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The Influence of ICT Advancements on the Field of International Business

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List of Abbreviations

ATS	Administrative and Technical Services
B2B	Business-to-Business
BS	Business Service
FDI	Foreign Direct Investment
GPN	Global Production Network
GSC	Global Supply Chain
GVC	Global Value Chain
IB	International Business
IBE	International Business Economics
ICT	Information and Communication Technology
IoT	Internet of Things
M&A	Mergers & Acquisitions
MNE	Multinational Enterprise
REA	Remote Electronic Access
SME	Small- and Medium-sized Enterprise
TC	Technological Capability

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Executive Summary

This study provides an answer to the question **"What is the influence of ICT improvements on the field of International Business?**" by focusing on three key dimensions of International Business and answering the following sub-questions:

1. What shifts have the ICT advances triggered in the structure of Global Value Chains?
2. How have the FDI motives of MNEs changed?
3. How do the new global patterns affect the validity of the eclectic paradigm?

The paper starts with a Philosophy of Science chapter, where the worldview of its authors is presented. Moreover, the section addresses the scientific paradigm in which they operate, as their presumptions about reality, knowledge, human nature and methodology have a deep impact on this research. Identifying themselves as 'moderate objectivists', the authors adopt the analytical view of methodology and see the world as 'Mutually dependent field of information' (Arbnor & Bjerke 2009).

In order to find the answers to the research questions, an in-depth **narrative literature review** based on **secondary data collection** is performed. Considering that this study focuses on **three dimensions of International Business** (GVCs, FDI motives and eclectic paradigm), **three search streams** are used. By employing appropriate search engines and techniques, we have gathered **more than 60 scientific articles**, which have provided relevant information for the subsequent analysis and discussion. The changes that the advent of ICT has caused in the nature **of GVCs**, as well as **the shifting patterns of FDI** motives and **the influence on the eclectic paradigm** have been presented and analyzed. Whilst ICT was only one of the factors that have shaped global economy in the previous decades, its outstanding impact can be observed in every unit and activity of MNEs.

T**he Analysis chapter** identifies that the **main contribution** of ICT has been the **cost reduction in various activities** of the firm, which allowed for an **easier and broader geographical dispersion** of MNE activities, favoring outsourcing and offshoring. In turn, this has led to a **shift of production** from the developed economies of the North to the emerging economies of the South.

Consequently, the **current internationalization drivers are different** than they used to be in the previous decades. The **information intensiveness** of the industry in which MNEs operate is the differentiating factor, which can determine the choice of expansion method. Thus, **a shift from the market and resource seeking motives to the efficiency and strategic asset seeking motivations** is identified. However, it is suggested that the four traditional FDI motivations should only be seen as a set of guiding principles and not an exhaustive list of potential FDI motivations.

The analysis of the impact of ICT on the **eclectic paradigm** has shown that ICT has changed the balance between its three components, with a **major impact** on the category of **Locational advantages**. It is shown that ICT allows MNEs to **access** at low costs previously **distant geographical locations**, whilst also **easing** their **management**. Furthermore, the increasing trend of offshoring and outsourcing **decreases** the extent of **Internalization advantages**. **Ownership advantages** are presumed to be **increasing their importance**, especially in the information intensive industries, where knowledge based assets are of key importance. However, also the less information intensive industries appear to be affected.

Using the impacts identified in the Analysis, a **series of propositions** regarding the influence of ICT on the field of International Business are presented. The **geopolitical and institutional influences** are considered, alongside the increased growth of **information intensiveness** and an increasing importance of **Knowledge-Based Capital**. The growing role of **networks and geographical clusters** is also emphasized. However, a special attention is given to the **emergence** and potential **effect of ICT based disruptive technologies**, as these could be revolutionary for the field of International Business. The elaborated propositions should be seen as a guide to future research in this domain.

Furthermore, the practical implications of the paper have been considered and several managerial suggestions that should prepare MNEs for the future of International Business have been presented in the Discussion chapter.

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1 Introduction

Although the current reality, characterized by internationally operating corporations and the geographical division of labour, is often regarded to be historically unprecedented, the exchange of various *"goods over long distances goes back well before any written records"* (Pomeranz & Topik, 2006:3). The international trade has been a major driver of development for most civilizations, present or ancient. The Asian and South American nations, as well as the European empires benefited from engaging in cross-border interactions with their neighbours in various ways. For instance, complex systems of international supply chains were of key importance for the war efforts. The Arab soldiers, who stood against the Crusaders several centuries ago, often fought with steel swords, which were made in India from iron mined in Eastern Africa (Pomeranz & Topik, 2006:17). When the Indian states got in war in the 17th century, they needed to import large quantities of Persian horses and European cannons, since they were not able to obtain them internally. Furthermore, the agricultural migrants from the Chinese Fujian region used to be renowned for their sugar-growing skills and they played an essential role in bringing this agricultural technique to places such as Cuba or Hawaii (Pomeranz & Topik, 2006:10-33). Similar claims could be made about the trading systems of the Venetian state or Roman and British empires (Casson, 2003:12).

These examples prove that the International Business interactions and complex supply chains are not an entirely new phenomenon. However, when we compare the preceding historical periods to the present times, it must be acknowledged that the nature of the international trade is significantly different. There can be observed a notable change of the firm-level characteristics as well as an increased frequency of cross-border interactions, which results from the emergence of MNEs (Lévy, 2009:244). This transformation of International Business, in turn, leads to profound changes in the approach of individual countries towards the economic and social policies (Gereffi et al., 2005:81). It can be argued that this situation originates in the technological advancements that revolutionised IB and triggered globalization of the world economy (Pomeranz & Topik, 2006).

The most significant technological progress in the human history followed the industrial revolution in the 18th century (Pomeranz & Topik, 2006:221-226). Since the beginning of the industrial revolution, there had been certain technologies that have had a particularly significant impact on the nature of International Business and that entirely transformed the way the world economy functions. In line with

Alcácer et al. (2016:499), we observe the following three sequential stages that capitalism went through after the industrial revolution:

1. Machinery-based and trade-based capitalism (18th-19th century)
2. Science-based and managerially coordinated capitalism (19th-20th century)
3. Information-based and internationally networked capitalism (20th-21st century)

While the first stage was driven mainly by the invention of steam engine and the emergence of sweatshops, the second stage is connected primarily with mass production and electrification. During these two stages, the rapidly proceeding industrialisation benefited mainly countries in the Northern hemisphere, which were able to grow their innovative capacities by a large-scale industrial production and an increased level of specialization (Elms & Low, 2013). This stage was followed by the third revolutionary period in the industrial history, initiated by the arrival of computers and the first steps towards digitalisation of business. Each of these historic stages affected the conduct of IB profoundly and forced companies to transform in order to survive in the notably different business environment (Alcácer et al., 2016).

The current situation in the field of International Business is characterised by frequent cross border interactions and complex Global Value Chains. This development had been enabled by the positive geopolitical situation and by the falling barriers of International Trade that have stimulated the creation of more complex and further reaching Global Value Chains (Dunning, 1998a). These changes and the increased importance of innovation (Lee et al., 2012) have substantially boosted the globalisation of economy. Moreover, companies around the world continue developing more sophisticated ICT technologies, which increase the importance of digital economy and escalate the speed of innovation even further (Lee et al., 2012). Due to these characteristics, some scholars even suggest that the changes caused by the advancing ICT signal the arrival of the 'Fourth Industrial Revolution' (Schwab, 2016). This development could have a far-reaching impact not only on the way the MNEs structure their Global Value Chains but also on their drivers to engage in FDIs. This might, in turn, affect the validity of the traditional IB theories and require them to be redefined.

2 Problem Formulation

Regardless of how we choose to call the historic period that we are currently living in, be it the Fourth Industrial Revolution or not, it is characterised by significant and rapid changes related to scientific advances. The Information and Communication Technologies (ICT) are becoming involved in increasingly more spheres of the private and working lives (Pon et al., 2015:21). The ability to capture and process an increasing amount of information related to the everyday life makes it possible to create smart technologies that manage significantly more complex matters than in the decades before (Kushida et al., 2015:6). There are some notable benefits related to the growing information intensiveness of the world. For instance, humans and companies can manage their resources more efficiently thanks to the new technologies, which enable to save scarce resources and fuel further economic growth (OECD, 2015a:11-14). On the other hand, they are also connected with certain challenges. As the status quo keeps changing towards a more information-intensive world, different capabilities are needed from both firms and individual employees (Timmer et al., 2014:100; Gereffi, 2014:18).

Historically, all major technologies progressed through two key phases (Alcácer et al., 2016). Whilst the first phase is usually characterised by a rapid but relatively isolated growth, the second phase leads to a diffusion of the new technologies and methods across all industries. Prescient, De la Torre & Moxon argued in 2001 that *"while the ICTs will have a fundamental impact on the world of International Business, they will not change 'everything overnight'"* (De la Torre & Moxon 2001:629). However, almost two decades later, we are arriving into the *"phase in which every industry is affected by ICT"* in a major and highly transformative way (Alcácer et al., 2016:500) and we observe that the ICTs keep improving at a rapid pace.

That leads us to believe that the recent ICT advances signalize a major shift of paradigm in the field of International Business (IB). Although there already exists a plentitude of studies that research the impact of ICT on various International Business practices, we could not find any paper that would debate the topic in an extensive and holistic manner. Thus, this has led us to the following research question:

What is the influence of ICT improvements on the field of International Business?

More specifically, we are going to focus on three key dimensions, which represent, inter alia, fundamental elements of International Business. These regard the way MNEs organise and run their international activities (1), the motivations that drive firms to expand abroad (2) and the question of the validity of traditional IB theories (3).

Thus, the first major topic this study is going to deal with is the change in the key characteristics of Global Value Chains (GVCs) caused by the ICT. The GVCs emerged already several decades ago, when MNEs decided to expand to foreign countries and to relocate various stages of their value chains abroad (De Backer & Miroudot 2013:7). The ICT improvements, and the inception of the Internet in particular, played an essential role in enabling and facilitating the coordination of these activities (Laplume et al., 2016:601). And whilst the positive impact of the improving ICT on the emergence and the subsequent expansion of GVCs is widely accepted in the scientific literature (e.g. Buckley & Strange, 2015; Lévy, 2009), the description of the concrete transformations that ICT initiated is fragmented in the scientific literature. Consequently, we aim to synthesise the literature and provide a detailed description of the changes in how MNEs shape themselves internationally.

Another major issue that this study is going to address, is the influence of ICT on the motivations of MNEs to engage in Foreign Direct Investments (FDIs). The way MNEs currently approach their GVCs is expected to have a determining influence on their motivations to engage in FDIs. This part will be based on the classical framework of four 'seeking' motives by Dunning (1998a). This model comprises four categories of motives that can drive companies to make a direct investment abroad - resource seeking, market seeking, efficiency seeking and strategic assets seeking. We aim to investigate which of these motives currently drive the cross-border activity of MNEs and whether this framework is sufficient for describing the current situation or if it should be extended.

Finally, after considering the influence of ICT advances on the GVCs and the FDI motives, the effect of these changes on the eclectic paradigm will be addressed. The eclectic paradigm is a framework that was first introduced by John Dunning in the 1970s and gradually evolved into one of the most widely accepted ways to explain the cross-border activity of MNEs (Eden & Dai, 2010:13). It is one of the most encompassing IB frameworks and, thus, it will be used to demonstrate the effect of ICT on the traditional IB theories. We aim to evaluate whether this influence is of a revolutionary nature, which would threaten the existence of the framework and lead to the need to formulate a new one.

Thus, these are the sub-questions this paper aims to answer:

1. **What shifts have the ICT advances triggered in the structure of Global Value Chains?**
2. **How have the FDI motives of MNEs changed?**
3. **How do the new global patterns affect the validity of the eclectic paradigm?**

3 Research Outline

This section will provide a brief overview of the procedures followed while answering the research questions. When all the steps this paper will go through will be described, a graphical version of the project design will follow.

The paper will start with the *Philosophy of Science* chapter, where the main traits of the philosophy of its authors will be discussed. The purpose of this section is to inform the reader about their worldview and discuss the possible impact of these ultimate presumptions about reality, knowledge, human nature and methodology on this research. At the end of the chapter, the scientific paradigm that the authors could be placed to will be identified.

The following chapter is going to discuss the issue of *Methodology* more into depth. It will describe the concrete methodological procedures and methodics that are to be followed throughout the project and introduce the specific steps that will be followed in order to answer the research questions.

The *Theoretical Background* chapter shall address the most notable concepts, theories and models that the paper is going to deal with. This section is going to provide an introduction to each of these issues, show their development over the course of time, discuss their critics and finally, explain our stand towards them.

The *Literature Review* chapter will go through the scientific journals and discuss the most important papers in the fields this study is researching. It will examine whether the scientific community has already noticed the issues that this paper is addressing and if so, it will provide a summary of such scientific articles.

The next chapter, *Analysis*, will build on the *Literature Review* and debate the research questions of this paper. This section is going to be the key part of the study and, thus, it will be divided into three parts according to the three research questions.

The *Discussion* chapter will consider the practical implications of the paper and present a series of propositions regarding the influence of ICT on the field of International Business.

Finally, a brief and clear answer to the main research questions will be provided in the *Conclusion* of the paper.

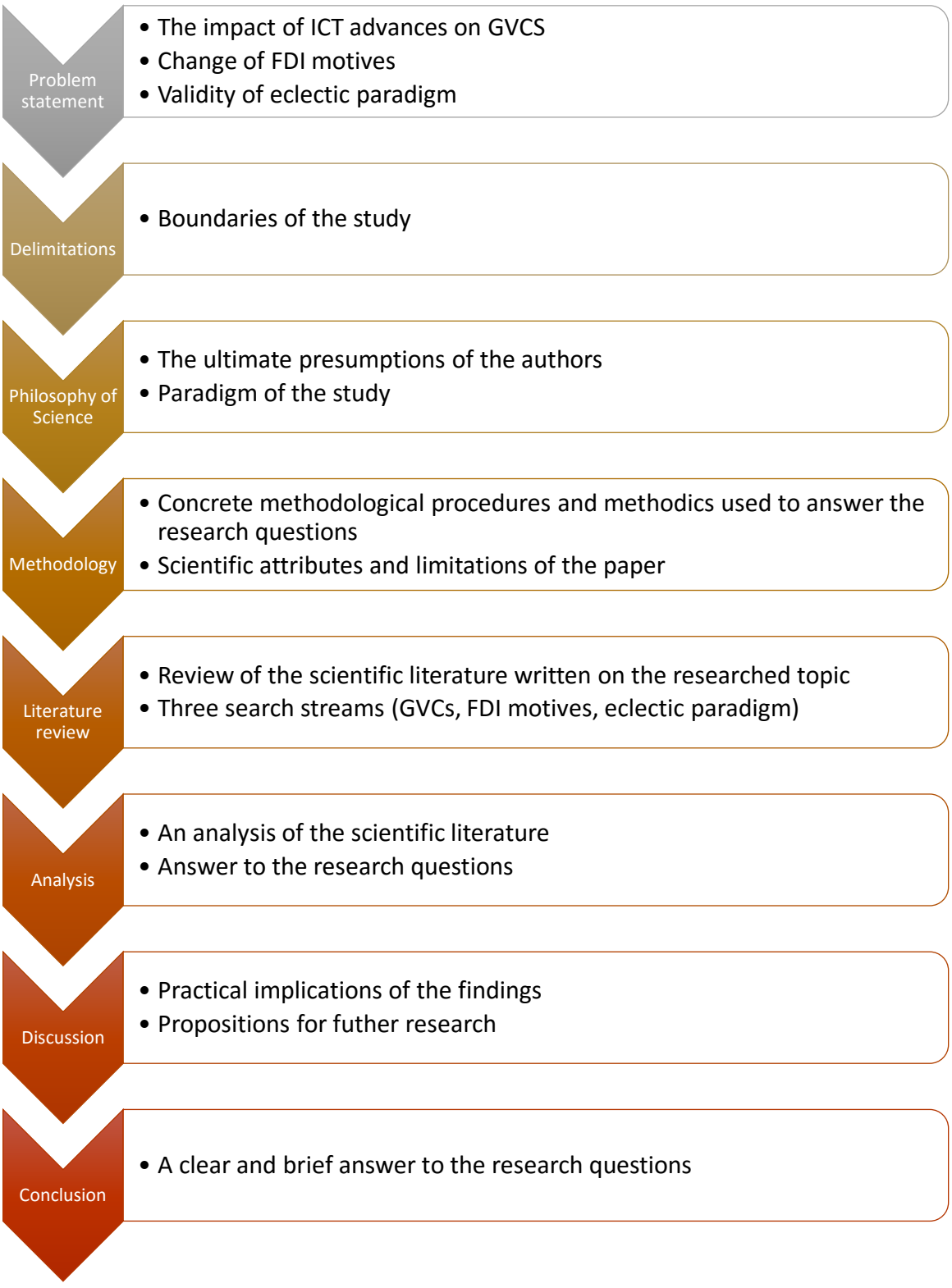

Figure 1 Research Outline

4 Delimitations

We observe that the scientific literature looks on the topics of GVCs and FDIs from two most common perspectives: from the country perspective and from the perspective of Multinational Enterprises. Despite the fact that some sections of this study discuss the factors set by the former, its primary focus will be the impact of ICT improvements on the structure and internationalization motives of MNEs. Moreover, it could be distinguished between the perspective of a developed country based and an emerging country based MNE. Such an analysis would uncover certain characteristics which are pertinent to one but not the other. However, the scope of this study is not to describe the differences between these two but to show the changes that ICT has brought to the field of International Business.

Furthermore, although the study is expected to present managerial implications as well as a series of propositions for the scientific community, these will only regard the short-term development of the field. As the Information and Communication Technologies are progressing rapidly and there is a large number of other variables (such as the institutional influences), a long-term projection of the future is unlikely to be precise. Thus, we ask the future readers of our study to approach it critically and pay special attention to the reasoning on which the conclusions are built.

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5 Philosophy of Science

This chapter is going deal with the underlying assumptions of the researchers and describe the connection between their personal philosophy and the researched topic. This will be done in a structured way, starting with a discussion of the concept of scientific paradigm. Then we will further elaborate on the philosophical categories of ontology, epistemology, human nature and methodology, which we consider to characterize every paradigm. Finally, based on the arguments shown in the previous discussion and our personal views, the choice of our paradigm will be presented.

The argumentation in this section is going to be based primarily on Burrell & Morgan (1979), Morgan & Smircich (1980) and Arbnor & Bjerke (2009), who belong among the most distinctive scholars in the field of Theory of Science. We aim to take also their root assumptions into consideration (most notably their views on the nature of social sciences) and make them an important part of the discussion.

5.1 Definition of Paradigm

This section will present a discussion of the term 'paradigm'. The understanding of this concept is not unified in the scientific community and we will, therefore, examine various explanations before we state what definition we identify with.

Burrell & Morgan (1979:23) define a paradigm as the *"meta-theoretical assumptions which underwrite the frame of reference, mode of theorising and modus operandi of the social theorist"*. They claim there are four key paradigms and each of them *"generates its own distinctive analyses of social life"* and is defined by certain ontological, epistemological, human nature and methodological assumptions (Burrell & Morgan, 1979:vii). The figure below demonstrates the different types of such assumptions.

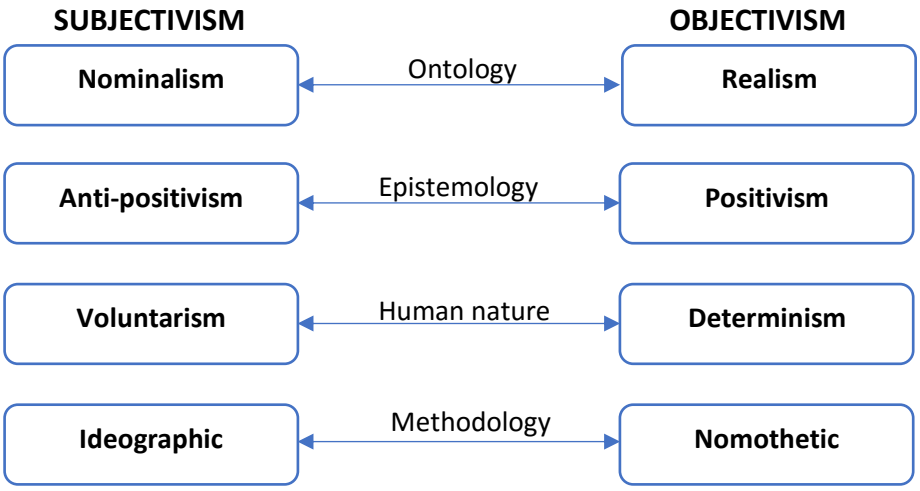

Figure 2 Scheme of Assumptions About the Nature of Social Science (adaptation of Burrell & Morgan, 1979:3)

Morgan and Smircich (1980) build on the ideas of Burrell & Morgan (1979) and, consequently, their understanding of the term 'paradigm' is very similar. Same as the latter, Morgan and Smircich work with the ideas of Kuhn's evolutionary theory, which suggest that paradigms are defined by a set of assumptions about ontology, epistemology, human nature and methodology. Moreover, paradigms are perceived as mutually exclusive, which means that an author can only work within one paradigm, not more of them at the same time.

According to Arbnor & Bjerke (2009:16), a paradigm *"consists of a conception of reality (vision of the world), a conception of science, a scientific ideal and ethical/aesthetical aspects"*. They also suggest that any change of the view on whichever of these components shifts the researcher into another paradigm. Arbnor and Bjerke (2009) base their understanding of the term 'paradigm' on Törnebohm's theory that social sciences, as opposed to the natural sciences, do not develop through revolutionary but rather evolutionary. They argue that social sciences are quite abstract in their nature and it is usually not possible to use any exact methods to prove that one theory is right and the other is not. Thus, the old paradigms exist alongside of the new ones and it is up to the philosophical beliefs of the researcher to choose which one should be followed.

