two different theoretical perspectives to explain the parent-subsidary relationship within Chinese MNCs – namely, institutional theory and resource-dependence theory.	Multiple regression	State ownership is found to be negatively related to decision-making autonomy. Positive relationship between reliance on a subsidiary and level of autonomy. This study also points out the important role of subsidiary age, subsidiary ownership and a subsidiary's market orientation in determining the level of subsidiary autonomy.	Factors Variables	Institutional theory Resource-dependence theory
Gilbert and Heinecke (2014)	Exploring the interactions between regional success factors and MNC performance based on a longitudinal study that includes both primary and secondary data on a large sample of Fortune Global 500	Structural equation modelling	Low degrees of regional management autonomy and high levels of regional product/service adaptation are appropriate for MNCs to be regionally successful.	Factors	Contingency theory

firms.					
Homburg and Prigge (2014)	Despite the acknowledged relevance of a subsidiary's desire for autonomy, its nature is unclear. This ambiguity is particularly important because, though studies have investigated the role of subsidiaries' de facto autonomy, they have often neglected to examine the subsidiary's desire for autonomy. Our study contributes to international marketing research.	Multifactorial confirmatory factor analysis model	The results show that the head-quarters' control mechanisms for marketing decision-making (in terms of centralization) and the relevance of the marketing decision-making to the subsidiary (in terms of importance) strongly amplify the subsidiary's desire for autonomy. By contrast, the headquarters' competence in marketing decision-making significantly reduces a subsidiary's resistance to control and thus weakens its desire for autonomy.	Determinants	Reactance theory
Singh, Wood, Alharbi and Darwish (2016)	The relationship between HQ and subsidiaries, and the degree of autonomy accorded to the latter is a very mature area of research. However, this is one of few studies of this nature conducted for the region of Middle East – and the only one we are aware of for Saudi Arabia – and sheds new light on the impact of contextual circumstances on how closely firms monitor their subsidiaries.	Regression	MNEs from highly financialized Liberal Market Economies (LMEs) will be associated with a greater reliance on formalized control mechanisms. MNE subsidiaries employing large numbers of domestic managerial staff are more likely to be centralized. The presence of third country managers has a negative influence on all types of controls; in other words, their presence leads to a reduction in the quantum of control exercised by the HQ over its subsidiary. The larger the size of the parent and subsidiary, the greater the degree of control exercised by the parent. The larger the size of the parent the greater the control exerted on its subsidiaries by all four categories of controls.	Variables	Agency theory

Liu, Luo, and Yue (2018)	By providing empirical evidence based on a large sample of group companies, we shed light on how decision rights should be allocated within the group company. Making use of China's double disclosure, we develop a novel proxy for the allocation of decision rights between a parent company and its subsidiary. Our study extends this line of research and documents the relation between internal information and power structure.	Decentralization index and regression model	Groups operating in more uncertain business environments tend to be decentralized, i.e., they are more likely to assign decision rights to the subsidiaries due to the demand for specific knowledge for decision-making. Groups with high-quality internal information prefer a centralized structure because the effective communication within the group can facilitate decision-making by the parent company. The evidence strongly supports the prediction that the power structure within a group is significantly affected by both external and internal environments	Determinants	Agency theory
Belenzon, Hashai and Pataconi (2019)	Providing a framework for understanding how managerial attention is distributed in corporate groups: specifically, we propose that "organizational distance"—the number of intermediate subsidiaries separating a focal subsidiary from headquarters—is a useful construct to gauge the level of strategic autonomy that the focal subsidiary will enjoy.	Regression; correlation.	Organizational distance is positively related to the perceived level of autonomy that subsidiary managers enjoy. Subsidiaries are more likely to exhibit managerial practices that support autonomy and decentralized decision-making as organizational distance increases. Differences in responsiveness to changing industry conditions between subsidiaries and matched standalone firms decline with organizational distance. Organizational distance and independent survey measures of subsidiary autonomy are strongly positively correlated.	Factors	Attention-based view of the firm

### APPENDIX 3 – GROUPING THE VARIABLES

<p><b>Age</b></p> <p>Age of company abroad</p> <p>Age of local affiliate</p> <p>Age of subsidiary</p> <p>Age of the subsidiary</p> <p>Subsidiary age</p> <p>Age</p> <p>Year of establishment</p> <p><b>Size</b></p> <p>Average size of subsidiaries</p> <p>Company size</p> <p>Consolidated operating asset</p> <p>Consolidated operating expenses</p> <p>Consolidated sales revenues</p> <p>Employees worldwide</p> <p>Employment level</p> <p>Firm-size</p> <p>Foreign sales ratio</p> <p>Foreign subsidiary ratio</p> <p>MNC size</p> <p>Number of subsidiaries</p> <p>Parent size</p> <p>Parent's operating assets</p> <p>Parent's operating expenses</p> <p>Parent's sales revenues</p> <p>Percentage of investments (relative size)</p> <p>Relative size</p> <p>Relative size of the subsidiary</p> <p>Sales</p> <p>Sales (dummy)</p> <p>Size</p> <p>Size (employment)</p> <p>Size (sales)</p> <p>Size of foreign affiliate</p> <p>Size of foreign operations</p> <p>Size of MNC</p> <p>Size of multinational group</p> <p>Size of subsidiary</p> <p>Size of subsidiary (turnover)</p> <p>Size of the MNC</p> <p>Size of the subsidiary</p>	<p><b>Geographical aspects</b></p> <p>Geographical distance</p> <p>MNC geographical heterogeneity</p> <p>Number of countries in which group has affiliates</p> <p>Number of countries in which the company operates</p> <p>Number of expatriates in subsidiary</p> <p>Organizational distance</p> <p>Percentage of group's total revenues earned abroad</p> <p>Percentage of product sold in EU which are produced in EU</p> <p>Regional market coordination</p> <p>Regional market development</p> <p>Regional operation administration</p> <p>Regional strategy development</p> <p>Related geographic diversification</p> <p>Same geographical region</p> <p>Unrelated geographic diversification</p> <p><b>External environment</b></p> <p>Capital markets</p> <p>Competition from EU firms</p> <p>Competitive climate change</p> <p>Competitive climate change faced by subsidiary</p> <p>Consumeristic movements</p> <p>Cooperation (the subsidiary cooperates with external organizations) (dummy)</p> <p>Country development</p> <p>Cultural - individualism</p> <p>Cultural - power distance</p> <p>Cultural proximity</p> <p>Degree of institutional embeddedness of the subsidiary in the host country.</p> <p>Differences in consumer incomes</p> <p>Differences in tastes/habits</p> <p>Differences in technical standards</p> <p>Differences of social customs and business practices</p> <p>Different currencies</p> <p>Economic recession</p> <p>External network range</p> <p>External network strength</p> <p>Home and host country cultures</p> <p>Home Country environment</p> <p>Host country regulations</p> <p>Labour markets</p> <p>Lack of uniform transportation facilities and regulations</p>
---	--