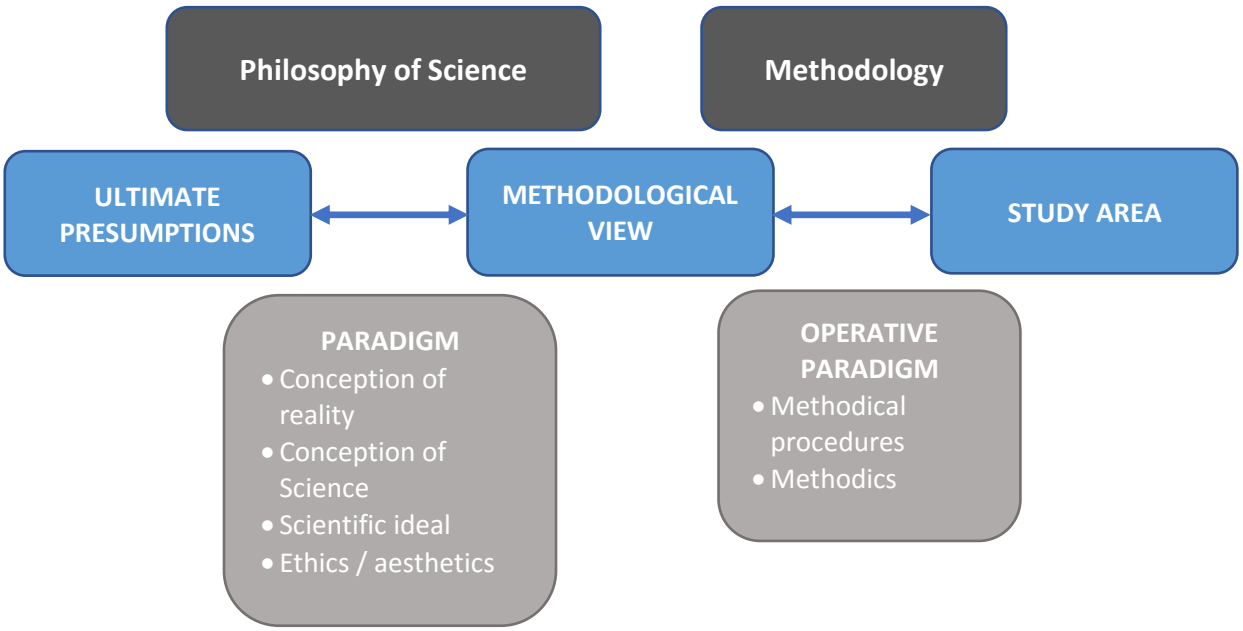

Figure 3 Paradigm and Operative Paradigm (adaptation of Arbnor & Bjerke, 2009:17)

Arbnor & Bjerke (2009:15) also stress that we distinguish between a paradigm and an operative paradigm. Whereas the term 'paradigm' stands for the researcher's underlying assumptions and is closely connected to the personal philosophy, the choice of the 'operative paradigm' depends rather on the specifics of the problem that is being researched. We identify with this view and, therefore, only the matters of Theory of Science will be addressed in this chapter. The concrete methodical procedures and methodics, which define the operative paradigm, shall be discussed in the following chapter.

The table below presents the categories, which the above-mentioned scholars use to define a paradigm.

Burrell & Morgan (1979) **Morgan & Smircich (1980)**	**Arbnor & Bjerke (2009)**
Ontology	Conception of Reality
Epistemology	Conception of Science
Human nature	Scientific Ideal
Methodology	Ethical and Aesthetic Aspects

Figure 4 Concepts Defining Paradigm

As Figure 5 depicts, Arbnor & Bjerke (2009) call their criterions differently than Burrell & Morgan (1979) and Morgan & Smircich (1980). This distinction appears since, as mentioned before, the former base their work on Törnebohm's evolutionary theory, whereas the latter two on Kuhn's Theory of Scientific Revolutions (Kuada, 2012). However, as Arbnor & Bjerke (2009:15) acknowledge that there are only minor differences between these two terminologies and their own categories are also based on the philosophical concepts of ontology, epistemology, human nature and methodology, we will use these terms to guide our further discussion.

5.2 Ontology

Kuada (2012:58) sees ontology as a term, which the scholars in this field use to describe how the reality can be perceived and what is *"the knowable"*. A similar definition can be found in the texts by Arbnor & Bjerke (2009:16) and by Burrell & Morgan (1980:1). Kuada (2012:58) further states that *"the social world...is usually seen from two broad perspectives"* and goes on to describe these. He explains that the social world can be seen either as *"real and external to an individual human being"* or as *"subjectively constructed and therefore a product of human cognition"*.

The description of these two categories fits perfectly to the definition of nominalism and realism, the two ontological extremes presented by Burrell & Morgan (1979:4) and later adopted also by Morgan & Smircich.

The table below works with the two ontological extremes and presents 6 different types of understanding of the nature of reality. It is our own adaptation of Kuada's (2012:84) view on the texts of Arbnor & Bjerke (2009) and a reproduction of the ontological categories presented by Morgan & Smircich (1980:492). We would like to highlight the similarity of these categories and use it as a point to prove our previous claims about the closeness of the work of all the three key authors we discuss (Arbnor & Bjerke, Burrell & Morgan, Morgan & Smircich).

Scholars	**Objective**			**Subjective**		
Arbnor & Bjerke (2009)	Reality as a concrete structure indepen-dent of the observer	Reality as a concrete determi-ning process	Reality as a mutually dependent field of information	Reality as a world of symbolic discourse	Reality as a social construct	Reality as a manifestati on of human intention
Morgan & Smircich (1980)	Reality as a concrete structure	Reality as a concrete process	Reality as a contextual field of information	Reality as a realm of symbolic discourse	Reality as a social construc-tion	Reality as a projection of human imagination

Figure 5 Ontological Categories of Arbnor & Bjerke and Morgan & Smircich (own creation)

We identify with the realistic ideas and believe that the world exists in an objective nature. However, the way humans view the objective reality is strongly dependent on subjective factors such as their upbringing, education or cultural background. Therefore, we conclude that even though the objective reality exists, we tend to perceive it subjectively due to our own various limitations. That puts us in a position, which we call a 'moderate objectivism' and that sees the reality as a 'Mutually dependent field of information' (Arbnor & Bjerke) or as a 'Contextual field of information' (Morgan & Smircich).

5.3 Epistemology

Epistemology is a philosophical category, which deals with the nature of knowledge and truth (Kuada, 2012:59). It is closely connected to the ontological assumptions and it explains how one can understand the social world, to what degree is an information true and how all this knowledge can be communicated to other humans (Burrell & Morgan, 1979:1). One of the major questions this branch of

philosophy deals with is whether knowledge can be only experienced personally or if it can be transferred from one person to another.

It could be stated that the two opposite poles of Epistemology reflect whether one sees the nature of reality as subjective or objective. The Positivistic researchers usually identify with the objective understanding of the reality, as they believe that the social world is real and that knowledge can be acquired also by a person that is not 'inside' the study. On the opposite, the Anti-Positivists claim that this is not possible. According to them, it is necessary to obtain the knowledge through personal experience and, thus, the researcher must be in a direct touch with the subject of study (Burrell & Morgan, 1979:5). This distinction implies that the Anti-Positivists will most likely identify with the subjectivist ontological views, which claim that the social world is only a construct of our individual or collective minds.

Since we have already presented that we tend to the objectivistic ideas, we prefer rather the Positivistic set of epistemological assumptions over the Anti-Positivistic one. However, we would like to note that we acknowledge that some types of knowledge are very difficult or even impossible to transfer. Once again, we see the subjective limitations of our minds as the main problem. These include, as mentioned before, for instance, our education, the environment we were brought up in or our innate talents.

5.4 Human Nature

Another important category is the assumptions regarding the human nature and the role humans play in shaping the world, or as Burrell & Morgan (1979:2) put it: *"the relationship between human beings and their environment"*. As such, this category is closely associated with the ontological as well as epistemological assumptions and these have an influence on what view on human nature is a researcher likely tend to. However, it should be noted that this principle works also in the opposite way and the assumptions one makes about the role of humans and their relationship to the environment affect the ontological and epistemological assumptions that can be made as well (Kuada, 2012:59).

According to Burrell & Morgan (1979:6), there are two opposing views on the relationship between the humans and their environment, determinism and voluntarism. The former extreme pole claims that human beings are merely a product of their environment and that they are *"conditioned by their external circumstances"* (Burrell & Morgan, 1979:2). The latter assumes that the individual humans play a significantly more important role and de facto create the environment they live in, being *"the controller as opposed to the controlled"* (Burrell & Morgan, 1979:2). This definition shows that the

deterministic values tend more towards objectivism, whereas the voluntaristic belong rather to the opposite pole, subjectivism.

We have already described our inclination towards the Realistic and Positivistic assumptions and, in line with them, we identify rather with the Deterministic values, seeing ourselves as 'information processors' (Morgan & Smircich, 1980:495). We agree that there is a continuous and ongoing process between the humans and their environment, which consists of *"receiving, interpreting and acting on the information received"* (Morgan & Smircich, 1980:495). However, we would like to highlight our belief that every human, which acts on the information changes the information the other humans receive and, thus, directly affects the environment. We argue that this happens only because of the limitations of human minds, which has been discussed above, and we still consider the reality being objective.

5.5 Methodology

Burrell & Morgan (1979:2) define methodology as *"the way in which one attempts to investigate and obtain knowledge about the social world"*. The main purpose of methodology is to describe *"the reasons underlying the choice and use of specific methods in the research process"* (Kuada, 2012:59). According to Burrell & Morgan (1979), assumptions about ontology, epistemology and human nature have a direct impact on the choice of methodology.

Similarly as in the case of the previous sets of assumptions, Burrell & Morgan (1979:6) identify two extreme poles in methodology. The Ideographic approach presumes the existence of a subjective reality and, thus, pays a high attention to using the methods that get the researcher close to the subject of study. The other extreme methodological approach is the Nomothetic one. The Nomothetic approach, as opposed to the Ideographic one, prefers methods similar to the natural sciences. These are usually based *"upon systematic protocol and technique"* and make use rather of the quantitative methods than the qualitative ones (Burrell & Morgan, 1979:6).

As we have already mentioned, we identify with Arbnor & Bjerke's (2009) views and we agree it should be distinguished between the researcher's 'paradigm' and the 'operative paradigm'. As we have promised, we are going to discuss the latter more in depth in the following chapter. However, we would like to compare Arbnor & Bjerke's (2009) views on methodology with views of the other scholars we are discussing before we proceed to identifying the paradigm we operate within. We will only discuss the broad concepts they are using, without going more into detail about the specific methodics and methodological procedures we plan to employ.

Arbnor & Bjerke (2009:32) present three methodological views, which can be used by a researcher to look at a problem and to design an operative paradigm. The Analytical view presumes an objective reality, which is full of facts and easy to analyze by quantitative methods. This view has a summative nature, which means it allows to decompose and compose a problem without losing any part of it. This stands in contrast to the Systems view, which claims that there is an intangible synergy between the individual parts and, therefore, the subject of study must be analyzed only as a whole. The only approach that considers the reality being subjective is the Actors view. Similarly as the Ideographic approach, it presupposes that a knowledge has to be obtained through experience and, thus, it prefers qualitative methods. However, it is important to note that the choice of any of these methodological views is not only based on the ultimate presumptions of a researcher but also on the type of the researched topic.

Even though we sympathise with the Nomothetic approach more than the Ideographic one, we are convinced that the choice of the approach is equally dependent on the nature of the researched problem as on the author's ultimate presumptions. This view makes the work of Arbnor & Bjerke more suitable for us. Having in mind the ultimate presumptions presented above and the nature of the researched problem, which is based on an extensive literature review, we will adopt the Analytical approach in this project (Arbnor & Bjerke, 2009).

5.6 Paradigm Classifications

Now that we have presented our ultimate presumptions, we can proceed to describing the paradigm that we identify with. However, before we do that, we are going to discuss the following 3 notable classifications of paradigms presented by Kuada (2012:75).

1. The FISI Classification
2. The RRIF Classification
3. The Six Paradigms and Three Methodological Approaches by Arbnor & Bjerke

5.6.1 THE FISI CLASSIFICATION

The origins of the FISI Classification date back to the 19th century and, thus, it is the oldest of the three. According to Kuada (2012:75), scholars in this period preferred to study the social sciences *"in terms of structures, functions, and interactions"*. He further comments that facts were usually considered to exist outside the individual and, therefore, they should be studied with positivistic epistemology.

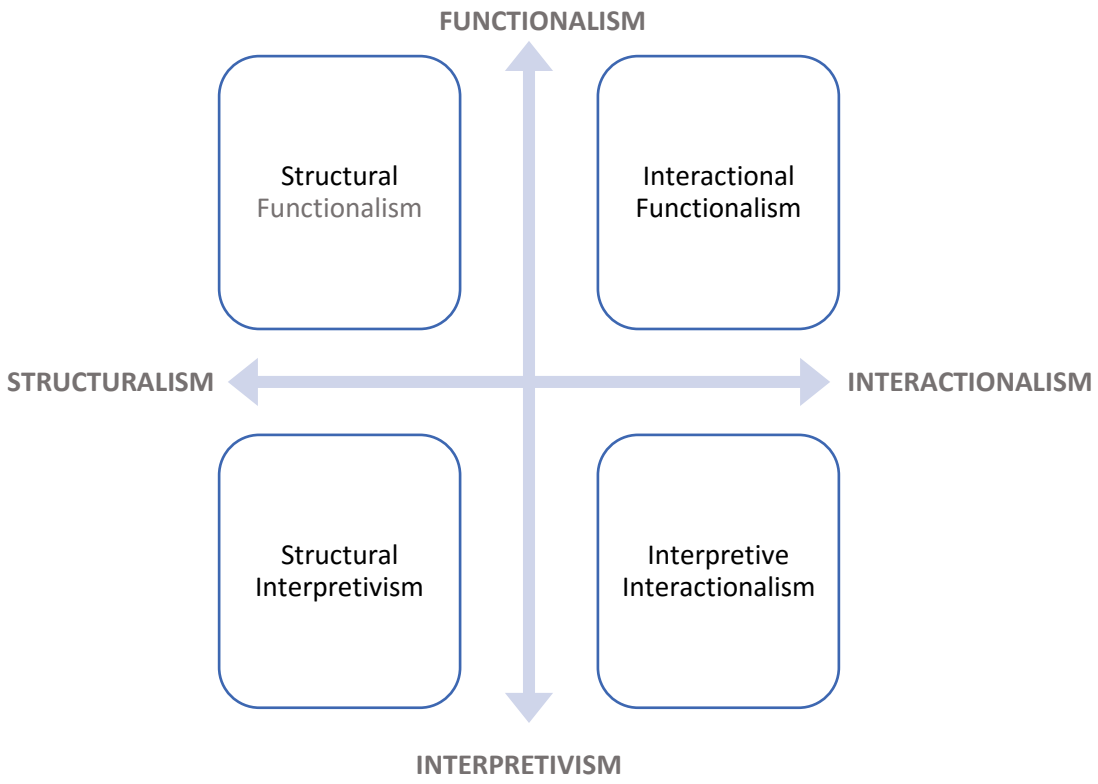

Figure 6 The FISI Classification (adaptation of Kuada, 2012:76)

As the figure above shows, the FISI classification is a matrix with 4 extreme points - Functionalism, Interpretivism, Structuralism and Interactionism. Functionalism is favored by the objectivistic and positivistic scientific researches in fields such as business economics, where it allows to presume that *"organisations make adaptive structural changes in order to align themselves with their operational environment"* (Kuada, 2012:76). This means that an organisation reacts to the changes in the external environment, analy zes them and adjusts itself to the new situation. Interpretivism, on the opposite, pays attention primarily to how individuals interpret the information from the external environment and how they judge the overall context of their reception. Or as Kuada (2012:77) puts it, the scholars adopting the interpretive view *"focus their work on understanding rather than explaining"*. Structuralism is a view that *"sees human societies as composed of complex systems of interrelated parts"* (Kuada, 2012:77) and looks on the whole rather than on the individual. The Interactionist put the human interactions into *"the centre of all social acts and facts"* (Kuada, 2012:77) and they subscribe to the voluntarist views on human nature, suggesting that humans decide their future actions themselves (through so-called 'minded behaviour').

5.6.2 THE RRIF CLASSIFICATION

This classification system was introduced by Burrell & Morgan in 1979 and later adopted by other influencing scholars. It distinguishes between the sociology of regulation and the sociology of radical change. Whereas the former stands for approaches addressing *"the social order and equilibrium"*, the latter encompasses studies that deal with the issues *"of change, conflict, and coercion within human social units"* (Kuada, 2012:81).

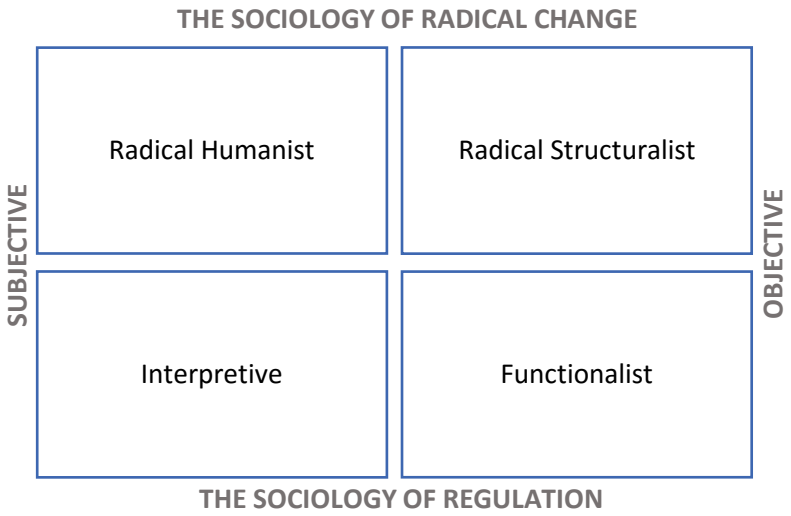

Figure 7 The RRIF Classification (adaptation of Burrell & Morgan, 1979:22)

The sociology of regulation comprises of the Interpretive and Functionalist paradigms, to which the classification from Burrell & Morgan (1979) understands similarly as the FISI classification introduced above. These two paradigms are opposed by the two paradigms of the sociology of radical change. According to Kuada (2012:83), the Radical Humanist paradigm is similar to the Interpretive paradigm by considering the reality to be a socially constructed phenomenon. Kuada (2012) further claims that the radical humanist scholars and organizations (e.g. Greenpeace) see the social change to be about the conflicts between their individual emancipated views and the external institutions in their environment. The Radical Structuralists, on the opposite, consider the conflicts to originate in the structure of the society and argue that they *"generate constant change through political and economic crises"* (Kuada, 2012:83). Thus, their ideas are based on the ultimate presumption that the reality has an objective nature and that knowledge is positivistic. Marx and Engels are two of the most known scholars who fall in this category, according to Kuada (2012:83).

5.6.3 SIX PARADIGMS AND THREE METHODOLOGICAL APPROACHES BY ARBNOR & BJERKE

This is the most recent one of the paradigmatic classification that Kuada (2012) describes. Most parts of it have already been discussed in the previous sections, particularly in Ontology and Methodology and, therefore, we will only summarize this information here.

As already mentioned in Methodology, Arbnor & Bjerke (2009) distinguish between the 'paradigm' and the 'operative paradigm'. While the latter stands for the concrete methodological approach used to solve a problem, the former is based on the ultimate presumptions of the researcher. The 'paradigms' are discussed in Theory of Science and Arbnor & Bjerke (2009) classify the following 6 types of them:

<table>
<tr><td rowspan="2">Paradigm</td><td colspan="3">Objective</td><td colspan="3">Subjective</td></tr>
<tr><td>Reality as a concrete structure indepen-dent of the observer</td><td>Reality as a concrete determi-ning process</td><td>Reality as a mutually dependent field of information</td><td>Reality as a world of symbolic discourse</td><td>Reality as a social construct</td><td>Reality as a manifesta-tion of human intention</td></tr>
<tr><td rowspan="2">Applied approach</td><td colspan="3">Analytical approach</td><td colspan="3">Actors approach</td></tr>
<tr><td>-</td><td colspan="2">Systems approach</td><td colspan="3">-</td></tr>
</table>

Figure 8 Arbnor & Bjerke's Typology of Paradigms and Methodological Approaches (adaptation of Kuada, 2012:84-88)

These paradigms go from the most objective to the most subjective one and are overlapping (Kuada, 2012:84). Each of them allows to choose some of the correspondent three methodological views, which have already been introduced in the Methodology chapter. These views are also connected with certain methodological procedures and methodics.

5.7 Choice of paradigm

Below, we shall present our stand towards the Objectivism / Subjectivism discussion in the scientific literature. After that, we will use the paradigm classifications introduced above and describe the paradigm we operate within in this project.

5.7.1 EXCLUSIVE AND COMPLEMENTARY VIEWS ON RESEARCH METHODOLOGY

John Kuada (2012) notes the extensive scientific discussion about the exclusivity of the subjective and objective perspective. This discussion regards the possibility to use both of these perspectives within one project and whether these views are exclusive or rather complementary. Kuada (2012) suggests that

researchers are grouped according to their stand to this dilemma and proposes following three categories inspired by Rossman & Wilson (1985):

1. Purists
2. Situationists
3. Pragmatist

The scholars that consider the objective and subjective perspectives to be mutually exclusive are called the Purists. Those that argue that it is not possible to give a definite answer to this question, as the social world is multifaceted and in some situations, it can be beneficial to look at the issue from both perspectives are called the Situationalists. There are only minor differences between the Situationalists and the last group, the Pragmatists, who are also convinced that it is the problem and the objectives of the research that decide the researcher's view. However, Kuada (2012) argues that the Pragmatists do not have any opinion on whether it is possible to combine the two perspectives and usually choose only one of them when solving the problem. On the opposite, the Situationalists openly accept that it is possible to combine the objective and subjective view on reality and they are more likely use both of them when researching a problem.

Having in mind the arguments presented above and our opinion that the goals of the project are major determinants of how it should be approached, we consider ourselves to belong among Situationalists.

5.7.2 OUR PARADIGM

Above, we have presented three classifications of paradigms and now we will go through all of them in order to discuss their implications and place ourselves within the categories they present. Our claims will be always followed by a justification and they will often refer back to the Ontology, Epistemology, Human Nature and Methodology chapters.

As already mentioned when introducing the FISI Classification, it is the oldest classification that Kuada (2012) presents. It studies the social world *"in terms of structures, functions, and interactions"* (Kuada, 2012:75) and usually with the positivistic epistemology, which we can identify with. If we were to place our paradigm using this matrix, we would fall into the category of Structural Functionalism. As mentioned before, we tend towards realistic ontology, positivistic epistemology and we have deterministic views on human nature. However, we do not adopt the extreme stands and even though we are convinced the reality is objective and structured, we acknowledge the existence of certain 'frictions' that occur when analyzing it. We believe that these exist due to the limitations of the

individual human minds but we do not go as far as the Interpretivists, who claim that it means the reality is *"highly subjective"* (Kuada, 2012:82).