Subsidiary employment	Language barriers
Subsidiary relative size	Local environment
Subsidiary size	Local market competitiveness
Subsidiary's sales expressed as a percent of parent's overall sales	Market conditions
World sales of the corporation	National government regulations
	Nationalistic feelings
<b>Industry</b>	Perceived environmental variability
Industry	Perception of differences in executives' attitudes and values
Nature of production operations at the subsidiary	Perception of local government's attitude
Parent business activity	Perception of local laws on foreign investment
Parent MNE industry	Perception of value of local system of education
Sector and business activity	Political and economic instability
Sector of operations	Political conditions
Subsidiary industry	Same ethnicity
The sector of operation	Shared values
	Shortage of communication media
<b>Entry mode</b>	Supply conditions
Entry mode	Typology of capitalism
Method of acquisition	Uncertainty of subsidiary's environment
Mode of establishment	
Reasons for entering foreign market - looking for new markets	<b>Others for subsidiary</b>
Reasons for entering foreign market - reduction of labour costs	Competence
Subsidiary entry mode	Complexity of R&D activity at the subsidiary
	Economic performance
<b>Nationality of the parent and ownership</b>	Importance
Country	Market orientation
Country of the MNC	Nationality of the subsidiary (Saudi or third country)
Home (US or not)	Overlap affiliate name
Multinationality of parent company	Performance of affiliate (deficits)
Nationality	Subsidiary establishment (the subsidiary has its own subsidiary) (dummy)
	Subsidiary function
Extent of local ownership	Subsidiary intensity of competition
Extent of outside ownership	Subsidiary market share
Extent of ownership	Subsidiary performance
Foreign ownership	
Foreign shareholders	<b>Others for MNC</b>
Institutional investors	Advertising intensity
Ownership	Comparative rate of return
Ownership percentage	Corporate innovativeness
Ownership status of the subsidiary (majority-owned or joint venture)	Cross-shipments of goods
Ownership structure	Export propensity
Percentage of ownership	Export-import (dummy)
	Extent of foreign acquisitions

<p><b>Control and coordination tools</b></p> <p>Board interlocks</p> <p>Family managers</p> <p>Number of directors</p> <p>Number of parent company's representatives on affiliate's board</p> <p>Outside director ratio</p> <p>Development of co-ordination tools</p> <p>General policy on participation to foreign affiliates' equity</p> <p>Global mandates</p> <p>Global Supply headquarters-subsidiary control systems</p> <p>Organizational structure of parent company</p> <p>Percentage of responding affiliate's equity held by parent</p> <p><b>Internal embeddedness</b></p> <p>Degree of integration of activities of members within group R&amp;D budget (as of sales)</p> <p>Degree of inter-subsidiary production integration</p> <p>Dependence</p> <p>Internal network range</p> <p>Internal network strength</p> <p>Intracompany imports (purchases) by subsidiary</p> <p>Intracompany purchases</p> <p>Intrafirm flows - affiliate to affiliate</p> <p>Intrafirm flows - affiliate to parent</p> <p>Intrafirm flows - parent to affiliate</p> <p>MNC inter-unit dependency</p> <p>Network (subsidiary engages in network activities within the MNC) (dummy)</p> <p>Percentage of affiliate's purchases coming from parent</p> <p>Percentage of affiliate's sales going to parent</p> <p>Proportion of material inputs coming from other group plants</p> <p>Proportion of material inputs sourced in the local economy</p> <p>Proportion of outputs sent to sister subsidiaries for further processing and/or final assembly</p> <p>Reverse knowledge transfer</p> <p>Technology transfers from HQs to sub</p> <p>Technology transfers from sub to HQs</p> <p><b>Diversification</b></p> <p>Area division</p> <p>Degree of product change in subsidiary</p> <p>Foreign product diversity</p> <p>Hybrid division</p> <p>International division</p>	<p>Global sourcing and purchasing strategies</p> <p>Globalization process evolution</p> <p>Internationalization</p> <p>Investment origin</p> <p>Manufacturing (dummy)</p> <p>Manufacturing scale</p> <p>Market scope (dummy)</p> <p>Marketing (dummy)</p> <p>MNC complexity of technology</p> <p>MNC experience</p> <p>MNC international experience</p> <p>MNC market concentration</p> <p>Outcome (versus process)</p> <p>Outsourcing (dummy)</p> <p>R&amp;D (dummy)</p> <p>Short-run profit orientation</p> <p>Strategic approach of the MNC (LME or CME countries)</p> <p>Strategic resource capability</p> <p>Technological intensity</p> <p><b>Specific for HR</b></p> <p><i>HR body</i></p> <p><i>HR data reported</i></p> <p><i>HR shared services</i></p> <p><i>IT system for HR</i></p>
--	---

Market scope (foreign markets)
Market to be served
MNC degree of diversification
MNC product diversification
Number of products or product lines
Percentage of local affiliate's products identical to parent's
Product change
Product division
Product modification differences
Related product diversification
Unrelated product diversification