Burrell & Morgan (1979:23) consider the four paradigms of the RRIF classification to be *"four distinct entities"*. Moreover, they build on Thomas Kuhn's Theory of Scientific Revolutions, which claims that once a new paradigm is created, the old one ceases to exist. We do not identify with this idea, as we believe that the revolutionary theory fits better to natural sciences such as physics. Economics is a social science and we prefer Törnebohm's Theory of Scientific Evolution, which says that *"old paradigms usually survive alongside the new ones"* (Arbnor & Bjerke, 2009:25). Thus, we rather identify with the work of Arbnor and Bjerke (2009) than that of Burrell & Morgan (1979) or Morgan & Smircich (1980). That is the main reason why we do not consider the RRIF classification being particularly suitable for us. We also believe that this framework is quite limited, as it is based on a categorical separation of objectivism and subjectivism instead of considering them to be a continuum. However, if we were to choose our paradigm within this classification, we would tend towards the Functionalist ideas again.

As we have already mentioned, we consider the classification of Arbnor & Bjerke (2012) highly suitable for us due to the root assumptions that it builds on. In the Ontology chapter, we identified with the realistic view of the world while pointing out that there is a certain degree of subjectivism in our philosophy as well. We argue that the external reality is objective but humans tend to view it with some degree of subjectivity, due to the individual factors such upbringing, education or religion. Therefore, we consider ourselves to be 'moderate objectivists', which see the world as a 'Mutually dependent field of information', as defined by Arbnor & Bjerke (2012). This stand enables us to approach our research problem either with methodology of the analytical view or of the systems view. As the choice of the methodological view is dependent both on the ultimate presumptions and on the nature of the research that is to be conducted, the analytical view is going to be adopted in this paper. We find it more suitable, as our research is based primarily on the scientific literature review and we see the researched phenomena as summative.

Finally, we would like to summarize the most important information presented in this chapter. We are realists with a positivistic epistemology, we have a deterministic stance towards the human nature and we sympathise with the nomothetic approach to methodology. We believe that both ultimate presumptions and the nature of the research problem define the scientific paradigm, which places us among Situationalists, as defined by Kuada (2012). We see the world as 'Mutually dependent field of information' and adopt the analytical view of methodology.

6 Methodological chapter

This chapter is going to describe the operative paradigm chosen to deal with the research questions. It will serve as a roadmap of the paper, explaining the connection of the ultimate presumptions, the research topic and the scientific concepts as well as how these will contribute to answering the problem statement. The chapter will deal with the issues of methodological procedures and methodics and explain the concrete steps that have been taken.

As mentioned in the previous chapter, this paper follows the paradigmatic structure proposed by Arbnor & Bjerke (2009). The authors see the world as 'Mutually dependant field of information' and they will adopt the analytical approach towards methodology. This view can be described as being the most objectivistic and since it does not presume any synergies among the individual particles of a problem, it can also be labeled as summative. This definition is particularly important for the structure of this chapter, as it enables to decompose the researched issue and analyze the individual parts separately instead of analyzing them as a system of interconnected parts.

6.1 Research design

This section is going to present the research design and explain the structure of this paper. It will start with the initial idea and describe the logical process underlying the concrete steps, which were taken to answer the problem statement.

It should be noted that the most important details relating to the desk research are going to be mentioned below. However, further details about the concrete methods shall be presented in the Data collection subchapter, which will follow after the Research design section.

6.1.1 INITIAL DESK RESEARCH

The process of work on this study started with an initial desk research on the topic of interest of the authors: the influence of new technologies on the field of International Business. The purpose of this initial desk research was to gain insight into the scientific literature written on this topic, identify the most relevant issues and make this paper a meaningful contribution to the scientific discussion.

The initial desk research was not structured in any particular way but for the topic of interest specified above. Various scientific literature seeking platforms, including the AAU library search engine Primo, were used during this stage.

6.1.2 PROBLEM FORMULATION

After identifying some of the most trending topics in the scientific literature during the initial desk research, the problem statement with: "What is the influence of ICT improvements on the field of International Business?" has been formulated. Furthermore, the following three sub-questions further specified the researched issue:

1. What shifts have the ICT advances triggered in the structure of Global Value Chains?
2. How have the FDI motives of MNEs changed?
3. How do the new global patterns affect the validity of the eclectic paradigm?

The first question regards the changes in the way MNEs structure their international operations. As the remaining two questions build upon its conclusion, a particular attention will be paid to providing an exhaustive answer to this question. When researching the potential shifts of the FDI motives, the four 'seeking' motives by Dunning (1998a) are going the considered. Finally, the last question will investigate whether the ICT advances should change our understanding to the eclectic paradigm or if the framework remains being valid.

6.1.3 PHILOSOPHY OF SCIENCE

This section is going to discuss our philosophical background and deal with the questions of ontology, epistemology, human nature and methodology. The most notable scholars dealing with these issues are going to be considered before proceeding to the question of the scientific paradigm adopted in this paper.

6.1.4 DESK RESEARCH

Due to the nature of the researched problem, the scientific literature review has been chosen as the data collection method. Since the desk research is expected to play such an essential role, a significant amount of attention has been dedicated to this phase. The literature review will not provide a holistic picture of all the literature written on the chosen topics but it will have a narrative nature, with its goal being to identify literature that best fits our purpose.

6.1.5 ANALYSIS

This chapter is going to be structured according to the three sub-questions and it will aim to provide an answer to the main research problem. A particular focus will be paid to the first section, which analyzes the influence of ICT on the Global Value Chains of MNEs. This question is of key importance for the second and the third part of Analysis, which are going to deal with the issues of FDI motivations and the

continuing validity of the OLI paradigm. When presenting the logics behind the provided answers, this chapter will combine the most contemporary views of the scientific community with the stands of the authors of this paper.

6.1.6 DISCUSSION

The practical implications of the findings shall be discussed in this chapter. Moreover, based on the influences described in the Analysis chapter, the current development of the field of International Business is going to be assessed. This assessment will lead to a series of propositions, which will regard the changing nature of the field and which are expected to stimulate further scientific research.

6.1.7 THEORY DEVELOPMENT

Knowledge and research can only be advanced through theory. Representing a set of logical statements about how various phenomenons and constructs are related within a given set of assumptions and constraints, theory contributes to the advancement of a research field (Gligor et al. 2016). Developing a theory represents an iterative process, in which descriptive models are developed into explanatory frameworks, which are then tested using real and valid data. Validation adds confidence to previous results, whilst invalidation forces scholars to iterate and proceed in different directions. The final results can be seen when they are finally developed into theories (Meredith 1993).

This study does not aim to develop an entirely new theory, but to improve on what already exists and further refine them. The use of propositions in this study, which are logical statements rather than epistemological relationships (Meredith 1993), built upon description and explanation, has a twofold objective. The first being to serve as a stepping stone for future empirical research, whilst the second being to offer practical implications for managers. These implications need to be tested, as theory building on empirical research can be more representative of the phenomena of interest (Gligor et al. 2016).

6.1.8 CONCLUSION

The Conclusion shall summarize the most important details discussed in this paper and provide an answer to the three research sub-questions. Moreover, it will highlight some of the propositions formulated in Discussion in order to encourage further scientific research in this area and to guide the direction in which the research should go.

6.2 Methods of Data Collection

Bryman and Bell (2011:100) acknowledge that literature review is *"where you demonstrate that you are able to engage in scholarly review based on your reading and understanding of the work of others in the same field as you".* This approach is relevant, given that it can also be used in developing an argument regarding the significance of new research, whilst making it easier to reach the goal of the study process. Consequently, the findings can be related to previous knowledge, suggesting further research directions.

This project is based on secondary and tertiary data collection methods (Saunders et al., 2012). Tertiary data, which consists of the databases that have been used, has allowed us to get access to secondary data. As defined by Stewart (1986:23-33) secondary data is regarded as one collected by others, not specifically for the research question at hand. Thus we, in our capacity as researchers, have not taken participation in gathering the data, we are merely using it to answer to our research question. Secondary data was collected through research of the relevant theories and studies. As secondary data sources, we have used studies undertaken in our field of interest by other researchers.

The first step in our research was to identify the keywords that would be used further on. This was done after a review of the topics under discussion within this project. Given that our study encompasses three topics, we have used both independent, singular searches for each topic, in conjunction with combined searches within our topics. The main keywords that have been used are 'Global Value Chain', 'Foreign Direct Investment' and 'Technology', with derivatives and synonyms such as:

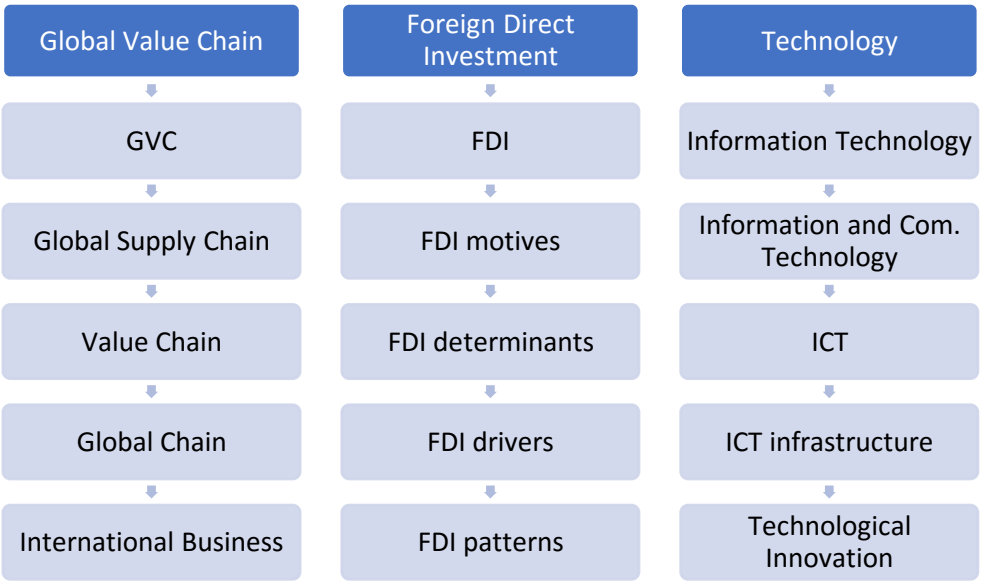

Figure 9 Literature Search Keywords

In order to obtain a complete picture of the status of Global Value Chains in light of technological advancements, several databases have been used to find relevant articles. Thus, eliminating the risk of excluding other potentially relevant articles by limiting our research to one database. The research consisted of journal articles, which have been found using the following databases: aub.aau.dk, SCOPUS, ABI/INFORM, ebscohost, Westlaw, Sciencedirect, Ebrary and Google Scholar. Although our literature research was mainly done through the ABI/Inform database, other databases were used as well, due to limitations in coverage of the databases. Thus, given the possibility that one database excludes some journals with potentially relevant articles, we could discover the most relevant articles for our research topics. In using the databases, we have employed specific tools, like using Boolean operators, such as 'AND', 'OR' and 'NOT'. This has led us to more specific search results.

Further on, the results were filtered to show only full text, peer reviewed articles that had been published in English. Since the goal of our project is to show changes in the Global Value Chain and the FDI motives in the context of recent technological advancements, a timeframe of 20 years was set for the research, therefore, articles written between 1997 and 2017 have constituted the main interest.

As the Global Value Chain represents a concept that is extensively used in the business world, there is abundant information on it directly in the field of International Business. Thus, after each search, a review of main keywords and abstract of each article was performed. After employing these specific searches, we have reached an article count of 398 articles. The next step was to read all the abstracts and look through the articles, in order to select the papers that were highly relevant to our research.

After employing the previously mentioned methods, we have reached a final count of 60 articles that have been used for the literature review of the topics of interest. Nevertheless, backward and forward snowballing have also been employed, despite the potential drawback of the method which lies in the threat of bias or lower control over sample filtering (Wohlin & Prikladniski, 2013: 919-920).

6.3 Referencing Style

The parenthetical referencing approach, also known as the Harvard style, has been used in this paper. This style is generally accepted in the scientific community and belongs among the most popular ways of referencing (Chernin, 1988).

6.4 Scientific Attributes of the Research

This chapter aims to provide the reader with details regarding the key scientific attributes of this paper. Therefore, the precedence, reliability, reproducibility and validity of its findings are going to be commented below.

6.4.1 PRECEDENCE

More than 70 relevant scientific sources had been studied during the process of writing this paper. However, we could not identify a study that would address the topic of the influence of ICT on the field of International Business in such a holistic manner as this paper does. Despite this fact, there is a plenitude of sources dealing with the influence of ICT on individual dimensions of this paper (GVCs, FDI motives, eclectic paradigm).

6.4.2 RELIABILITY

This study is built upon a scientific literature review, which considered only the peer-reviewed sources in order to assure a sufficient level of reliability. Furthermore, special measures were applied to provide the reader with information regarding the context of this paper. For instance, the potential influence of the philosophical beliefs of its authors is discussed in the Philosophy of Science chapter. The Methodology chapter includes a detailed description of the methods and methodological procedures employed to provide an answer to the research questions. Moreover, the Data collection subchapter presents a thorough explanation of the techniques used during the desk research. Thus, the reader can use own judgement to evaluate the reliability of the study.

6.4.3 REPRODUCIBILITY

As the study is based on the secondary data and each of the undertaken measures is detailed in the Methodology chapter, it should be relatively easy to reproduce. If this study was conducted again, the only potentially differing factors would relate to the global economic context (e.g. new inventions or a crisis), to the changes in the scientific environment (e.g. new trends or theories) and last but not least, to the philosophical stand of its potential authors (e.g. a different view of the reality).

6.4.4 VALIDITY

The study is based only on peer-reviewed sources and, thus, can be viewed as valid. However, as different people perceive the nature of the world differently, there are certain limitations connected to the philosophy of the authors. The philosophical stands of the authors are discussed more into detail in the Philosophy of Science chapter.

6.4.5 LIMITATIONS

As with any research, this study presents some limitations that should be considered when interpreting the findings. As the paper is going to discuss phenomenons that are fairly new and still under development, there is a risk of misunderstanding their true nature.

A major limitation of this study is represented by its exploratory approach, given that only secondary and tertiary data have been used. The foundation of the propositions and practical implications that are elaborated in the Discussion chapter is assessed to be strong, as an important part of the literature that was used in this study is itself of an empirical nature. However, the propositions and practical implications should be tested using empirical data, especially collected for the study in question, in order to prove their validity.

It is important to bear in mind that due to constant technological developments, the scientific discussion regarding the influence of ICT is ongoing. This study deals with the most contemporary work in the field in order to ensure that the findings are valid. However, if the future should bring any revolutionary changes to our understanding, the results of this study will have to be re-assessed.

AALBORG UNIVERSITET

7 Theoretical Background

This chapter is going to discuss the scientific background of the most important theories and frameworks used in this paper. The history of the concepts, their critics and the possible extensions that have been introduced over the course of time will be discussed. Finally, the underlying logics behind their use is going to be explained and it will be argued why their root assumptions are in line with the philosophical beliefs of the authors.

7.1 Models and Theories

The section below is going to address four scientific concepts that are of key importance to this study. First, the phenomenon of Global Value Chains, which is critical for the first part of the problem statement, is going to be debated. Second, the four key FDI motives introduced by John Dunning (1998a) will be discussed. This framework is vital for the second part of the problem statement, which deals with the influence of ICT on the development of FDI motives. Third, the eclectic paradigm by Dunning (1977) is going to be assessed. The eclectic paradigm is going to serve as the representative of the traditional IB theories that the third part of the problem statement addresses. A fourth concept, which impacts all of the previous ones, is Information and Communication Technologies. Thus, we are going to briefly present its inception.

7.1.1 GLOBAL VALUE CHAINS

Understanding the concept of Global Value Chains (GVCs) is key to this paper. Therefore, the section below will address the most important aspects of GVCs, the stand of the scientific community towards this phenomenon as well as the opinion of the authors of this paper.

It should be noted that some authors, such as Gereffi & Lee (2012) or Casson (2013), use the terms Global Value Chains and Global Supply Chains interchangeably. Despite the fact that the authors of this paper observe certain differences between these two subjects, with value chains being customer-centric and supply chains rather company-centric, they are going to adopt the identical approach and consider them to be the same.

The concept of a Global Value Chain was developed by International Business scholars, which have focused, at a national level, on the buyer or lead firm. Whilst various definitions of a value chain exist, we consider the following explanation from Globerman (2011) as a rather complete one. Thus, value chains are defined as *"international supply chains characterized by fragmentation of production activities across sites and borders. In effect, the whole process of production, from acquiring raw*

materials to producing and delivering a finished product, has increasingly been "sliced", so that each activity that adds value to the production process can be carried out wherever the necessary skills and materials are available at competitive cost" (Globerman, 2011:17). Hence, a GVC can be understood as a sequence of all value adding activities that bring a product or service from inception to its use by final consumers. The GVC concept can also be used to understand trade and production patterns (De Backer & Miroudot, 2013) as well as to the international expansion and geographic fragmentation of activities (Gereffi & Lee, 2012).

7.1.1.1 History

Along these lines, in order to fully grasp the concept of GVC, we need to take a look at its inception. Current Global Value Chains originate in the international division of labour, which has existed in the manufacturing industries for centuries (Laplume et al., 2016:601). According to Casson (2013:12), Global Value Chains (GVCs) were preceded by *"the trading systems of the Roman Empire, the British Empire and the Venetian state, among others"*.

As mentioned above, international division of labour is a relatively old phenomenon. However, a coordinated effort of Western MNEs to create value chains extending beyond the national borders appeared first in the 1960s, when MNEs from the United States started relocating some labour demanding production processes to countries with a cheaper labour force (Laplume et al., 2016:601). Over the next several decades, various factors including the falling geopolitical barriers, containerization of transport and the advance of ICT contributed to accelerating the trend. The theoretical concept of GVC has its beginnings at the end of the 1970s, in the work of Hopkins and Wallerstein (1977: as seen in De Backer & Miroudot, 2013) that observed the linkage between processes, analyzing the inputs and transformations, that resulted in a product or service. The term Global Value Chains (GVCs) emerged in the 1980s *"as an international extension of Porter's value-chain concept"* and directly addressed this phenomenon (Laplume et al., 2016:601).

In the beginning of the 1990s, the work of Gary Gereffi (1994 – as seen in Pietrobelli & Saliola, 2008) introduced the concept of 'global commodity chain'. Thus, according to Gereffi & Lee (2012:24), *"the GVC analysis originated in a framework called global commodity chains, which emerged in the 1990s to link the concept of the value-added chain directly to the global organization of industries"*.

In the 2000s, starting from the analysis of trade and industrial organization as value adding chains, there is a shift in terminology from a 'global commodity chain' to a 'global value chain' (De Backer & Miroudot,

2013). Whilst the basics of the two concepts are the same, the latter is seen as more ambitious as it seeks to explain the determinants of the organization of global industries.

The present GVCs are significantly more complex in terms of the degree of specialization and geographical span but same as the preceding trading systems, they are strongly determined by the principles of comparative and absolute advantage. Having this argument in mind, it can be claimed that the current form of GVCs is rather an evolution of the old economic concepts than a completely new phenomenon that would need to be explained by the scientific community.

The dynamics of the world economy are increasingly characterized through GVCs. Development and integration of firms and countries in international economies is not any longer possible without successful integration in global value chains (Damijan & Rojec, 2015). Hence, the concept of GVC has successfully captured distinct attributes of the world economy (De Backer & Miroudot, 2013):

- The increasing fragmentation of production worldwide. GVCs link geographically dispersed activities and help understand shifting patterns of trade and production
- The role of networks, global suppliers and global buyers, and the linkages and governance between them.
- The specialization of countries in business functions and tasks, rather than specific products

Global trade and production are increasingly being structured through Global Value Chains (De Backer & Miroudot, 2013). The globalization of value chains has been made possible through cost decreases in tariffs, communication and transportation, alongside technological advances (Lévy, 2009; Damijan & Rojec, 2015). That is why it is essential to understand how Global Value Chains work and how they have been affected by technological changes.

The concept of GVC analysis currently belongs among the most popular ways to analyze the value creation process of a multinational enterprise in the IB literature. This approach has been widely used to address globalization, which led to a major expansion of MNEs and to a geographical fragmentation of their activities in the last several decades. Understanding the traits of GVCs can help both companies and countries (Gereffi & Lee, 2012:24). While the former can benefit from cost-cutting or other potential benefits connected to GVCs, the latter will be interested in the phenomenon primarily because of its impacts on the national economy. By developing the right capabilities, creating a supportive environment and increasing the level of participation in the global economy, countries can attract foreign investments and become more prosperous in the future (Gereffi & Lee, 2012). There is a

notable number of IB scholars (such as Stiebale, 2016; Jabri et al., 2013 or Leitao et al., 2010) that deal with the issue and describe the positive influence of cross-border M&As on national economies.

7.1.2 ECLECTIC PARADIGM

Presented at the 1976 Nobel Symposium in Stockholm, John Dunning´s initial version of the eclectic theory depicted a response to the emergent growing of multinational corporations and the role of international productions (Dunning, 1977). The eclectic paradigm, as it would later be known, includes several theoretical approaches in economics. It draws on various strands of the economic theory. Among which we single out the macroeconomic theories of trade, the meso-economic theories of industrial organization, the microeconomic theories of the firm and innovation international capital movements and location. (Dunning et al., 1986:19-41), being likened by scholars such as Eden & Dai (2010:14) to a *"big tent"*

Comparing his framework to a *"three-legged stool"*, Dunning (1998a:5) argues that all components of the eclectic paradigm are equally important. This comes into supporting the claim that intensive cooperation is to be observed both internally and externally. The individual department of the MNE relates to the internal environment, while the relation within the MNEs describes the external environment. Nonetheless, Dunning (1988c) points out that the behavior of firms is influenced by three factors, namely, the possession of Ownership-specific endowments (O), the ability of the enterprises to utilize and internalize these advantages (I) and the locational advantages of foreign markets versus home bases (L).

The O attributes of the firm are defined as internal, specific to the firm that possesses them, and consisting of tangible and intangible resources, including inter alia, technology. Being under the assumption that the firm has O advantages, then the question that arises is whether these advantages, or their output, can be more efficiently used through either direct involvement, under the form of FDI, or through leasing or selling them to foreign firm. In case the company chooses to act directly, then these additional benefits will constitute the Internalization advantages. Further, assuming that the first two conditions are met, the firm will attempt to use these advantages in connection to other factors outside of its home country, therefore, using location advantages. It is assumed that the L variable will come to create additional advantages for the firm; otherwise other forms of involvement would have been used.

The greater the O advantages, the higher the inclination to utilize these advantages themselves. The higher the L advantages, the greater the propensity to engage in foreign direct investment as a way of

increasing its international value-adding activity. The juxtaposition of these three variables in the OLI framework is the determinant of three critical elements: the extent to which a firm engages in foreign production, the form, which the production will undertake, and the location of the production. (Dunning, 2003)

Arguing that in the past decades the field of international business has changed significantly, Dunning (1998a) comes to names three key features of this development:

1. Growing importance of intellectual capital
2. Scientific development and diminishing international barriers
3. Advance of alliance capitalism

As new influencing factors within the field of International Business emerge or with the purpose to address critics brought to the eclectic paradigm, the three components of the paradigm together with the relationships between them are further expanded and updated in subsequent writings of Dunning. Ergo, the evolution of the eclectic paradigm will be closely intertwined with the evolution of technological advancements, i.e. the emergence of new information technologies and digitalization.

7.1.3 FDI MOTIVES

The eclectic paradigm has been a successful way of reasoning the motives for which a firm engages in foreign direct investment. Foreign direct investment (FDI) is an integral part of an open and effective international economic system and a major catalyst to development. Since a long time, FDI was identified as a source of economic development and modernisation, income growth and employment.

Dunning (1988a) classifies the reasons for a firm's FDI engagement as follows:

A. **Resource seeking motives** – with the goal to gain privileged access to resources that would be unavailable to its competitors, or to gain access to resources that competitors already use;
B. **Market-seeking** – several motivations can be identified here, i.e. protecting existing markets, counteracting competitor's behavior, or preventing competitors entering new markets;
C. **Efficiency seeking** – gaining advantages such as economies of scale and scope;
D. **Strategic-asset seeking** - access to innovative products and technologies and new markets.

FDI has been identified at 11.8% of world GDP in 1994, while in 2015 it increased to 34.0%[1]. With an increase of outward FDI value within the world GDP of more than 22% in two decades, we can clearly see that the investment across borders has increased greatly. Earlier, as per the Uppsala internationalization model (Johanson & Vahlne, 2009), when companies grew across borders they would have moved to a country in close proximity, with a low psychic distance. This represents a trait that to some extent might have been diminished by the globalized society, thus causing psychic distances to lessen and physical proximity to play a smaller role in the firm's success.

Furthermore, international trade has increased from 38.8% of world GDP in 1980 to 58.2 % in 2015[2], showing that globalization has affected the level of international trade and increased the amount of MNEs to a level where more than half of the world's GDP relies on international trade. Globalization can be measured in many ways, one of which lies in the movement of goods and capital across borders.

Possibly, the most striking influence on the business environment is represented by globalization - the increased importance of interactions across borders all over the world. The term globalization is relatively new and it has been developing over time. Nevertheless, the globalization process was sped up by the developments in technology that made it easier for people, goods and businesses to move around in the world.

7.1.4 INFORMATION AND COMMUNICATION TECHNOLOGY

Information and Communication Technology represents an infrastructure technology that emerged through advances in the hardware and software industries, through progress in semiconductors, digital machines, storage devices, communication equipment and applications (Rangan & Sengul, 2009). The rapid advances have driven down the price of information technology capital (Timmer et al., 2014), further fostering advances in the domain. One of the main advances in the field of ICT has been the advent of the Internet, which has been commercially available since 1995 (Chen & Kamal, 2016), being a powerful catalyst for the business world (Dunning & Wymbs, 2001) and contributing to the emergence of what is now considered the information or digital era.

Serving as a facilitating technology (Dunning & Wymbs, 2001) the Internet has been a key enabler of the global economy (Moodley, 2002), having a great impact on business practice, changing the nature of industries and markets and the role of states and geographies (De la Torre & Moxon, 2001; Rangan &

[1] UNCTAD; FDI Outward Stock as a Percentage of Gross Domestic Product, 1990-2015; www.unctad.org; Last accessed 25 May 2017
[2] The World Bank; http://data.worldbank.org/indicator/NE.TRD.GNFS.ZS; Last accessed: 25 May 2017

Sengul, 2009). The acceleration in the pace of change in ICT (Alcácer, 2016) allowed for an even greater impact, further creating new challenges and opportunities for firm growth (Kenney et al., 2009).

Standing at the forefront of e-business and e-commerce, ICT and the Internet have become responsible for blurring the national borders and businesses expanding in distant areas of the world (Agarwal & Wu, 2015), driving economic globalization forward (Moodley, 2002).

7.2 Definition of Terms

Besides the main concepts we have just made clear, there are several concepts that need to be defined or explained. Since different authors take into consideration certain characteristics of the concepts, whilst excluding others, we feel that we need to present our own interpretation of these concepts, in order for the readers to have a clear and easy to understand overview of this project.

Global Value Chain (GVC)

We view the concept of a Global Value Chain as covering the entire value-affecting process a product or a service must go through before it is delivered to the final customer.

Global Supply Chain (GSC)

Same as Global Value Chain. Due to only minor differences between GVCs and GSCs, which are discussed more into depth in the section 7.1 Models and Theories, the two terms are used interchangeably.

FDI motives

Sections speaking about the 'FDI motives' refer to John Dunning's (2009) four 'seeking' motives of internationalization if not stated otherwise.

Multinational Enterprises (MNEs)

The understanding of MNEs in this context is a firm that conducts business in at least one country, other than the host country.

Small- and Medium-sized Enterprises (SMEs)

Throughout the project the terms SMEs and local firms will be used interchangeably as a way of defining the firms that MNEs engage in business activities with, either through offshoring or outsourcing activities and production.

Information and Communications Technology (ICT)

Throughout the project, unless stated otherwise, the term information and communication technology (ICT) is meant to be understood as technological advances in various fields, that have brought developments and improvements to certain process, and have eased the way of doing business.

Digitalisation

Digitalization, within a business, represents the process in which technology is used in an attempt to improve the manner of conducting business, this can translate into anything - from switching to e-mail or upgrading to a digital CRM system to any other case where technology is used to make the business more efficient.

Outsourcing

Outsourcing represents the externalization of certain value chain activities of the MNE to independent firms or subcontractors, most often in cost-efficient locations.

Offshoring

Through offshoring we understand the relocation of MNEs activities abroad with the main purpose of taking advantage of lower costs, done through intra-firm relationships.

Traditional IB theories

As the eclectic paradigm belongs among the most popular IB frameworks, it has been selected as the representative of the 'traditional IB theories'. Thus, the sections dedicated to the 'traditional IB theories' regard this framework if not stated otherwise.

8 Literature Review

This chapter is going to analyze the scientific literature and present what the influence of ICT on the Global Value Chains configuration, Foreign Direct Investment motives and the eclectic paradigm is according to the contemporary literature. A particular focus will be paid to the scholars that observe a link among all the three topics and draw a clear line explaining the reciprocal influence. As discussed in the Methodology chapter, the scientific literature presented below is peer-reviewed and comes from some of the most prestigious academic journals in the field. Furthermore, the Methodology chapter specifies also the procedures and filters applied to gather the following articles.

Although the topics of Global Value Chains, FDI motives and continued validity of the eclectic paradigm belong among the most researched areas of International Business, combining them with the advance of ICT is considerably less common. The table below depicts that more than 62% of the literature that is going to be used in this paper was published after 2010. Moreover, the interest of the scientific community in these topics appears to be increasing steadily. Therefore, this paper will synthesise the recent development in this field and aim to provide a timely and constructive contribution to the ongoing scientific discussion.

Time period	Number of articles	Share of total
1977-1997	3	5,0%
1998-2001	4	6,7%
2002-2005	9	15,0%
2006-2009	9	15,0%
2010-2013	14	23,3%
2014-2017	21	35,0%
Total	**60**	-

Figure 10 Publication Year Distribution of the Gathered Literature

8.1 Global Value Chains

Scalera et al. (2014) argues that MNEs must constantly innovate, as the global business environment is becoming more competitive and innovations are vital for their survival. They shape the form of the Global Value Chains the MNEs employ. This empirical study uses the example of the American multinational enterprise Goodyear Tire and Rubber Company to illustrate what lies behind the continuing success of a MNE in a continuously transforming industry. Scalera et al. (2014:270) identify the following three major trends that had a major impact in the recent history of Goodyear:

1. Continuous investment in innovations
2. The transformation of the innovation network from headquarters-centric to geographically dispersed
3. Higher focus on *"soft"* innovations such as trademarks and less *"hard"* science research

Gereffi et al. (2005) argue that fragmentation of production in different countries allowed the formation of cross-border production networks, both within and between firms. Moreover, trade rises have brought a disintegration of multinational firms, companies relying more and more on outsourcing and offshoring. The growing importance of new global players such as retailers and brand marketers is seen as a key driver in the formation of global production and distribution networks. The role of these networks is salient in driving the evolution of cross-border industrial organization.

Factors such as history, institutions, geographic and social context, evolving rules of the game as well as other unforeseen factors influence how firms and groups of firms are linked in the global economy. Access to developed country markets is seen as increasingly dependent on participation in global production networks, led by firms in developed countries. Gereffi et al. (2005) argue that it is essential in understanding how firms from developing countries participate in these global markets, as this defines the governance of Global Value Chains.

Deriving their framework from empirical observations, Gereffi et al. (2005) identify five types of value chain governance.

1. Markets
2. Modular value chains
3. Relational value chains
4. Captive value chains
5. Hierarchy

The three key determinants of value chain governance are found to be complexity of transactions, codifiability of information and capability of suppliers. Moreover, Global Value Chains are dynamic structures, and sometimes overlapping. Governance patterns are in no way static, they evolve continuously. The modular governance form appears to increase, as standards, supplier capabilities and information technology improve.

Hätönen & Eriksson (2009) deal with the phenomenon of outsourcing, which originates in the 1950s and is being adopted by many of the present MNEs. This strategy takes the idea of Adam Smith (1776) about distribution of labour to the next dimension, as it distributes activities not only to the experts within the firm but also to the specialist organisations outside it. Hätönen & Eriksson (2009:142) observe two types of outsourcing - domestic and international, which is sometimes also called offshore outsourcing. The latter, together with Foreign Direct Investments, is an important factor leading to the creation of Global Value Chains as they are known today. The distinction between these two is that offshore outsourcing relies on external resources, whereas Foreign Direct Investments use the internal ones and most often lead to a higher degree of control over the value chain. Thus, outsourcing makes the organisations more efficient and focused on their core activities, while they can also benefit from specific external skills, knowledge and expertise (Hätönen & Eriksson, 2009:144).

Over the course of the history, this phenomenon had been emphasised by the advance of communication technologies and decreasing trade barriers, leading to the current era that Hätönen & Eriksson (2009:144) define as one of *"Barrierless Organizations"*. They argue that this era is characterised by fading boundaries between firms and countries, which allows MNEs to shape themselves in unprecedented forms and take outsourcing to the next levels. However, whereas the initial phases of outsourcing were providing a distinct competitive advantage to the early adopters (e.g. through cost cuts or capability improvement), outsourcing has become a matter of survival in some industries now. Instead of gaining a momentum over the competitors within the industry, companies often have to outsource just to keep up with them in the recent years. This trend increases the global trade and contributes to extending the Global Value Chains.

Evangelista et al. (2015) touch the subject of outsourcing as well. They conduct an empirical analysis proving the positive contribution of the Business Service (BS) sector, which deals with activities such as communication, law or IT services, to the international performance of manufacturing companies. Their paper shows that the use of external business services is dependent on the technological requirements of the sector, with the most technologically demanding and innovative sectors benefiting from the BS

most. Countries with higher levels of international competitiveness have been found to have a strong interdependence between the manufacturing and BS sectors. Evangelista et al. (2015:978) conclude that the most notable impact of the BS sector can be observed in case of downstream activities. They further note that the BS companies play a vital role in sustaining the innovative and technological capacities of small and medium-sized enterprises. Similarly as in case of Scalera et al. (2014), these capacities are understood to be the key determinants of future success in this paper.

This view is supported also by the paper by Lee et al. (2012), who sees innovations as *"an imperative for organisational survival in today's turbulent global market"* (Lee et al., 2012:817). The term 'innovation' has a very broad meaning in this paper, as the authors argue it includes important scientific breakthroughs as well as small improvements of the company's value chain and other relatively minor changes. Furthermore, Lee et al. (2012) describe the evolution of innovation strategies in business organisations and argue that there can be observed four major stages in the approach towards them:

1. Innovation 1.0 (closed innovation)
2. Innovation 2.0 (collaborative innovation)
3. Innovation 3.0 (open innovation)
4. Innovation 4.0 (co-innovation)

At first, companies used to be doing innovations internally and they kept them secret from the public, striving to become *"the first movers"* and gain a momentum over the competitors (Lee et al., 2012:822). This innovation strategy is rather rare now but there are still some areas where it is possible to observe it (e.g. military innovations). The stage of Innovation 2.0 brought the need to focus on the core competences due to intensified competition caused by factors such as globalisation or the advance of ICT. Thus, the companies outsourced the non-core activities and incorporated other organisations into their value chains (e.g. Apple or Nike). The third stage was driven by the rapidly developing technologies that allowed to build entirely new *"innovation ecosystems"* and allowed organisation to actively collaborate not only with other large firms, but also with small entities and individuals. This approach is currently being employed by Microsoft, NASA or the US government (Lee et al., 2012:824) and allows to combine their internal innovation capacities with much wider base of external experts. Finally, Lee et al. (2012) anticipate that the most recent stage will be characterised by a strong focus on collective intelligence and crowdsourcing. They argue that the modern ICT will make it possible to engage the public, employ its experience and incorporate it to the company's value chain. Such approach should lead to a significant improvement in the efficiency and effectivity of the innovation processes.

The empirical study by Stiebale (2015) deals with the impact of cross border M&As on the level of innovation of European firms. The paper argues that once the process is finished, the merged company shows roughly 20 percent higher level of innovation. However, the innovation capacities are usually being transferred from the acquired to the acquiree during this process. Thus, the innovation level declines in the target country and grows significantly in the home country of the acquirer.

Casson (2012) deals with the impact of offshoring and outsourcing on Global Value Chains. He argues that these phenomenons have been discussed primarily from the strategic management perspective and he decides to discuss them from internalisation theory viewpoint. One of the issues that are understated by the strategic management literature is the relationship of Ownership and location factors. Casson (2012) stresses that there is a clear connection between these two. Giving an example, he argues that when relocating a part of the production abroad, one should not only be concerned with the lower manufacturing costs but also with the increased coordination and administration costs (Casson, 2012:12). Finally, the paper notes that despite the popular belief, changes of supply chain strategies are driven primarily by the development of the fundamental attributes of the global economy (such as openness) and not so significantly by management innovations.

Laplume et al. (2016) discuss the likely effect of 3D printers on the future of Global Value Chains. First, their paper comes up with the following three key determinants of geographical setting of company's GVC:

1. Factor cost differentials
2. Scale economies
3. Factors impeding global specialisation

The first category is usually specific to the region and includes factors such as cost of labour or cost of capital. These factors were the most distinctive reasons leading to the boom of Global Value Chains in the last decades. The second category, on the other hand, is firm-specific and refers to the ability of the company to create sufficient economies of scale. Finally, the last group of factors comprises *"technological inseparability, transportation costs and import barriers"* (Laplume et al., 2016:605). Having considered all of these, the authors argue that if the technology of 3D printing is improved and adopted by a higher number of people, it has *"the potential to partially reverse the trend of towards global specialisation of production systems"* (Laplume et al., 2016:595). The main argument for this claim is the higher geographical dispersion of the manufacturing activities with more local value chains that 3D printing is expected to bring. Laplume et al. (2016) argue that this applies only for certain

industries. There exist industry segments (especially those highly automated), where 3D printing is feasible but not economical.

The 2008 Decade Award-Winning Article by Dunning (1998a) provides further comments on the location component of the eclectic paradigm. The paper argues that the field of International Business has transformed significantly in the past decades and names three key features of this development:

1. Growing importance of intellectual capital
2. Scientific development and diminishing international barriers
3. Advance of alliance capitalism

The first point regards the increasing investments of American corporations into IT technologies and the gradually growing share of employees working in sectors that generate new knowledge. The second feature refers primarily to the improved logistics and communication solutions, which together with lower geopolitical barriers enable MNEs to build more complex value chains. Finally, the advance of alliance capitalism relates to the need of MNEs to cooperate more intensively due to the significantly increased global competition. Dunning (1998a) claims that the more intensive cooperation can be observed both internally, within individual departments of the MNE, and externally, within the MNEs. Having this in mind, Dunning (1998a:5) likens his framework to a *"three-legged stool"* and argues that all the components of the eclectic paradigm are equally important. He points out that the contemporary scientific literature tends to consider the Internalization advantages as the most important category and appears to neglect the category of Location advantages. Given the increasing globalisation of markets and the growing international trade, Dunning (1998a) argues that it is impossible to consider the Ownership and Internalization advantages while not paying a proper attention to the third leg of the imaginary stool.

Liesch et al. (2011) focus on the phenomenons of offshoring and outsourcing when discussing the change in FDI patterns. They argue that the trends of offshoring and outsourcing significantly affected the nature of MNEs in the recent years. They disaggregated the value chains while allowing the multinational enterprises to benefit from both the locational advantages and specific advantages of their suppliers. This approach is necessary for the MNEs to form as efficient value chains as possible and survive in the toughening international competition. According to Liesch et al. (2011:4), primarily the lowering trade barriers, improvements in ICT and *"long-term foreign market development goals"* has been the major drivers of this growing trend. However, outsourcing and offshoring are not equally

present in all industries, traditional firms in industries such as petroleum refining are still notably internalised (Liesch et al., 2011:9).

Discussing the relationship between governance and upgrading in GVCs, Gereffi & Lee (2012) find that most global industries represent a mix of governance structures, which change over time, as well as across different regions and country settings. Moreover, analyzing the dynamics of supply chains, Gereffi & Lee (2012) argue that a consolidation of Global Value Chains is happening, with an increasing role of global supermarkets, albeit shifting end markets and regionalization of value chains, due to economic crisis.

Working with *"producer-driven"* and *"buyer-driven"* chains, Gereffi & Lee (2012) argue that any GVC analysis should revolve around governance, with lead firms playing the central role in various forms of GVC governance. Moreover, governance forms are prone to change, as the industry matures and evolves, whilst governance patterns within an industry can vary at different stages of the value chain.

Gereffi & Lee (2012) also take a look at the shift in production in global economy, from North to South, assessing that large emerging economies are playing more increasingly prominent roles. The 2008-09 economic crisis has boosted demand in the South, compared to the stagnation in the North, allowing large emerging economies like China, India and Brazil to play a larger role in the reorganization of supply chains.

Furthermore, Gereffi & Lee (2012) assert that buyer driven chains are becoming more and more extensive, global buyers being the key drivers in the formation of internationally dispersed production and trade networks. Large retailers, like Walmart and Tesco, and brand merchandisers, like Nike and Reebok, dictate the way chains are operated.

De Backer & Miroudot (2013) examine international production networks and the position of countries within them. Analyzing six industries: agriculture and food products, chemical, electrical and computing machinery, motor vehicles, business services and financial services, a detailed picture of the integration and position of countries within GVCs is given. Although Global Value Chains have existed before the 1980s, De Backer & Miroudot (2013) convey that technological change has upscaled the phenomenon, allowing a fragmentation of production that would not have been possible if several factors would not had helped. First and foremost, De Backer & Miroudot (2013) see the decrease in trade costs as the main factor in the emergence of GVCs, aided by coordination costs. Transport and communication advances have allowed a smooth flow of goods, in a coordinated manner and at low costs. Furthermore,

geographically dispersed activities, which were difficult to control and monitor, have started to be managed remotely, decreasing the cost even further.

Another important role in the advent of GVCs is represented by the institutional dimension. The policies that have been adopted have improved efficiency and have also played an essential part in the fragmentation of production.

Moreover, De Backer & Miroudot (2013) contend that besides technological advances and regulatory reforms, also the advent of emerging economies had a major effect. These economies are characterized by high growth rates not only in intermediate products but also in the final goods and services segment, which boosted demand and increased international trade growth.

Additionally, countries are seen to be specializing in specific business functions rather than in specific industries. Such business functions include procurement, R&D, operations, marketing, etc. Consequently, technical characteristics of the products explain the level of fragmentation of production, since not all products can have their production sliced up. For instance, De Backer & Miroudot (2013) argue that services are less likely to be vertically integrated, since they require personal contact between the consumer and the provider in most cases. De Backer & Miroudot (2013) also draw on the fact that whilst extractive and raw material industries are likely to be at the start of most manufacturing GVCs, financial services or transport services will be part of almost all value chains. Thereafter, De Backer & Miroudot (2013) consider specialization to be no longer in industries but in specific functions of the value chain.

The disaggregation of GVCs is seen by Cano-Kollmann et al. (2016) as an important factor in the rise of knowledge connectivity in innovation systems. Fully integrated structures are no longer seen as crucial, thus focus has to be put on internal specialization of specific activities. Technology evolution leads these specialized activities to be more finely sliced, products and services no longer being associated with a specific geographic location, but are becoming the result of complex relationships between knowledge and activities across organizations and locations. This connectivity is seen as the lifeblood of the system, making the networks to *"thrive, succeed and expand."* (Cano-Kollmann et al., 2016:261)

Damijan & Rojec (2015) perform an analysis of conceptual and empirical literature on GVC related topics, through which they identify several priority topics for future GVC research. However, by doing so, Damijan & Rojec (2015) also bring to light various GVC characteristics.

The advent of GVCs is presumed to be a result of digitalization, which has led to decreases in transport costs and eliminating barriers to International Business, which in turn has facilitated the fragmentation of production. Thus, the creation of GVCs allows lead firms to exploit international production costs differences, as well as allowing establishment of new, previously not available types of production. Other positive outcomes attributed to GVCs are new jobs, technology transfer, growth and development boost, although these positive outcomes are not seen as inherent. Additionally, the ICT revolution has allowed geographical dispersion of production, as control and coordination of complex activities could now be done more easily. Thus, the difficulty of combining technology from developed economies with labour from developing economies was dramatically reduced. However, the dispersion of activities has also fostered variations in wage gaps, favoring North-South offshoring, and variations at firm-level excellence, with implications for North-North and South-South offshoring. Touching upon FDI, Damijan & Rojec (2015) argue that FDI policies are at the core of GVCs, and that upgrading the position of the host country's firms in the GVC can only be done if emphasis is placed amongst others, on facilitating knowledge transfer to subsidiaries, and upgrading them to higher value added activities. Furthermore, the host country's policies regarding governance of science and technology, R&D and innovation, education and training are seen as essential factors of importance.

Yrkkö & Rouvinen (2015) argue that GVCs are complex and heterogeneous, with advanced products and services having a more Global Value Chain, compared to basic products and services. Furthermore, the value added is higher for the intangible aspects of GVCs, market, internal services and intellectual property being more important than the value added of assembly for instance. The advent of GVCs has been made possible by technological progress, as well as easier access to resources and markets, due to trade policy reforms. Moreover, Yrkkö & Rouvinen (2015) argue that the most value is captured at the headquarters location. In case of digital services, however, value added tends to be captured more easily at locations of consumption in the non-digital sectors.

Timmer et al. (2014) deal with the global fragmentation of production. They argue that international fragmentation has increased and reached a global scale beginning in the early 1990s. This is due to the advances in the ICT industry, which drove the price of information technology capital down. Thus, the decrease in communication and coordination costs has made it profitable for companies to split their production process, with each stage being located in the lowest-cost point. Timmer et al. (2014) also point out that current trends show a shift towards value added by high-skilled labor, in the detriment of

less-skilled labor, suggesting a process of increased technological change. This phenomenon is not only visible in advanced economies but its share is also increasing in emerging economies.

Lee & Gereffi (2015) draw on the relationship between MNEs and the constantly changing patterns of global trade, dealing with its impact on economic and social upgrading. Focusing on the governance and upgrading of GVCs, Lee & Gereffi (2015) argue that three developments are key in the recent position of GVCs:

1. Concentration
2. Regionalization
3. Synergistic governance

Their paper contradicts the initial expectation that production fragmentation might lead to greater participation by less developed countries as well as smaller firms in the GVCs. This asserts that value chains have actually become more concentrated, geographically as well as organizationally, leading to an uneven distribution of upgrading opportunities. Furthermore, the regionalization was further affected by the shift of end markets to emerging economies and the rise of large emerging economies. Regionalization is also fueled by global lead firms behavior. In order to promote their localization strategies, they turn to focusing on groups of countries that are similar in terms of geography, economy or culturally.

Gereffi (2014) reflects on the governance structures of GVCs, asserting that they are currently changing, compared to previous historical periods. Although established governance structures are still in place, and will continue to play an important part, other new governance structures emerge. Several factors are responsible for these changes, *inter alia,* the fact that bargaining power is shifting from lead firms in GVCs to large suppliers in developing economies. Other important influencers are the new patterns of coordination among value chain participants or shifts in the end markets towards emerging economies. Worth noting are also the geopolitical factors like the end of the Washington consensus and the continuous rise of various centers of economic and political power. Hence, the power of balance between lead firms, which were vital in the buyer-driven and producer-driven chains, and top manufacturers in emerging economies is shifting towards the latter. In addition to well-organized domestic supply bases, these economies have started to move up the value chain with several pre- and post-production activities being located in the developing countries.

Pietrobelli & Saliola (2008) study global and domestic value chains in Thailand, finding that value chains which are led by MNCs have a more intense multifold relationship with their suppliers compared to

domestic value chains. Thus, they draw the conclusion that buyer involvement with local suppliers is associated with higher supplier productivity. The governance is affected by factors such as the nature of information and knowledge that is being exchanged or the gaps in knowledge and capabilities between the lead firm and its suppliers.

Morrison et al. (2008) explore the relationship between technological capability (TC) and GVCs. Following this exploration, the GVC approach is seen as having a positive impact in developing economies, international linkages playing an important part in accessing technological knowledge and enhancing innovation and learning. Morrison et al. (2008) argue that the GVC framework could be improved by incorporating TC elements, as it would allow to explain upgrading and performance in GVCs. For instance, a higher degree of knowledge complexity will promote closer relationships with local suppliers, contributing to the establishment of a more relational mode of governance. The opposite is also possible, a lower degree of knowledge complexity leading to more distant relationships, thus a more captive mode of governance.

Giuliani et al. (2005) have an interesting take on the process of upgrading. Arguing that changes in production systems, distribution channels and financial markets have been accelerated by the globalization of product markets and advent of ICT technologies, Giuliani et al. (2005) suggest that external linkages are becoming increasingly important. This applies especially in regards to enhancing competitiveness in international markets. One of the factors that influence upgrading is collective efficiency, although its impact is different and is made through various ways, depending on the sector which is analyzed. The governance mode is central to the process of upgrading.

Although Foster & Graham (2017) focus on the global production networks (GPNs), their study is asserted to be useful also for GVC research. They are considering the increasing role of digital technology in GPNs and the impact it has on International Business. The increased digitalization of production, with data and information flows becoming integral elements of production across all economic sectors is considered to be driven by its ability for improving production and the need for faster innovation. Information flows are central in the business world, as they support the buyer-supplier relationships and improve planning as well as coordination.

Chung et al. (2013) analyze the impact of ICT on global food networks, with special consideration given to the influence of the Internet and mobile telephony on the trade patterns in this sector. Customer relationship management, electronic data interchange, internal supply chain management, supply relationship management, enterprise resource management, analytical decision support, are only some

of the opportunities considered to be facilitated by the advent of ICT. The importance of these technologies is highlighted also in allowing SMEs to engage in international trade. Traditionally, SMEs lacked the resources to accomplish that but the advancements in ICT can reduce the costs related to processing transactions. That includes cheaper trade supporting services, allowing the SMEs to participate in Global Value Chains.

Moodley (2002) explores the South African wood furniture sector in an attempt to link Internet connectivity and access to GVCs. His main finding presents the adoption of e-commerce technologies as integral in access to global markets. Business-to-business (B2B) e-commerce is considered to have a deep impact on the relationships between advanced economies and less developed markets. For instance, the huge growth of Internet connectivity in the Northern developed economies being due to the economic benefits it offers its users.

ICT drives economic globalization, together with opening of markets and expansion of global trade, being the main enabler of the global networked economy. Although Moodley's (2002) contribution is made at a time when Internet use amongst companies is still at low levels, it is envisioned that e-commerce will enable companies to pursue more lucrative and diversified commercial activities, at the same time enhancing access to the global marketplace. Since international trade is made up by a dense web of networks, companies need to successfully integrate in new networks, clusters, alliances and value chains that are established through the aid of ICT and the Internet. Moodley (2002) estimates that e-commerce would play an instrumental role in sustaining these linkages, as it reduces communication costs and powers information flows, facilitation trade.

Chen & Kamal (2016) analyze the impact of the Internet and ICT adoption on international reorganization of production by MNEs. Basing their study in the first significant wave of Internet-enabled ICT adoption (Chen & Kamal, 2016:574), the authors find that ICT adoption is positively associated with in-house production, with complex forms of ICT being associated with increases in intra-firm trade. MNEs in industries where product characteristics can be easily codified in an electronic format are more likely to engage in arm's length trade, compared to intra-firm. Furthermore, as information can be easily codified, the value chain can be broken up into separate units.

Drawing on outsourcing/offshoring versus internal production, arguments are considered for each side in the context of ICT adoption. On one hand, internal coordination is improved, through increases in quality and speed of information processing and management's decision making. Monitoring is also improved, further reducing costs, thus allowing the firm to be managed more effectively. On the other

hand, ICT adoption can also reduce external coordination costs, also reducing costs associated to arm's length trade. In the author's view, these two dimensions do not exclude one another but should rather be seen as complementary. ICT adoption lowers communication and coordination costs between the central firm and both external and internal partners. However, Chen & Kamal (2016) argue that matching ICT capabilities are required from the partners in order for the relationship to be mutually beneficial.

Chen & Kamal (2016) also argue that developments in digital manufacturing, such as crowdsourcing, cloud computing and cloud manufacturing, represent revolutions of the production process. They create new avenues for GVC production and potentially affect both the governance and the upgrading of GVCs.

Buckley & Strange (2015) deal with the governance of the global factory and how the changes in the location of international economic activity have happened. Three models of governance are analyzed, each presenting different characteristics and each having different implications. ICT advances have affected all three models, shifting power from suppliers towards lead firms. Empirical evidence supports all three models, as the ICT advent has supported increases in emerging economies' locally owned production capacities, FDI activity from MNEs in advanced economies has increased, at the same time with outsourcing and offshoring increases in activities that previously were vertically integrated

Lévy (2009) identifies leading facets of the new globalization wave, which are the emergence of GVCs, the geographical changes in production location, as well as the emergence of Asian countries on the international production stage. As Lévy (2009) points out, currently the International Business sphere deals with numerous parameters, variables and mutually dependent units of regions and nations. Starting from Vernon's (Vernon,1966 – Footnote: As seen in Lévy [2009]) product cycle theory, Lévy (2009) argues that MNEs try to obtain competitive edge through global knowledge and global markets for innovation. The advances in transportation and ICT are seen as responsible for the emergence of GVCs, along with the shift towards emerging economies. Furthermore, GVCs can be easily broken down, with activities relocated to the most cost efficient location. Another aspect of the GVCs is related to the increases in the intra-industry trade, eg. the automotive industry, which coupled with the aforementioned ICT advances and trade liberalization has fostered outsourcing and offshoring.

In an empirical study of the ICT role in the evolution of cross-border exchange, Rangan & Sengul (2009) present three salient implications to the MNE theory. First, MNEs governance mode is designed so that it takes advantage of the ICT advances. For instance, a higher use of ICT signifies a decline in the importance of Internalization of MNEs. Second, patterns of international exchange and their governance

modes can now be predicted by knowledge intensity and information intensity, in line with transaction cost theories of the firm. Third, Rangan & Sengul (2009) draw on FDI motives, asserting that MNEs are increasingly more relying on efficiency-seeking motivations, versus market-seeking motives. Furthermore, they contend that the L factor of the OLI framework are moving into foreground.

In their paper, Giroud & Mirza (2015) show that MNE activities are changing their structure towards a more complex and geographically dispersed manner. Moreover, the governance modes are also changing. This evolution, grouped with the rapid growth of GVCs, is asserted to have an impact on FDI motives, thus a refinement of those is required.

The evolution of globalization, accelerated by liberalizing trade and advances in ICT and transportation technologies, has enabled new actors, new markets and new configurations in International Business. Classic FDI motivations, like market and asset seeking investments, are not invalidated by the rise of GVCs. On the contrary, Giroud & Mirza (2015) argue that they become even more essential, as these motives are the driving force behind MNEs competitive strategies.

The increased importance of Internet and cloud based services is analyzed by Pon et al. (2015), in an attempt to examine how lead firms are reacting to these changes. It is asserted that previously separate industries are being merged by technological convergences, with value chain relationships being redefined and their roles and strategies changed. Pon et al. (2015) contend that whilst the past decade has brought huge increases in processing power, data storage and bandwidth, the future lies in the form of cloud based services. Moreover, with increasingly more connected devices, such as TVs, automobiles, refrigerators, thermostats, health monitors and so on, the Internet of Things is seen not only as an possibility but as a future reality. The Internet is expected to act as the core platform to which all these devices connect, hence having the potential to bring significant changes to the business world.

Analyzing the success of the Internet and e-commerce in developed economies, Agarwal & Wu (2015) examine factors that have the potential to influence the growth of e-commerce in emerging economies. Thus, a series of factors are identified, at global, national and transactional levels. Multilateral agreements, MNEs behavior and technological innovation represent key factors at a global level, with infrastructure, cultural and institutional environments impacting at a national level. The integrity of transactions, network externalities and clustering are identified as the key factors at the transactional level. All these factors are presumed to centered around e-commerce, as it represents the enabling factor in the value creation process. However, it is imperative for the emerging economies themselves to support growth policies, in order to take full advantage of these factors. Having identified the factors,

Agarwal & Wu (2015) continue with a series of propositions to enhance the growth of e-commerce in these emerging economies.

In another take on cloud computing and its effects, Kushida et al. (2015) argue that the major impact that cloud computing on the economy will largely be driven by the way MNEs implement cloud architecture. A shift in computing power, being transformed from a scarce to an abundant resource, has contributed to the advent of the cloud architecture. With an increasing number of Internet connected devices, the purported 'Internet of Things', cloud computing is seen as central to the ICT enabled services system. Furthermore, cloud computing is seen as a revolution inside the ICT revolution, "*an innovation ecosystem, production platform, and global marketplace"* (Kushida et al., 2015:6). At the same time, it represents the new infrastructure that supports the global economy.

Examining the phenomenon of administrative and technical service (ATS) offshoring, Kenney et al. (2009) argue that its evolution needs to consider other underlying elements besides the cost-saving factor. Thus, the rapid growth of ATS is estimated to spawn new knowledge creation and innovation platforms, through amassing resources such as financial flows, infrastructure, knowledge and human capital. Indeed, low costs represent the initial prerequisite for offshoring, however, at the same time it represents a focal point in determining the firm to pursue innovation-based strategies. The advent of IT and ICT has played a salient role in the evolution of offshoring, allowing for increasingly more reliable, efficient and cheaper communication. Furthermore, the challenges of coordinating geographically dispersed ATS activities are also diminished with the aid of IT and ICT.

The advent of ATS offshoring is considered to be an integral part in the shift of economic activities towards developing countries from developed economies. Thus, Kenney et al. (2009) argue that competitive realities that govern the management, location and organization of economic activity in this century are giving rise to a new model for national competitive advantage, a model that is built on an economic engine relying on people and networks, rather than on traditional drivers like agriculture or manufacturing.

Hayter (2009) analyzes the emergence of global production systems in the electronics sector, considering the changes in GVCs. A series of considerations are made, dealing with the horizontal coordination between various types of firms, the governance modes in the value chains, as well as the importance of logistics and transport. Removing trade barriers and advances in ICT have made it possible for breaking down of value chains, with significantly more dispersed geographical locations. Thus, offshoring and outsourcing were boosted, with a significant shift from vertically integrated firm,

which had control over the entire value chain, to horizontal coordination among firms which are specialized in various segments of the Global Value Chain.

Zaheer & Manrakhan (2001) explore how traditional firm motivations for locating activities internationally are changed by technology advancements. Thus, the information revolution is seen as challenging the traditionally close relationship between foreign location and value-adding activities of MNEs. The advent of the Internet, a form of remote electronic access (REA), is considered a decisive factor, as it allows easier transmission of content and information, whilst also reduces costs. Hence, remote electronic access is seen as an influencing factor in the locational variable. While ICT advances simplify the interactions within firms, REA is seen as most suitable for processes with a high level of digital content or activities where the information can easily be codified. An analysis of the traditional FDI motives by Zaheer & Manrakhan (2001) shows the main changes that REA brings and concludes that traditional motivations can be easily altered by a digitalized and networked global economy.

8.2 FDI Motives

Yokota & Tomohara (2009) provide a synthesis of the contemporary scientific literature on the FDI determinants and propose a framework examining the determinants within the same MNE type. Having proposed and empirically tested an index, which sorts the samples into two main groups of FDIs (vertical and horizontal), their paper analyzes *"different characteristics of FDI activities in terms of affiliate sales strategies"* (Yokota & Tomohara, 2009:476). Yokota & Tomohara (2009) conclude that it is the type of industry and the destination of the FDI, which are the two most important factors affecting the choice of MNE strategies within the same FDI type. Furthermore, they propose that additional industry-level data is collected and that future research on the connection between the industry- and country-level determinants is conducted.

The paper by Blonigen (2005) provides an overview of the present research on FDI motives. It observes that a significant share of the scientific literature focuses on describing the influence of country-level specifics such as the tax level or the exchange rates on the intra-firm FDI decision making process. Furthermore, it comments on the role of institutions and the impact of trade protection policies on the FDI behaviour of MNEs. However, following an extensive analysis of this literature, Blonigen (2005) warns that the empirical research in this area is still in the early stages and notes that certain scholars have already proven the contemporary empirical literature on FDI determinants to be statistically quite fragile. At the end of the paper, Blonigen (2005:398) suggests that *"the ever greater availability of micro-level data"* will help to move the research in the field further and make it more reliable.

Cuervo-Cazurra & Narula (2015) reflect upon the development of internationalisation motives in the scientific literature and suggest how to use these for future research. The paper highlights that the world economy has transformed significantly in the last decades, observing a constant development in how MNEs structure themselves and how they build their value chains. Thus, Cuervo-Cazurra & Narula (2015:2) suggest that the four internationalisation motives introduced by Dunning in 1993 should be updated and expanded. They claim that *"there is no logical or conceptual reason for the IB community to remain bound by the artificial constraint that the MNE is primarily driven by four seeking motivations"* (Cuervo-Cazurra & Narula, 2015:11). The authors argue that the framework by Dunning (1998a) is oversimplifying a very complex issue and can be considered quite atheoretical. Even though they are convinced that this take on the internationalisation motives is still relevant, they recommend putting it together with other frameworks. Furthermore, the paper points out several alternative frameworks dealing with this issue (such as 'sell more, buy better, upgrade and escape' by Cuervo-Cazurra et al., 2015), suggesting they might be beneficial when searching for additional insights into the topic.

The empirical studies by Jabri et al. (2013), Leitao & Faustino (2010) and Larimo & Arslan (2012) prove that the FDI inflows in a country are strongly affected by macro factors like openness, market size, growth rate or tax politics. The macro factors have a profound influence on the long-term development of the FDI inflows and, thus, must be always considered alongside the intra-firm FDI motivations. Moreover, Larimo & Arslan (2012) point out that together with the company specific factors and timing, the macroeconomic factors are the key determinants of the chosen mode of entry as well as of the applied entry strategy.

The paper by Holtbrügge & Kreppel (2010) deals with the determinants of outward FDI and presents 8 case studies on firms from the BRIC countries. They note that firms from these countries are a major driver of the global economic growth and remind the reader that particularly the economies of China and India are expected to be of paramount importance in the upcoming decades (Holtbrügge & Kreppel, 2010:5). Apart from the importance of macroeconomic factors, they highlight also the availability of technological resources and management know-how. They differentiate the following three levels of FDI determinants:

1. Country level determinants
2. Industry level determinants
3. Firm level determinants

While the first category concerns the macroeconomic factors including the technological and managerial preparedness of the country, the industry level determinants deal with factors such as the strategic importance of the industry for the country and the level of competition in the home market (Holtbrügge & Kreppel, 2010:19). The firm level determinants are connected to the specific competences of the firm such as the organisational know-how or operations of the company. They are similar to the Ownership advantages of the eclectic paradigm by Dunning.

Hashmi (2012) conducts an empirical analysis of the success determinants of international operations of large U.S. MNEs. His paper observes that *"successful foreign direct investment (FDI) and continuous involvement of large U.S. corporations is crucial for economic development of a country and social uplifting of the many citizens of the world"* (Hashmi, 2012:131). After an analysis of selected variables, Hashmi (2012) concludes that large market size, geographical diversification and low production & operating cost are the three most important determinants of success. However, he claims that the results may differ based on the industry and encourages further examination of this topic.

Sethi et al. (2003) provides an overview of the historical development of FDI frameworks and comments on what were the most common motives of US multinational enterprises to expand to Asia at the beginning of 2000s. This paper notes that US MNEs invested primarily in Western European countries in 1950-1970s, as the systems of these countries were culturally, economically and politically close to the USA. Moreover, these countries were usually characterised by a highly developed infrastructure and later on, they formed an economic union, which brought additional business opportunities. However, these investments intensified the global competition and MNEs started engaging more in efficiency-seeking FDIs in Asia since the 1980s. Despite the limited attractiveness of the Asian markets, the local economies provided notable opportunities in terms of increasing cost-efficiency. The wage difference is the main reason for the US MNEs to choose Asia over West Europe for their production and assembling activities (Sethi et al., 2003:325). The Asian economies liberalised and partially transformed since the 1980s but still, the cheap labour force remains the prime motivation for the US companies to invest in Asia (Sethi et al., 2003:325).

Based on these observations, Sethi et al. (2003:317-319) and propose the following 6 major influencers of changes in FDI trends:

1. 'Location' as a region
2. The traditional determinants of FDI
3. Cost-reduction pressures

4. Liberalized investment environment
5. Institutional prerequisites for attracting FDI
6. Cultural proximity

The motivation to invest in a specific region depends on how important the individual factors are for a company or an industry (Sethi et al., 2003:325). Many production companies currently value primarily low wages and, thus, are willing to accept lower cultural proximity and less liberalised investment environment in countries like China.

Alvarez et al. (2015) examines how the strategic objectives of the internationalising company and the capabilities of local firms determine the entry mode chosen to expand to the country. This paper concludes that the entry mode choice is influenced primarily by 'the potential reciprocal technological spillovers between local firms and MNC subsidiaries' (Alvarez et al., 2015:569). If the host country is characterised by a developed system of innovation, the entering MNE tends to choose M&As as the mode of entry. This approach is chosen primarily by technologically advanced MNEs, which can use their specific assets to benefit from an already established system of innovations. On the other hand, the MNE that are not technologically leading in their field tend to make greenfield investments in countries where the local systems of innovation are still under development.

Zekos (2005) examines the influence of FDIs on the emergence of the phenomenon of digital economy. He investigates the development of FDIs and considers the measures taken by the governmental organisations to address the advance of ICT technologies and globalisation. Furthermore, Zekos (2005:52) claims that *"foreign direct investment by multinational corporations accounts for an increasing proportion of global economic activity"* and observes the emergence of so-called e-MNEs. These are being defined as organisations, which still produce tangible goods in different countries but at the same time, they have a highly developed network based on managing intangible goods and services via the cyberspace. Such global connectivity lowers the importance of time and space, enabling to control the value chain or form alliances and partnerships more easily than ever before (Zekos, 2005:58). Zekos (2005:53) argues that e-MNEs are most likely to engage in FDIs focused on *"industries with significant firm-specific, intangible, knowledge based assets"*, as they their success is interconnected with skills of their employees. The appearance of e-MNEs and the development of digital economy affect also the FDI motivations. FDIs do not flow to the established locations anymore and the influence of measures applied by the local institutions has decreased, reflecting the increased importance of digital networks. Due to the different needs of e-MNEs, the quality of technological infrastructure and the availability of

competent human capital have become major determinants of FDIs. Zekos (2005) concludes that countries with cheap high skilled labour force will become the new prime destinations for FDIs. Intangible goods will be distributed via cyberspace and the advance of e-MNEs is also likely to improve logistics of tangible goods. Although it is noted that the digital economy has not been as destructive as it had been expected so far, major impacts of this development can be expected in the future.

Narula & Dunning (2010) revise their previous paper and consider the importance of FDIs and MNEs in the changing International Business environment. They use the four major FDI motivations proposed by Dunning in the 1970s and compare how the motivations of firms developed over the past three decades.

FDI motive	1970s	2000s
A. Resource seeking	1. Availability, price and quality of natural resources 2. Infrastructure enabling processing and export 3. Government restrictions on FDI / capital 4. Investment incentives	1. Same but local upgrading more important 2. Availability of local partners 3. Entrepreneurship, trustworthiness of local partners 4. Extent and quality of law enforcement
B. Market seeking	1. Mostly domestic, occasionally adjacent regions 2. Real wage costs or material costs 3. Transport costs and barriers 4. Investment incentives, privileged access to import	1. Same but also new organizations (NAFTA, EU…) 2. Availability and price of skilled labour 3. Presence and competitiveness of related firms 4. Quality of infrastructure and institutions 5. Agglomerative economies and local support 6. Macro-economic policies of the government 7. Quality of local norms and standards 8. Promotional activities of local dev. agencies
C. Efficiency seeking	1. Mainly production cost related 2. Freedom to engage in trade of products 3. Presence of agglomerative economies 4. Investment incentives	1. Same but also B2, B3, B4, B5 and B7 above 2. Increased role of governments in education 3. Availability of specialized clusters (e.g. science parks) 4. Ability of locations to build trust-intensive relations
D. Strategic asset seeking	1. Availability of assets to enhance O-advantages 2. Institutional and other variables facilitating acquisition of such assets	1. Same but growing geographical dispersion 2. Price and availability of synergistic assets 3. Opportunities for exchange of knowledge and ideas 4. Access to different cultures, institutions and values 5. Ability to build relationships with acquired firms

Figure 11 Development of FDI Motives (adaptation of Narula & Dunning, 2010:279-280)

The table above depicts a general shift from relatively simple market- and resource-seeking FDIs towards more complex efficiency- and strategic asset-seeking motivations in this time period (Narula & Dunning, 2010:278). Even small MNEs currently form themselves to benefit from cross-border interactions, enabling them to achieve better operational efficiency and gain other advantages following from the international presence. Narula & Dunning (2010) point out a connection between this development and the advance of globalisation.

The empirical study by Gholami et al. (2006) examines the effect of advanced ICT infrastructure on the inflow of FDIs. As they decrease the transaction and control costs (among other advantages), Information and Communication Technologies have been found to have a positive influence on the FDI inflows. Due to the gradual transformation of global economy and decreasing geopolitical barriers, the factors of geography and distance have become less important. On the other hand, connectivity to the global network grew in importance. Therefore, countries that invest in developing and sustaining a high-quality ICT infrastructure are more likely to attract FDIs. Gholami et al. (2006) even place the developed ICT infrastructure along the traditional FDI determinants such as market size, stability or trade barriers.

Benito (2015) discusses whether the internationalisation motives are still relevant. Using the classical classification of four key motives by Dunning (1998a), he argues that the most common motives differ across the economy and gives examples of industries usually connected with the individual motives. According to him, market-seeking is typical for industries where local tastes and preferences make a difference. Such industries are usually connected to selling consumer goods or providing various services. Efficiency-seeking is connected to the manufacturing industry, where the cost of labour force or cheaper sourcing are the decisive factors. Resource-seeking is usual for extractive industries, where the natural resources are the core of the business, or for industries where vertical supply chains must be coordinated efficiently. The last category, the strategic asset-seeking motives, can be related to all types of industries. However, they are most common for the high-tech companies or for firms from emerging economies. Benito (2015:16) concludes that the motives should continue being considered relevant, as they *"help organise our understanding of firms' internationalisation"*. He claims that one of their major benefits is that they help to focus the interest of the scientific community and drive the research in the field.

The paper by Nachum & Zaheer (2005) investigates why companies continue making FDIs when the current technologies allow to do business at a distance. They describe that it is the cost of distance, which determines whether a company decides to internationalise. While technology decreases some of

the costs connected to this indicator, it depends also on the nature of the industry and other factors when firms decide if they should go abroad or if they should do business from the home countries. Companies in the information-intensive industries tend to expand for instance from knowledge-seeking and efficiency-seeking reasons. On the other hand, the motivation to expand is usually market-seeking or efficiency-seeking for firms in less information-intensive fields. Thus, phrases such as the 'death of distance' or the 'end of geography', which some scholars when speaking about the advance of ICT, are greatly exaggerated and not valid (Nachum & Zaheer, 2005:763). Distance and geography remain major factors to consider when making a certain type of FDI.

Milberg (2004) dwells on the link between trade and global production systems. The driving forces for FDI have changed, also leading to changes in the structure of trade, with less trade in final goods and more in intermediate goods. Milberg (2004) argues it is this shift in trade structure that makes globalization the phenomenon that it is. The governance of this structural change is also considered, with a significant shift from intra-firm trade towards arm's length relations between lead firms and suppliers.

8.3 The Eclectic Paradigm

Alcácer et al. (2016) bring valuable insight into the changes in structures and processes in International Business. The changes have been brought by *"the new techno-economic paradigm of the information age"* (Alcácer et al., 2016:499). The third industrial revolution has provoked changes in the competitive advantages of places and firms, as well as the governance structures of IB networks, these areas being reproductions of the Ownership (O), location (L) and Internalization (I) of the eclectic paradigm. Drawing on De la Torre & Moxon (2001), it is asserted that the changes in ICT have accelerated and we have entered a diffusion phase in which ICT affects every industry, completely changing the aspect and geographic distribution of International Business activity. The change in location advantages can be clearly seen by examining the current distribution of MNE activities. The shift of production from developed economies to emerging economies, or towards North and East, is clear and continues to grow. Beyond location, the ICT revolution has affected every aspect at firm or organizational level. The increasingly more complex networks of companies also mirror a growth in knowledge complexity.

Alcácer et al. (2016) make an interesting point when dealing with the governance of companies in the context brought by ICT. The separation between Ownership and control is even more important in the information age than ever before. Whilst ICT advances have lowered costs and made coordination and monitoring easier, it is contented that lead MNEs control a far wider range of activities than those in

own facilities. OLI factors evolve over time, and the ICT era has brought significant changes, so the shifts in the International Business environment has also changed OLI advantages, changes which are further analyzed in the paper.

In one of the seminal papers on the concept of e-commerce, Dunning & Wymbs (2001) show that the eclectic paradigm is still valid with the advent of the e-commerce revolution. However, certain aspects of it need to be refined in light of the particularities of the Internet. Business theories addressing the competitive advantage of MNEs are considered to be applicable, although changes in the Ownership, localization and Internalization variables are inherent. Although a significant part of the paper is based on assumptions, valuable insight is given into the impact that the Internet has on International Business. The Internet is seen as a powerful catalyst for new business practices. Along these lines, the ICT revolution affects trade, FDI and international alliances. The new information economy is based on reductions in coordination and monitoring costs, thus facilitating cross-border commerce. Thus, MNEs seek to leverage ICT in order to sustain or augment their Ownership advantages, whilst pursuing adept organizational structures and looking for cost efficient locations where they can successfully exploit core competencies. Furthermore, Dunning & Wymbs (2001) contend that it is not technology per se, with increases in computing power and infrastructure capabilities, but how the infrastructure will be used to foster network collaborations thus bringing superior economic performance.

De la Torre & Moxon (2001) deal with the impact of ICT on International Business, concluding that despite the fact that ICT did not change the conduct of global business in the way it was envisioned to, it still had a great impact on business practice. Customer relationship management, supplier and procurement systems, amongst others, have been impacted, leading to changes in the very nature of firms. Thus, the ICT revolution affects, the nature of industries and markets, the responses of the enterprises and their internal processes, as well as the roles of states and geographies. A series of potential outcomes is discussed, whilst at the same time arguing that the OLI paradigm of International Business retains its validity, however a refinement and evolution is needed so that new changes are reflected.

The eclectic paradigm was first introduced by John Dunning at the 1976 Nobel Symposium held in Stockholm. Dunning (1977) summarizes his initial thoughts and presents the framework to the scientific community. This paper is of vital importance, as it created the basis for Dunning's work in the next several decades.

Dunning (1988a:1) addresses some of the critics of the eclectic paradigm and reviews how the framework developed since it was introduced. The paper also introduces several extensions that would help the paradigm to better reflect the changing reality of International Business. Most notably, Dunning (1988a) goes more into depth in regards to the Ownership advantages and describes the so-called Oa (asset related) and Ot (transactional) subcategories. The paper concludes that the OLI paradigm remains being valid and that it continues serving the purpose of explaining the international business activity of MNEs. Dunning further deals with these issues also in the book published that year (Dunning, 1988b).

Dunning (2002) presents the most influential papers he published over the course of the previous decades. These papers relate primarily to the development of the eclectic paradigm concept, which Dunning first introduced in 1976 (Dunning, 1977). The three components that the framework is based on, the Ownership, Location and Internalization advantages, as well as other important details relating to the eclectic paradigm, are discussed more into depth in this book.

The article by Dunning & Lundan (2008) reacts on the institutional theory and argues that the OLI paradigm can accommodate it. When expanding the boundaries of the eclectic paradigm, Dunning & Lundan (2008:588) introduce an entirely new subcategory of Ownership advantages - the Oi (institutional) advantages. These, together with the Oa (asset related) and the Ot (transactional) components introduced already before, create the so-called *"triumvirate of O"* (Eden & Dai, 2010:26).

Eden & Dai (2010) focus on the development of Ownership advantages, when reviewing the last 37 years of the eclectic paradigm. They observe that the OLI paradigm has become an essential IB theory but also point out that the 'big tent', as the framework is sometimes called, has been continuously stretching over the course of time (Eden & Dai, 2010:13). The authors are convinced that the theory remains being valid even after almost four decades of existence. However, they highlight that Dunning's effort to accommodate an increasing number of IB concepts under the roof of the eclectic paradigm and has had mixed results (Eden & Dai, 2010:13).

9 Analysis

The purpose of this section is to analyze the information gathered in the Literature Review chapter and to create a platform for answering the research questions. As all the three research questions are interconnected, each of them is vital for dealing with the next one. Thus, a gradual approach towards the research questions is going to be adopted and the information gained during the process of addressing the issues is to be used throughout the whole chapter.

9.1 Structure

The chapter is going to be structured according to the three main research topics - The Influence of ICT Advances on Global Value Chains, the Development of MNEs' motives to engage in FDIs and the continued Validity of the Eclectic Paradigm. The first subchapter is going to assess the most recent scientific papers and present the changes caused by the ICT improvements. The second section is going to take the findings of the first part into consideration when evaluating the change of the motivation of MNEs to engage in FDIs in light of the new situation. Finally, the third subchapter is going address the matter of the eclectic paradigm and analyze whether it continues being valid or if it needs to be updated. Put together, the three parts are expected to provide the reader with a complex understanding to the issue of the influence of Information and Communication Technologies on the field of International Business.

As described above, each question will address different aspects of the researched problem. These are the steps that are going to be followed:

Section 1: The Influence of ICT on Global Value Chains

Scientific literature presented in the Literature Review chapter is going to be analyzed here in order to identify what factors connected to ICT improvements currently influence the Global Value Chains. Observing their special place in the scientific literature, the following characteristics of GVCs will be analyzed: Governance, Dispersion of Activities and Upgrading. Furthermore, a special attention will be paid to assessing the current trends in International Business.

Section 2: Development of MNEs' Motives to Engage in FDIs

The second step will build on the findings presented in the previous step and use the observations found in the scientific literature to assess what drives MNEs to invest abroad.

Furthermore, based on the general trends debated above, it will be estimated in what direction are the FDI motives likely to change in the future. Although various views on the drivers of internationalization will be discussed, a particular attention is going to be paid to the four key FDI motives proposed by Dunning (1998a). It is the aim of this section to evaluate if they continue being valid or if an extension to the original work is needed.

Section 3: The Validity of the Eclectic Paradigm

Finally, it will be discussed whether the findings of this paper affect the validity of the eclectic paradigm. The framework by Dunning (1977) belongs among the most recognized and the most widely used conceptual models in the field of International Business (Lee & Gereffi, 2014:325). Thus, it will serve as a representative of the traditional IB frameworks. Moreover, it is closely connected with Dunning's model of internationalization motives, which is to play a key role in the previous step.

The chart below depicts the structure of this chapter:

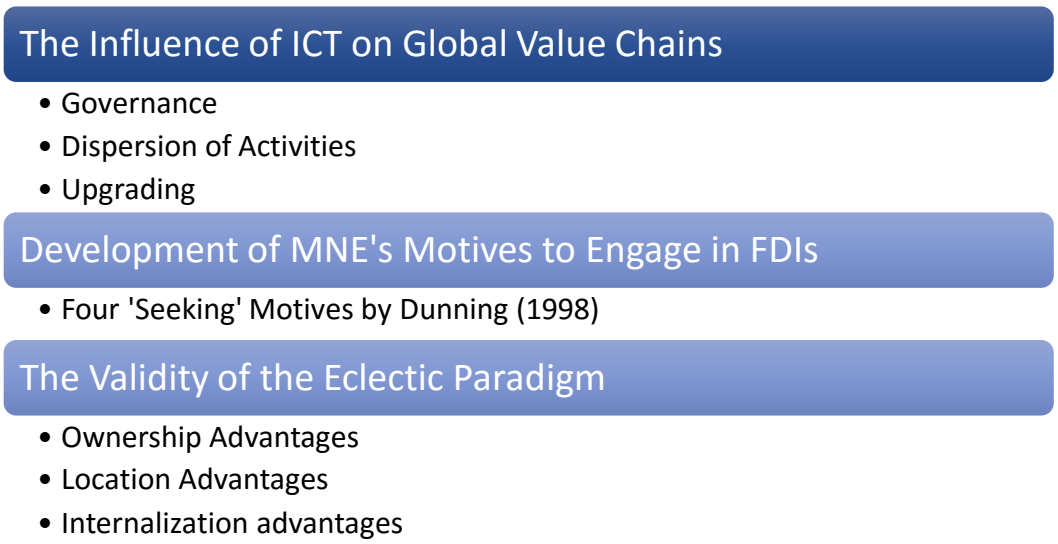

Figure 12 Structure of Analysis

Further observations and practical implications of the findings presented in this chapter are going to be addressed in Discussion.

9.2 The Influence of ICT advancements on Global Value Chains

The following pages analyze the influence of ICT improvements on Global Value Chains and aim to evaluate their effect on key characteristics of GVCs. The assessed information will serve as a base for a series of propositions demonstrating the impact of various influences, which originate in improved ICT. These are expected to change our understanding to Global Value Chains in the future and shall be further debated in Discussion. As mentioned before, the propositions are going to be a result of a thorough literature review and the authors of this paper suggest that IB scholars conduct further empirical tests to either prove or reject their validity.

Having studied more than 60 scientific articles related to the researched issue, the authors of this paper observed several most common perspectives on GVCs discussed in the scientific community. These perspectives combined do not provide an exhaustive explanation of the logic behind GVCs but they are of key importance to understanding the present trends and, thus, they will be used to structure the following pages. The section below is going to touch the following 3 key topics related to the influence of ICT on the phenomenon of GVCs:

1. Governance
2. Dispersion of activities
3. Upgrading

A summary of findings and all the propositions will follow the analysis of the individual topics. Further comments on the practical implications will be placed in the Discussion chapter.

We have previously mentioned that the globalization of value chains has been made possible through cost decreases in tariffs, communication and transportation, alongside technological advances (Lévy, 2009; Damijan & Rojec, 2015; Giroud & Mirza 2015). This has enabled MNEs to fragment production to a number of individual phases and tasks (Damijan & Rojec, 2015), or completely outsource them (Hayter, 2009) with each stage at its lowest cost location (Timmer et al., 2014). Using this strategy, MNEs exploit international differences in production costs (Rangan & Sengul, 2009; Gereffi, 2014; Kenney et al, 2009) and labor costs (Damijan & Rojec, 2015).

However, the impact of ICT on the upsurge of GVCs has been complex and it has affected how MNEs organize themselves internationally. Organization of production has been simplified, due to the possibility of information to be formalized and codified (Hayter, 2009; Chen & Kamal, 2016). The possibility to have codified information and easier transmission of information further helps in breaking

up the value chain, as each value chain link can afterwards benefit from ICT adoption and cost reductions (Chen & Kamal, 2016). For instance, using ICT in service activities requires standardized and routinized process designs, allowing services unites to benefit from economies of scale and scope (Kenney et al, 2009). ICT integration allows for a reduction in internal coordination costs, through cost reduction in communication and knowledge acquisition costs, by improving the quality and speed of information processing, as well as management's decision making (Chen & Kamal, 2016). Thus, the decrease in coordination costs allows for a more effective management of the firm and for easier integration of affiliates. Agency costs reduction further supports integration, through improved monitoring and evaluation systems (Chen & Kamal, 2016).

Furthermore, reductions in market transaction costs provide a cost-effective access and processing of market information (Chen & Kamal, 2016), also highly important to facilitating inter-firm linkages through information sharing and mutual monitoring (Chen & Kamal, 2016, Damijan & Rojec, 2015). Likewise, the costs of finding potential suppliers have decreased, allowing lead firms to engage in diverse activities, such as offshoring and outsourcing (Buckley & Strange, 2015; Giroud & Mirza 2015; Gereffi et al., 2005). And whilst low costs represent the initial condition for offshoring, they likewise provide the basis for firms pursuing innovation based strategies (Kenney et al, 2009).

ICT, and especially the Internet also represent a major cost reducing factor for marketing costs, allowing firms to easier advertise and sell their products without incurring high costs (Damijan & Rojec, 2015). Furthermore, ICT, and especially the Internet, allow small firms to participate in the global economy (Kenney et al, 2009). Practical examples of the use of ICT show that technological advances affect every aspect of firm management. Electronic data exchange, Internet enabled customer relationship management, supplier and procurement systems, internal supply chain management, enterprise resource management, enterprise resource planning or radio frequency identification to track items (Damijan & Rojec, 2015, De la Torre & Moxon, 2001) are just a few means with which firms have been managing their activities, both external and internal, in an easier and more cost-efficient manner.

The specific impact of IT on each firm is difficult to assess and it varies from situation to situation, mostly being dependent on the cost structure of the firm and the synergies generated by its integration (Chen & Kamal, 2016).

9.2.1 GOVERNANCE

Nowadays, MNEs fragment their activities in a complex and geographically dispersed manner (Giroud & Mirza 2015), thus the nature of the relationships between all value chain participants and those, who exercise control over these activities, is of extreme importance (Alcácer et al., 2016). Thus, the concepts of governance and upgrading are salient concepts for the GVC research. A certain degree of governance is required at every step of the value chain (Giuliani et al., 2005). Governance and upgrading can be regarded as top down and bottom up approaches. Governance represents the top down view, which focuses on lead firms and the organization of global industries, while upgrading represents the bottom down view, where focus is put on the strategies that actors employ in order to maintain or improve their position in the value chain (Gereffi & Lee, 2012).

Following shifts in the organization of global industries in the 1970 and 1980s, (Gereffi, 2014) Gereffi (1994: as seen in Pietrobelli & Saliola, 2008) has an initial take on governance and its forms. He makes the distinction between *"producer-driven"* and *"buyer-driven"* chains, with the distinction made by the nature of the lead firm in the chain. Typically, a producer-driven chain can be found in hi-tech industries such as automobiles, pharmaceutical, computers and aircraft, where scale economies dominate the industry. The lead firm is placed upstream and may outsource production, whilst keeping R&D and final assembly within the firm (Milberg, 2004). In buyer-driven chains, lead firms are large retailers, that may keep design and marketing, whilst production is totally outsourced. This is typical for the apparel, footwear and toys industries (Milberg, 2004).

The governance structures that existed before are still in place and will continue to play an important role in determining strategic development. However, the new realities of GVCs determine the emergence of new governance structures that better explain the relationships between firms (Gereffi, 2014).

Following Humphrey and Schmitz (2000: as seen in Giuliani et al., 2005), we distinguish three types of governance: network (a cooperation between similar firms who share their competencies); quasi-hierarchy (top down, with the lead firm defining the rules to be followed); and hierarchy (direct ownership).

Subsequently, Gereffi et al. (2005:83-84) further refine the governance concept, introducing five patterns of GVC governance:

1. **Markets** – the linkages created on the market do not have to be transitory entirely, characteristic of the spot markets; in opposition, they can support repeated transactions, persisting thus over time. The main characteristic is the low cost of switching to new partners, for both parties.
2. **Modular value chains** – usually, suppliers within modular value chains use customer's specifications to produce the expected goods. When providing 'turn-key services' suppliers take responsibility for competencies within the process technology and use generic machinery that limits transaction specific investment, making capital outlays for components and materials on behalf of customers.
3. **Relational value chains** – represented by complex interactions between buyers and sellers, often creating mutual dependence and high level of asset specificity. It was highlighted the role of special proximity as supporter of the relational value chain, however, elements like trust and reputation are of great importance in spatially dispersed networks. Representatives for this are relations based of family, social groups or ethnic ties, etc.
4. **Captive value chains** – small suppliers are transactionally dependent on large buyers, they encounter the barrier of cost in switching buyers. These networks are characterized by monitoring and control from the lead firm - the buyer.
5. **Hierarchy** – characterized by vertical integration; managerial control appears as the dominant form of governance, flowing in two directions - from managers to subordinates and from headquarters to subsidiaries and affiliates.

Furthermore, the type of governance form is determined by the following factors: the complexity of information involved in the transactions, the possibility to codify information and the competence of suppliers along the chain (Gereffi et al., 2005).

As proactive involvement and participation of all actors in the value chain is of extreme importance, the term of governance should not be seen as just coordination (Pietrobelli & Saliola. 2008). Accordingly, coordination can be done through equity modes, such as FDI, and non-equity modes, such as intra-firm relationships (internal or captive offshoring) or arm's-length market relations (offshore outsourcing or just outsourcing) (Kenney et al, 2009; Giroud & Mirza 2015, Giuliani et al., 2005, Ali-Yrkkö & Rouvinen, 2015). The link between Global Value Chain and outsourcing lies in the firm management, as firms decide the location of various stages of the value chain, as well as the level of control over the activities (Globerman, 2011). Unlike vertical integration, where control and management is done within the firm,

outsourcing presumes the existence of multiple governance mechanisms spread across national borders between several firms (Lee & Gereffi, 2015).

The choice of FDI depends on the MNE capabilities and competences in establishing, organizing and managing operations abroad. On the other hand, the choice of non-equity modes relies on the relational and network capabilities of MNEs and the competences of local partners (Giroud & Mirza 2015, Gereffi et al., 2005). Global Value Chains are dynamic structures and they are sometimes overlapping (Pietrobelli & Saliola, 2008). Governance patterns are in no way static, they evolve continuously (Gereffi et al., 2005) due to transformations that keep reshaping the global economy (Gereffi, 2014).

The patterns of governance and the structures of global trade are being transformed and changed by a number of factors. These include the rise of various other power centers of economic and political power, shift from final goods to intermediate products, geographic consolidation and value chain concentration, power shift from lead firms in GVCs to large suppliers in developing economies and a shift in the end markets of GVCs (Lee & Gereffi, 2015). The above-mentioned influences result in redefining investment and trade geographies (Gereffi, 2014, Milberg, 2004). For illustration, economic downturns in the North and rapid growth in demand in the South have determined a shift in end markets, with emerging markets becoming the main consumers of goods (Lee & Gereffi, 2015).

The shift in the structure of trade, from final goods towards a larger share of intermediate goods (Milberg, 2004), means that the bargaining power, which the leading firms possessed in the initial *"buyer-driven"* and *"producer-driven"* modes, is now shifting towards the top suppliers which are located in emerging economies, such as the BRIC countries (Gereffi, 2014). Thus, arm's length transactions have risen, taking precedence over intra-firm share, which have remained at constant or failing levels (Hayter, 2009; Milberg, 2004; Rangan & Sengul, 2009). Along these lines, horizontal integration is becoming more common than vertical integration (Hayter, 2009). Furthermore, we are witnessing shifts from hierarchy to market or quasi-market governance, which are driven by lead firm efforts to lower costs and risks and to raise efficiency (Milberg, 2004).

Furthermore, wholesale level production of final goods, which are the goods where production is complete, without marketing and retailing, has seen a rise in trade levels (Milberg, 2004). Thus, huge retailers import fully assembled goods, to which they add value through design, marketing and retailing. The close relationships between lead firms and suppliers mean that whilst there is no direct FDI, there is still a significant capital flow, both tangible or intangible, under the form of information and knowledge flows (Milberg, 2004). Moreover, in industries where specifications can be easily codified, firms are less

likely to engage in intra-firm transactions following ICT adoption, preferring arm's length trade (Chen & Kamal, 2016).

Different expansion strategies infer different governance structures and control patterns. Corporate control is widening, with many firms being under the control of diverse owners in various countries (Buckley & Strange, 2015). Thus, in cases where activities have been offshored to emerging economies, with the main intention of lowering costs and increasing efficiency (Milberg, 2004), ownership and control have been maintained inside the lead firms. These are mostly the MNEs headquartered in advanced economies (Buckley & Strange, 2015).

Outsourcing represents not only a slicing up of the value chain but signifies also a change in the ownership of activities. Thus, although MNEs have ceded direct control, they still are assumed to retain control of the networks of activities (Buckley & Strange, 2015). Furthermore, we are witnessing a shift towards the use of high-skilled labor, not only in developed economies but in emerging economies as well (Timmer et al., 2014).

9.2.2 DISPERSION OF ACTIVITIES

Fragmentation of production in different countries allowed the formation of cross-border production networks, both within and between firms, altering the organization of industries (Gereffi & Lee, 2012). Furthermore, trade rises have brought a disintegration of multinational firms, which are increasingly relying on outsourcing and offshoring (Buckley & Strange, 2015; Giroud & Mirza 2015; Gereffi et al., 2005), as a way to increase the productivity by moving non-core activities to more efficient producers (Lévy, 2009).

Started by US manufacturers as simple assembly of parts in other countries, these processes were accelerated in the 1970s and 1980s by US retailers and brand-name companies, with most of their entire manufacturing process being outsourced to contract manufacturers (Hayter, 2009). That led to a shift from producer-driven chains to buyer-driven chains (Gereffi & Lee, 2012). In the 1990s and 2000s, this shift had grown to not only the finished products but also to components and subassemblies in manufacturing, food production and service industries (Gereffi, 2014). For instance, the offshoring of administrative and technical services (ATS) has allowed a buildup of resources, such as financial flows, knowledge or infrastructure, which has created new knowledge and innovation platforms (Kenney et al, 2009).

The economic crisis of 2008-2009 has supported the rise of emerging economies as the main engines of global economic recovery (Gereffi, 2014; Lévy, 2009, Timmer et al., 2014). However, their rise has happened at a scale and speed that have never been seen before (Lévy, 2009). Emerging countries, like the BRIC countries, South Korea, Mexico, Turkey, et cetera, rely on relatively large domestic markets, competent producers, skilled workforce, as well as a penchant towards innovation (Gereffi, 2014).

Services and products are no longer associated with specific geographic locations, but are seen as being the result of complex orchestrations of knowledge and activities across organizations and locations (Cano-Kollmann et al., 2016). Although in recent years GVCs have become geographically concentrated in fewer countries than envisioned (Lee & Gereffi, 2015), with activities concentrated around clusters and agglomerations (Alcácer et al., 2016). This regionalization of value chain is mainly driven by lead firms, which tend to focus on countries that are proximate economically, geographically and socio-culturally (Lee & Gereffi, 2015).

Another significant change is represented by the fact that firms in the emerging countries have moved up the value chain, incorporating both pre-production (design, R&D) and post-production (logistics, branding, marketing) activities (Gereffi, 2014).

Besides declines in communication and transportation costs, and the advent of technological advances (Lévy, 2009), the emergence of offshoring has been influenced also by wage gaps, favoring a North – South shift (Damijan & Rojec, 2015). However, offshoring has been complemented by the outsourcing (externalization) of certain value chain activities to independent firms (Milberg, 2004; Buckley & Strange, 2015).

The choice of outsourcing activities is determined by changing economic conditions, such as ICT advances. That suggest that firms choose to focus on their core competences, whilst they take advantage of complementary resources and capabilities of external suppliers (Buckley & Strange, 2015).

9.2.2.1 Networks / Clusters

The globalization of markets and the advent of ICT, amongst others, have enhanced the potential for cooperation and competition between geographically distant entities (Alcácer et al., 2016). The existence of independent, yet interconnected enterprises, with lead firms controlling critical information and knowledge (Moodley, 2002), warrants more attention to be given to external linkages and clusters. (Giuliani et al., 2005). Increasing connectivity between knowledge clusters may yield new relationship forms that enable knowledge co-creation rather than mere transfer. Moreover, the interconnectedness

and global openness of locations can lead to new areas of knowledge and competence creation, through the creation of unexpected patterns of knowledge recombination (Alcácer et al., 2016), leading to further increases in collaborative strategies as to bypass lack of internal resources, risks, market uncertainty and so on (Kenney et al, 2009).

Compared to local value chains, Global Value Chains determine more intense multifold relationships between lead firms and suppliers (Pietrobelli & Saliola. 2008), which is associated with higher supplier productivity and enhanced levels of competitiveness (Giuliani et al., 2005). The current corporate model is seen as network based, with increasingly rising international specialization and core competences focus, connected with strategic sourcing and associating with independently owned firms (Globerman, 2011).

Countries are able to specialize in various industrial sectors, perhaps even in different stages of same industry value chains (Buckley & Strange, 2015).

9.2.3 UPGRADING

Previous value chain studies (Gereffi et al., 2005, Giuliani et al., 2005) show that in order to access developed country markets, local firms in less developed markets are dependent on the intensity and quality of their participation in other firms GVCs (Damijan & Rojec, 2015). Control is exercised by lead firms from developed economies, although, quite interestingly, suppliers of MNEs are increasingly leading their own GVCs. This is the result of rising geographic and value chain concentration (Lee & Gereffi, 2015), which makes key international players of the suppliers themselves (Giroud & Mirza 2015). The latter is the result of upgrading, which is a concept used by local firms looking to maintain or improve their position within the value chain (Lee & Gereffi, 2015), moving from low value to higher value activities within the value chain (Gereffi, 2014). Four types of upgrading have been identified in the GVC literature (Humphrey & Schmitz, 2002: as seen in Gereffi, 2014).

1. **Product upgrading**, which represents moving into more complex product lines;
2. **Process upgrading**, which transforms inputs into outputs in a more efficient manner, through a reorganization of the the production systems or by superior technology being introduced;
3. **Functional upgrading**, which requires new functions to be acquired (or existing functions to be abandoned) in order to to boost the activities' overall skill content; and
4. **Chain upgrading**, where firms shift to new but quite often related industries.

Thus, through their participation to Global Value Chains, local firms get access to information and knowledge flows (Giuliani et al., 2005), with unconnected firms getting isolated from the value chains (Moodley, 2002). Local firms' look for upgrading as means to better integrate into GVCs for their own development and growth (Damijan & Rojec, 2015). Likewise, shifting end markets and regionalization of GVCs present better opportunities for upgrading (Lee & Gereffi, 2015).

Hence, by strengthening linkages, emerging economies firms can access technological knowledge and enhance learning and innovation (Morrison et al., 2008). Consequently, knowledge can be co-created and not only being transferred (Cano-Kollmann et al., 2016). The strength of the linkages between lead firms and suppliers has a profound impact also on GVC governance and strategies (Morrison et al., 2008). It influences the scope and extent of local firm upgrading, as well as the modality in which it is pursued (Giuliani et al., 2005). Currently, hierarchical relationships in innovation and knowledge processes are being replaced by linkages characterized by parity and reciprocity (Cano-Kollmann et al., 2016). Other influencing factors are represented by knowledge codifiability and complexity, as well as by the degree of appropriability (Giuliani et al., 2005). A higher degree of knowledge complexity will strengthen relationships between lead firms and local firms, leading to a more relational mode of governance. On the other hand, a lower degree of knowledge complexity will cause more distant relationships, with a more captive mode of governance (Morrison et al., 2008). Likewise, the industry in which firms operate determines the upgrading strategy, with clustering and collective efficiency playing a salient role in some industries but not in others (Giuliani et al., 2005). This relates particularly to the industries where local firms need to learn how to interact with the global buyers which control the value chain.

ICT adoption lowers search and communication costs between the lead firm and both its internal and external partners. However, the higher the complexity of the ICT system, the higher the need for the partners to have matching capabilities and mutual commitment in adopting the ICT systems (Chen & Kamal, 2016). Moreover, interactions between offshore service providers and their customers result in learning and efficiencies, which can be diffused to other customers working with the same provider as well as to competitors in the local setting (Kenney et al, 2009).

Diverse degrees of absorptive capacity permit firms to explore closer or more distant knowledge channels to various extents. Thus, firms that are rooted in similar GVCs are likely to follow different upgrade patterns or to do so at distinct rates (Morrison et al., 2008). One of the channels that has the power to strengthen the link between local firms from emerging economies and lead firms from the

advanced economies is the Internet based Business to Business service (Milberg, 2004). This tool represents a powerful medium to establish and sustain global linkages.

9.2.3.1 Entry Barriers

The changes in ownership patterns determine market structures, which are oligopolistic at the top and more competitive at the lower end (Milberg, 2004). Furthermore, in regard to the value captured, firms at the lower end of the value chain capture the smallest share, whilst facing the most intense competition. On the other hand, brand-name companies or lead firms capture the greatest share of value added due to their control over the value chain (Hayter, 2009), making the access to the top of the supply chain difficult, with developing country firms unable to compete (Milberg, 2004).

9.2.4 SUB-CONCLUSION

The past decades have brought significant changes for economic activity worldwide. As argued by Buckley & Strange (2015), there is a plethora of factors behind these transformations, of which we mention economic restructuring, market liberalization, financial deregulation, trade and investment liberalization and notably, advances in ICT and transportation.

The salient contribution of ICT to the advent of GVCs has been through cost reductions, in various activities of the firm. Hence, lower coordination costs, both internal and external, communication and knowledge acquisition costs, monitoring and evaluation costs, market transaction costs and so on, have allowed for easier integration, management and coordination of value chain activities.

Although value chains have existed already for hundreds of years, technological advances have been the bedrock of their more recent development, which allowed MNEs to establish them globally. The dispersion of activities into separate units to be executed across national borders (Chen & Kamal, 2016) led to the fragmentation of production into new patterns (Lévy, 2009) and structures (Hayter, 2009).

Thus, we are currently witnessing a shift in locating production and certain services from the developed economies of the North, to the emerging economies of the South. Characterized primarily through low costs and wages, these countries offer lead firms the possibility to offshore or outsource their activities, whilst still retaining control over the value chain. Although, bargaining power is also shifting between the lead firms in the buyer-driven and producer-driven modes, towards the top suppliers in the emerging economies. And whilst at the height of the producer and buyer driven modes, intra-firm trade was the preferred method of conducting business, we are in a phase where transactions are increasingly conducted through arm's length trade.

Furthermore, the sheer high number of transactions and the complexity of value chain nowadays exacerbate the importance of networks and clustering, with linkages enabling cooperation and knowledge co-creation. Due to their proliferation, GVCs increasingly characterize the dynamics of global economy and international trade (Cano-Kollmann et al., 2016). With globalization increasingly spanning frontiers, there is a myriad of parameters, variables and interconnected nations and regions, which makes describing the global economy a difficult task. However, due to advances in ICT and transport, Global Value Chains emerge as organizational models (Lévy, 2009) that can be used for this exact motive, explaining global economy.

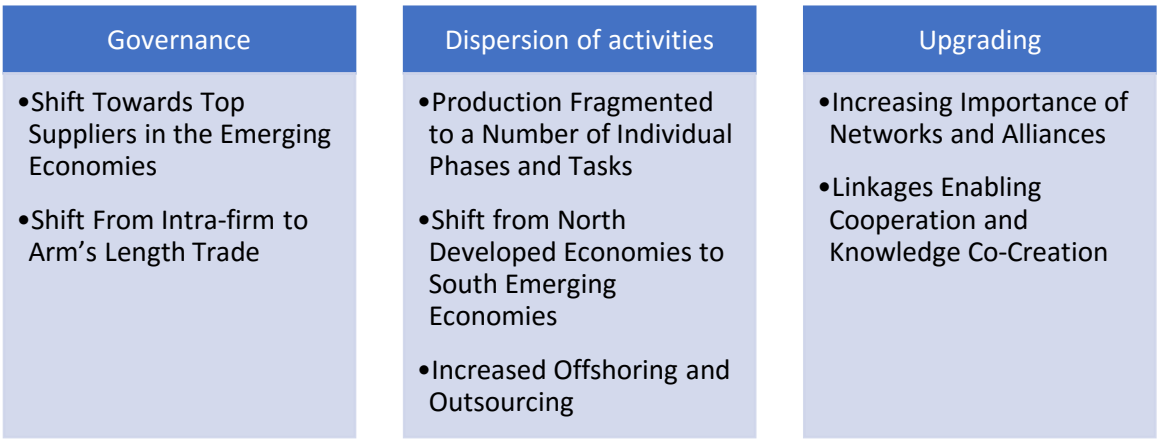

Figure 13 The Influence of ICT on Three Key Components of GVCs

9.3 Development of the MNEs' Motives to Engage in FDIs

This section is going to deal with the influence of ICT advances on the motives of Multinational Enterprises to engage in Foreign Direct Investments. First, the view of various scholars on the current determinants of FDIs and the driving forces behind them is going to be discussed. The other step of the analysis will connect these with the traditional internationalization motives identified by the scientific literature and analyze the nature of their influence. The chapter is going to work mainly with the four 'seeking' motives by Dunning (1998a), which have been debated in the Theoretical Background section.

The reader should note that, same as all the previous parts of Analysis, this chapter is going to approach the problem from the firm-perspective. Therefore, considerations of how to set the business environment or what policies to apply in order to attract most MNEs are not going to be addressed, same as all the other issues related to the country-perspective.

9.3.1 CURRENT DETERMINANTS OF FDIS

The Literature Review shows a number of notable scholars dealing with the question of what motivates companies to invest abroad. While there exist some notable theories and frameworks dedicated to categorizing the possible internationalization motives, this section will deal rather with the influences themselves. When the various influences impacting the current International Business are assessed and analyzed, the chapter will proceed to the four 'seeking' motives by Dunning (1998a) and use them discuss the effect of the identified determinants.

The advances in ICT, containerization of trade, and the lowering trade barriers triggered some of the most important recent developments in the International Business field (Laplume et al., 2016:601). Milberg (2004) argues that the determinants of FDIs have changed, as more trade is now in intermediate goods than in final goods. According to Hayter (2009), MNEs now engage significantly more in breaking their value chains down and in increasing the geographical dispersion of their activities. There can be observed a general shift from vertically integrated firms, which have control over their whole value chain, towards more horizontally coordinated firms with specializing on specific aspects of the GVCs. This trend is accompanied with a growing importance of outsourcing and of contractual modes of governance over GVCs (Dunning, 1993), as discussed in the section *9.2 The Influence of ICT Advancements on Global Value Chains*. The concrete impact of these two phenomenons, which appear to decrease the relevance of certain types of FDIs, is going to be discussed more into detail.

Based on their thorough analysis of the motives leading US companies to invest in Asia, Sethi et al. (2003:317-319) present 6 important factors influencing the nature of FDIs:

1. 'Location' as a region
2. The traditional determinants of FDI
3. Cost-reduction pressures
4. Liberalized investment environment
5. Institutional prerequisites for attracting FDI
6. Cultural proximity

They claim that each company should consider the importance of the individual determinants. After identifying the specific specific situation the company finds itself in, the appropriate location to expand to can be found. Moreover, these categories can also be used to determine the most fitting mode of entry. Sethi et al. (2003:325) note that as of the beginning of the 2000s, the most important reason for US MNEs to invest in Asia was the cheap labour force. That suggests that a relatively high number of production companies is willing to overlook the less liberal environment and the lower cultural similarity in order to push their costs lower. Sethi et al. (2003:325) present it as the main reason why US multinationals tend to choose locating their production and assembling activities in China instead in Europe.

Due to its lower complexity, which facilitates synthesizing the work of various authors, the following pages will be structured according to the view of Holtbrügge & Kreppel (2010:19) on classifying the FDI determinants. They propose that the influencing factors can be divided into three categories according to the level at which they occur:

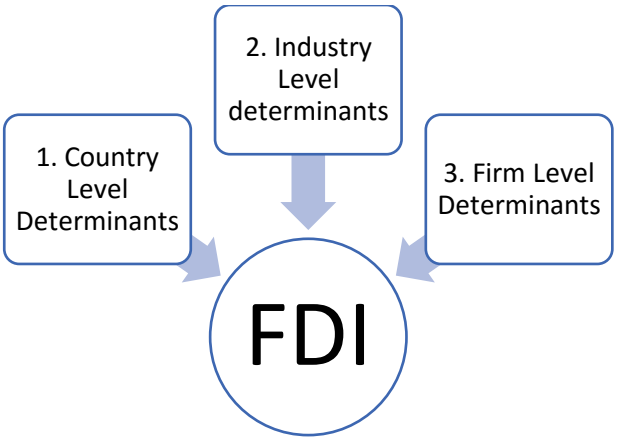

Figure 14 Different Levels of FDI Determinants (adaptation of Holtbrügge & Kreppel, 2010:19)

While the country level determinants acknowledge the importance of the macroeconomic factors such as the technological or managerial readiness of the country, the industry level determinants are based on factors like the strategic importance of the region for the industry or the level of competition in the home country (Holtbrügge & Kreppel, 2010:19). The third category, the firm level determinants, deals with the current needs of the company, which are closely related to its Ownership advantages. Know-how of the company and its operations belong among the most notable factors in this level.

9.3.1.1 Country Level

The business environment in the country has a strong influence on the motivation of companies to engage in FDIs. Jabri et al. (2013), Leitao & Faustino (2010) or Larimo & Arslan (2012) empirically prove that the impact of macroeconomic factors such as the level of openness, the market size or the growth rate on the FDI inflows is significant. Moreover, Larimo & Arslan (2012) suggest that the firm specific factors, timing and the macroeconomic factors are the most important influencers not only of the FDI inflows but also of the concrete entry strategy applied. Blonigen (2005) comments on the notable influence of country-level specifics on the internal decision making process regarding the FDI.

Damijan & Rojec (2015) observe the essential position of FDI policies in the Global Value Chains. They argue that the success of subsidiaries can only be assured if the maternal organization makes knowledge transfer easier and if it strives to upgrade the local activities. The host country has a strong influence on this decision through the policies it adopts and through the rules it sets. This regards primarily to the R&D policies, education as well as other factors defining the business environment in the country.

A large share of industries transformed themselves in the last years to adopt the most recent ICT advancements. That resulted in an increased pressure on countries to develop an advanced ICT infrastructure in order to accommodate the new needs of MNEs. Gholami et al. (2006) argues that the ICT decreases the transaction and control costs for MNEs and, thus, stimulates the FDI inflows to the country. An advanced ICT infrastructure can even help countries to overcome the past barriers, especially those related to geography, and win a more competitive position in the global trade (Gholami et al., 2006:44).

9.3.1.2 Industry Level

The industry level determinants of FDI is another category of important influencers that shape the FDI motivations of individual companies. Factors such as the level of competition or the specific needs of the industry can affect the decision making process of an MNE profoundly.

From a general perspective, De Backer et al. (2013) observe the trend of increasing specialization in most industries and argue that the new reality requires companies to focus on specific functions rather than on the entire industry. That suggests that the interconnectedness of firms in the global economy keeps increasing, driving the division of labour to historically unprecedented proportions. This can interpreted as another effect of the ICT advances, the containerization of trade and the falling trade barriers, which all contributed to the development of GVCs and that drove the level of competition among companies to the next level (Laplume et al., 2016:601).

Zekos (2005:52) observes the emergence of so-called e-MNEs in the beginning of 2000s. These are described as companies, which still produce tangible goods in various geographical locations but which employ a highly developed cybernetic network to manage the intangible parts of their business. The emergence of the e-MNEs strongly affects the balance in the industry and changes the FDI motivations of the companies within it. Since the e-MNEs have different needs than traditional firms, FDIs flow to different locations and from different reasons. Zekos (2005) argues that regions, which boast a highly skilled and educated labour force, are going to become the new favourite destinations for FDIs in the future. Moreover, the advance of ICT and digital networks can help firms improve their traditional operations by facilitating the search for smarter and more efficient ways to manage them.

Scholars such as De Backer et al. (2013) or Nachum & Zaheer (2005) suggest that the appearance of e-MNEs, as well as the improving ability of MNEs to do business at a distance, decreases the relevance of FDIs. However, they strictly reject the voices calling the new situation the 'end of geography' or the 'death of distance' (Nachum & Zaheer, 2005:763). These phrases are not valid, as the geographical location of company's activities and distance remain very important factors in some industries (especially the less knowledge intensive ones). Nachum & Zaheer (2005:764) argue that the FDI motivations are context specific and introduce the concept of the 'cost of distance', which is used to define whether it is cheaper for a company to locate its activities in the home country or internationalize.

9.3.1.3 Firm Level

On the individual company level, factors such as the know-how or the need for human capital with certain specific skills matter. The MNEs seek how to enhance their Ownership advantages, while retaining a low level of the 'cost of distance', as defined by Nachum & Zaheer (2005:764). As every organisation has different capabilities and needs, the firm-level factors are entirely specific for each

company. This stands in contrast with the previous two levels of influencing factors, which are both common for a higher number of companies.

According to Dunning & Wymbs (2001), the ICT development has a strong influence on trade, the nature of FDIs and on the functioning of international alliances. As the new technologies lower the costs of coordination and enable make remote electronic access easier (Zaheer & Manrakhan, 2001), the importance of geographical locations lowers. Thus, MNEs expand to countries, which allow them to exploit their core competencies most efficiently. However, in line with Nachum & Zaheer (2005), Dunning & Wymbs (2001) point out that the FDI motivations are context specific and that the way the ICT is employed is of higher importance than the technology itself.

The ICT advancements as well as the increased offshoring and outsourcing have contributed to a disaggregation of the Global Value Chains. The impact is not present in all industries, as the needs in different fields vary but the general trend appears to be leading in this direction. The largest benefit of the disaggregated and more complex GVCs is their potential to enable the MNEs to gain Locational advantages of the country and the firm-specific advantages of their suppliers without having to invest in the region directly (Liesh et al., 2011). On the other hand, it can be argued that while this approach enables the MNEs to save a substantial amount of resources, it also incurs them to new risks following from the lower control over the value chain.

9.3.2 FOUR 'SEEKING' MOTIVES

As Cuervo-Cazurra & Narula (2015:2) describe, the global economy has undergone a notable transformation in the past decades and there can be observed an ongoing change in how multinational enterprises build their value chains. That suggests that the framework of four 'seeking' FDI motives by Dunning (1998a) needs to be revised and potentially expanded. This view is supported by Giroud & Mirza (2015) as well as Cuervo-Cazurra & Narula (2015:11), who find *"no logical or conceptual reason"* why the IB scholars should be limited by these four motives. They argue that Dunning (1998a) is oversimplifying a complex problematics and proceeds in a relatively atheoretical manner. On the other hand, Dunning's (1998a) motives help to focus the attention of the scientific community and drive the research in this area. Moreover, the 'seeking' motives are still relevant, particularly when combined with other frameworks such as the 'sell more, buy better, upgrade and escape' by Cuervo-Cazurra et al. (2015).

Narula & Dunning (2010:278) argue that in the last few decades, a general shift has occurred, from market and resource seeking FDI motives towards efficiency and strategic asset seeking motivations.

They argue that this change was caused primarily by the advancing ICT and the falling trade barriers. The new prevalent motives can be characterised as relatively more complex than the motives several decades ago and they are driven by the decreasing importance of the geographical location. The advancing globalisation even allows small and mid-sized firms to improve their operations by placing their operations multinationally. The shift towards efficiency seeking motives and the declining popularity of market seeking FDIs is observed also by Rangan & Sengul (2009). Nachum & Zaheer (2005:747) see the new situation similarly, but they make a distinction between the internationalization drivers in information intensive and the less information intensive industries. They argue that knowledge and efficiency seeking motives for FDI are the most common in the former, as they help MNEs improve their intangible resources. On the other hand, market seeking motives remain the favourite drivers in the latter type of industries.

This view is supported also by Dunning & Wymbs (2001). According to these scholars, one of the most important contributions of ICT is their efficiency enhancing characteristics. Among other benefits, ICT reduce the costs related to coordination and administration, which allows firms to stretch their GVCs and locate activities in locations that were inaccessible in the previous decades. Enjoying such a great degree of freedom when it comes to the location, firms can leverage ICT to improve their Ownership advantages through internationalization. This can be done, for instance, by gaining access to a bigger pool of qualified labour force or by reducing costs while retaining the same quality of service. De la Torre & Moxon (2001) name also ICT-related improvements in areas such as customer relationship or procurement.

The general trend of increased efficiency-seeking is also observed by Liesch et al. (2011), who draw a connection between its appearance and the growing importance of the phenomena of offshoring and outsourcing.

9.3.3 SUB-CONCLUSION

The Information and Communication Technologies changed the reality of International Business profoundly. The decreased importance of geographical locations, as a result of the cheaper and more efficient control of cross-border activities enabled companies to build longer and more complex GVCs. Firms seek to primarily improve their Ownership advantages and they can do so even in locations that used to be geographically inaccessible to them before. Consequently, the current internationalization drivers are different than they used to be in the previous decades.

When describing the concrete impacts, industries should be distinguished based on their information intensiveness. According to Nachum & Zaheer (2005:747), in the less information intensive industries, which deal with activities such as manufacturing or assembling, market seeking motives are the most common drivers for expansion. In these areas, the cheap labour force and the lower production costs belong among the strongest motivations (Sethi et al., 2003:325). On the other hand, companies in the information intensive industries are most likely to expand from the efficiency seeking or strategic asset seeking motives. The observation of a general shift from the market and resource seeking motives towards more complex efficiency and strategic asset seeking motivations is in line also with Narula & Dunning (2010) or Rangan & Sengul (2009).

FDI motive	1970s	2000s
A. Resource seeking	1. Availability, price and quality of natural resources 2. Infrastructure enabling processing and export 3. Government restrictions on FDI / capital 4. Investment incentives	1. Same but local upgrading more important 2. Availability of local partners 3. Entrepreneurship, trustworthiness of local partners 4. Extent and quality of law enforcement
B. Market seeking	1. Mostly domestic, occasionally adjacent regions 2. Real wage costs or material costs 3. Transport costs and barriers 4. Investment incentives, privileged access to import	1. Same but also new organizations (NAFTA, EU…) 2. Availability and price of skilled labour 3. Presence and competitiveness of related firms 4. Quality of infrastructure and institutions 5. Agglomerative economies and local support 6. Macro-economic policies of the government 7. Quality of local norms and standards 8. Promotional activities of local dev. agencies
C. Efficiency seeking	1. Mainly production cost related 2. Freedom to engage in trade of products 3. Presence of agglomerative economies 4. Investment incentives	1. Same but also B2, B3, B4, B5 and B7 above 2. Increased role of governments in education 3. Availability of specialized clusters (e.g. science parks) 4. Ability of locations to build trust-intensive relations
D. Strategic asset seeking	1. Availability of assets to enhance O-advantages 2. Institutional and other variables facilitating acquisition of such assets	1. Same but growing geographical dispersion 2. Price and availability of synergistic assets 3. Opportunities for exchange of knowledge and ideas 4. Access to different cultures, institutions and values 5. Ability to build relationships with acquired firms

Figure 15 FDI Motives Development (adaptation of Narula & Dunning, 2010:279-280)

There also appears to be a growing trend of managing value chains through outsourcing (Hätonen & Eriksson, 2008; Evangelista et al., 2015; Casson, 2013; Liesch et al., 2011). This phenomenon follows from the growing importance of specialization in specific business functions instead of entire industries (De Backer et al., 2013). Such approach enables firms to benefit from both the expertise of their suppliers and the advantages connected to the geographical location the suppliers operate from. Moreover, they are not exposed to the risks following from engaging in the foreign countries directly. On the other hand, there are other dangers connected to this policy - for instance, in regards to the degree of dependence on the suppliers.

Finally, it should be noted that the framework of four 'seeking' motives by Dunning (1998a) has certain limitations, particularly in regards of simplifying the complex reality of International Business. As Cuervo-Cazurra & Narula (2015:11) observe, there are indeed *"no logical or conceptual"* reasons why there should only be four types of FDI motivations. Having this in mind, this paper identifies with the idea of Benito (2015), who concludes that the framework by Dunning (1998a) continues being useful for the IB community, primarily as a way to organise the scientific research in this area. Therefore, it should be seen rather as a set of guiding principles than as an exhaustive list of potential FDI motivations.

9.4 Validity of Eclectic Paradigm

The purpose of this section is to analyze whether the eclectic paradigm continues providing a valid explanation of the International Business activity of companies despite the changes evoked by ICT. As discussed in the Theoretical Background chapter, the eclectic paradigm can be interpreted as a 'big tent' over some of the most important theories of International Business (Eden & Dai, 2010). It can be described as a stool that stands on three interconnected and equally important legs, which are the Ownership, Location and Internalization advantages. All of these categories are based on Dunning's (1977) view of the phenomenon of outward FDIs. He claims that the existence of outward FDIs and, thus, of MNEs, is determined by the following three conditions (Eden & Dai, 2010:15):

1. *"The firm must possess net ownership advantages over firms from other countries in serving a particular national market (O advantage).*
2. *It must be more beneficial for the firm to use these net ownership advantages itself rather than sell or lease them (I advantage).*
3. *These net ownership advantages must more profitably be exploited when used with factor inputs outside the home country and in the host country (L advantage)."*

Although the understanding of the eclectic paradigm changed since the 1970s, as scholars such as Eden & Dai (2010) demonstrate, these conditions remain the pillars of its existence. Therefore, the influence of ICT on these is going to be of key importance in this section. In one of his early papers, Dunning (1988b) himself points out that significant technological advances may trigger a shift in our understanding of International Business and change the way the OLI framework should be viewed. Having the previous two parts of analysis in mind, it can be argued that the advent of ICT has truly been such a major technological breakthrough. Therefore, the changes of the individual components of the eclectic paradigm are going to be analyzed before it will be argued whether such transformation disproves the continued validity of the framework.

9.4.1 OWNERSHIP ADVANTAGES

The Ownership advantages are firm-specific and the view of the scientific community on the components of this category had been continuously evolving during the last decades. The most recent version of the eclectic paradigm, which Eden & Dai (2010:26) call *"Mark V"*, divides it into three subcategories. Oa advantages are based on both intangible and tangible assets, which the company uses to generate revenue. Ot advantages were created as a result of Dunning's effort to address the critics and incorporate the transaction cost theory in the eclectic paradigm. Therefore, they relate primarily to the transactional factors as well as to the firm's ability to coordinate separate activities or decrease its exposure to risks (Eden & Dai, 2010). Due to the shifts in the nature of International Business, Dunning & Lundan (2008) argued that the eclectic paradigm can accommodate also the institutional theory under its roof and broadened the framework once again in the 2000s. The Institutional Ownership advantages (Oi) deal with *"the firm-specific norms and values guiding decision-making"* (Eden & Dai, 2010:27), including the corporate culture and specific social environment. When company internationalizes, the Oi advantages can be transferred both intentionally (e.g. norms) and unintentionally (e.g. organizational culture flaws). The Oa, Ot and Oi advantages are interconnected and Eden & Dai (2010:26) call them *"a triumvirate of O"*.

Even though the extent of changes triggered by ICT is industry specific, there appears to be a generally positive influence of these technologies on the Oa advantages. They increase the level of speed at which a company can deploy its resources both nationally and internationally. Moreover, they increase the profit-generating qualities of company's assets, especially through improving the communication and administration processes (Eden & Dai, 2010:21). Furthermore, the intangible assets are getting more important, as the activities of MNEs are more knowledge complex than they used to be several decades

ago (Alcácer et al., 2016). Lévy (2009) observes that the present MNEs use knowledge intensive activities to innovate and build their competitive advantage. Lee et al. (2012:817) go even further and claim that innovations are *"an imperative for organisational survival"* in the modern economy. This relates primarily to the information intensive industries.

Through the positive influence on the communication, coordination and administration processes (Kenney et al., 2009), the ICT advances decrease the transactional costs of MNEs. That enables the companies either to allocate more resources to the other business activities and to build more complex value chains. This observation is supported by the previous analysis of Global Value Chain development, which has shown that they are indeed growing more complex (Alcácer et al., 2016; Hayter, 2009; Dunning & Wymbs, 2001). De la Torre & Moxon (2001) even argue that the ICT have completely changed the nature of companies through affecting the way they structure themselves and how they conduct the business activities. Thus, it can be concluded that the ICT advances improve the Transactional Ownership advantages (Ot) of MNEs.

The ICT advancements also enable a more frequent and quality contact among the various units of a multinational enterprise (Kenney et al., 2009). Therefore, we suggest they result in a more intense exchange of corporate values and norms, which can be seen as a prerequisite of strengthening the corporate culture and bringing the methods of decision making closer together. That would mean that the Oi advantages transform as well in consequence to the ICT advances.

9.4.2 LOCATION ADVANTAGES

The category of Location advantages is strongly affected by the advent of ICT. A number of notable IB scholars (De la Torre & Moxon, 2001; Zaheer & Manrakhan, 2001; Alcácer et al., 2016) observe that advancing ICT facilitated the process of internationalization and increased the geographical dispersion of business activity. It is primarily the positive effect of ICT on the administration, control and coordination properties of MNEs (Eden & Dai, 2010:21) that relativizes the concept of distance and enables to locate activities even in regions that used to be inaccessible before. Due to the decreasing coordination costs and a growing importance of innovations (Lee et al., 2012), an increase in the efficiency seeking motives can be observed (Rangan & Sengul, 2009). This applies especially in the information and knowledge intensive industries (Nachum & Zaheer, 2005). However, the ICT improvements transformed the organization of MNEs also in the less information intensive ones, as has the above-presented analysis of GVC motives shown.

However, although the advancements of ICT improve the ability of MNEs to benefit from the Location advantages, it could be argued that they also decrease the relative importance of this category. Building value chains that cross the national borders is easier now than ever before and the strengthening competition pushes more firms to engage in the International Business activity (Narula & Dunning, 2010). Consequently, locating activities abroad has become more common among firms and rather the innovative capacity is viewed as a matter of organizational survival now (Scalera et al., 2014; Lee et al., 2012). Thus, it can be argued that the category of Ownership advantages grows in importance and participates most on creating the competitive advantage.

It should be also noted that there are currently certain technologies under development that have a strong disruptive potential when it comes to the L component of the eclectic paradigm. Some of these are already being investigated by the IB scholars. For instance, the potential effect of 3D printers on the International Business is assessed in the paper by Laplume et al. (2016) and the phenomenon of cloud computing is addressed by Pon et al. (2015) or Kushida et al. (2015).

9.4.3 INTERNALIZATION ADVANTAGES

The Internalization advantages arise when it is more profitable for MNEs to use the Ownership advantages and conduct their processes internally instead of externalizing them (e.g. outsourcing them). Dunning (2002:455-456) observes the following 3 main reasons that lead MNEs to internalise their activities instead of engaging in the arm's length transactions:

1. Information asymmetry
2. Bounded rationality
3. Asset specificity

The Information asymmetry concerns the fact that the potential subcontractor and the firm may miss a certain type of information about each other, leading to problems in cooperation. The advent of ICT decreases this threat, as these technologies enable a more efficient and frequent exchange of information. The ICT affect also the second key reason for internalising, the Bounded rationality, which relates to the *"human inability to process all information in making a decision"* (Dunning, 2002:456). The more efficient and frequent communication makes it possible to hand the necessary information over sequentially, at the specific moment it is needed. That reduces the amount of information that must be processed by the potential subcontractor, allowing to solve more complex issues externally. Finally, the Asset specificity concerns the need of a company to invest a significant amount of resources into processes needed to create a specific product. The ICT decrease the Asset specificity, as they allow

MNEs to disintegrate their value chains and find external firms that focus on more specialized business functions (Cano-Kollman et al., 2016).

In fact, all the above presented arguments explain the growing trend of outsourcing observed by the IB community in the recent years (Hätönen & Eriksson, 2009; Liesch et al., 2011; Casson, 2012). The improving ICTs affect all of the three major reasons why MNEs keep processes internalised. Moreover, it also justifies why the knowledge and efficiency seeking motives belong among the most common FDI drivers now. It is more difficult to codify the information intensive activities and overcome the Information asymmetry and bounded rationality than in the less intensive ones (Hayter, 2009). Moreover, the innovative capacities of a firm belong among the most important determinants of its success in the current global business environment (Scalera et al., 2014).

9.4.4 SUB-CONCLUSION

The analysis of the FDI motives development, as well as the subsequent analysis of the eclectic paradigm, have shown that the ICT technologies have a strong influence on the International Business. It can be argued that new ICTs change the balance between the three legs of the eclectic paradigm stool, inter alia, through their strong effect on the category of Location advantages. Thanks to the ICT, present MNEs can benefit from access to previously inaccessible geographical locations and a facilitated control over the cross-border activities. That in most cases increases the efficiency of their operations but on the other hand, it also makes it more difficult for them to distinguish from the competitors via these advantages. Moreover, the growing trend of outsourcing and controlling value chains via subcontractors, fuelled by the same factors, decrease also the importance of Internalization advantages in many industries (Rangan & Sengul, 2009). Although there exist certain exemptions to the aforementioned development and some industries are less affected than the others (e.g. the extractive industry, Benito, 2015), there can be observed an increasing importance of the Ownership advantages. This relates primarily to the information intensive industries, where knowledge based assets are of key importance, but also the less information intensive industries appear to be affected.

As the international barriers keep decreasing and the rapid globalization continues, companies are getting better at exploiting the Location related advantages. Furthermore, the use of contractual modes of governance becomes more frequent, as MNEs enhance their processes by engaging with each other and continue in strengthening the focus on their core activities (Hätönen & Eriksson, 2009:144; Lee et al., 2012:824). Moreover, the improved ICT technologies enable a more frequent exchange of

information, which gives the MNEs the opportunity to avoid the risks associated with information asymmetry and bounded rationality, leading to externalization of more activities.

Ownership Advantages	Location Advantages	Internalization Advantages
•Frequent exchange of information •Increased operational efficiency •Facilitated control over cross border activities	•Access to new locations •Foreign operations more accessible also for SMEs •Externalization less risky	•Growing trend of outsourcing •Networks and alliances more important •Internalization of Knowledge Based Capital

Figure 16 The Influence of ICT on Components of the Eclectic Paradigm

The analysis has discovered that the eclectic paradigm faces certain challenges. However, they do not affect the integrity of the three conditions that determine the existence of the eclectic paradigm, as defined by Dunning (1977). One of the major challenges is the continuous effort to stretch the *'big tent'* and to accommodate new theories. Eden & Dai (2010) document that the essential components of the eclectic paradigm had been updated several times, as John Dunning kept addressing the changing reality of International Business throughout the last decades. We are convinced that the framework is not overgeneralizing, as some scholars suggest (Narula, 2010), and that it is still valid. The eclectic paradigm is broad enough to accommodate also the most recent advances of ICT and the quickly increasing importance of networks. However, as the ICT and business networks rapidly grow in relevance, the category of Ownership advantages should continue to be continuously reviewed. In case that the importance of these factors increases substantially, possible extensions of OLI should be considered, for instance the N-OLI extension by Singh & Kundu (2002:686).

10 Discussion

This chapter is going to debate the practical implications of the conclusions of the Analysis. The Analysis has shown that the eclectic paradigm remains being valid but that the FDI motivations of companies changed during the last several decades to better reflect the new nature of the business reality. Consequently, the Global Value Chains transformed as well and should not be viewed as spider webs with MNEs at the center but rather as intersecting networks, where power is dispersed between powerful companies (Giroud & Mirza, 2015).

The ongoing advancements of ICT continue changing the field of International Business. We are convinced that the experiences from the extensive analysis of the scientific literature conducted in the previous steps can be used to formulate a series of propositions regarding the future development of the field. However, although also reports from specialized organizations are going to be considered, it should be noted that the propositions can be affected by the subjectivity of their authors. Therefore, they should be perceived primarily as stimuli to the scientific community, which require further investigation and empirical tests until their validity is either proved or rejected.

10.1 Geopolitical and Institutional Influences

The transformations that have characterized the global economy in the past decades have been driven by factors such as economic restructuring, financial deregulation, liberalizations in markets, trade and investment (Buckley & Strange 2015). Alongside them, the advances in ICT have too been a salient factor. And whilst economic globalization can be seen as a consequence of international production and trade networks, the rules of the game are established by, amongst others, international institutions, multilateral agreements, national government policies and institutions (Gereffi 2014; Agarwal & Wu 2015). Moreover, the advances in ICT have determined a concurrent evolution of the institutional environment. Thus, the mechanisms in charge of standardization, intellectual property rights, industrial and regulatory policies, trade policies, privatization, liberalization as well as innovation policies (Alcácer et al. 2016), have been adapted and changed as to fit current patterns.

Given that economic exchange is impacted by political connections, a strong rule of law, corruption control, regulatory quality and political stability (Agarwal & Wu 2015) are important factors in promoting stable and resilient policies to support trade across national borders and industrial upgrading (Milberg 2004). At the same time, political and institutional instability, the elaboration of weak

regulatory frameworks and policies, extensive bureaucracy, etc., have a negative impact on the International Business environment.

As the GVCs are more complex than ever before (Yrkkö & Rouvinen 2015), they expose firms to more geopolitical and institutional influences. Thus, managers should observe the geopolitical development, as it could directly or indirectly affect their industries. This leads us to the following proposition:

P1: *Geopolitical and institutional influences can change the attributes of GVCs.*

10.2 Information Intensiveness

One of the most notable observations we made during the process of writing this study regards to the changing nature of International Business. A growing number of IB scholars describe the steadily increasing information intensiveness of the global economy (Lévy, 2009; Alcácer et al., 2016; Scalera et al., 2014 etc.) and comment on the possible practical implications of this transformation. For instance, although the majority of MNEs already employs ICT to a certain degree, they have to increase their competences in this area if they are to benefit from the ongoing advancements of the technology (Chen & Kamal, 2016). As Dunning & Wymbs (2001) comment, it is not the advances of Information and Communication Technologies themselves that create a competitive advantage for companies but rather how they are employed. That leads us to the following proposition:

P2: *The increasing information intensiveness of International Business puts pressure on MNEs to use ICT more efficiently.*

As MNEs attempt to deal with the more information intensive reality of the International Business, employees with a more specific set of skills are needed (Zekos, 2005). Moreover, we anticipate that the disintegration of GVCs will continue and that the level of specialization will keep increasing, which will is expected to increase the search for a higher-skilled workforce even further. We can observe the trend of a high-skilled work being done in advanced countries and the low-skill activities being performed in the emerging economies already now (Zekos, 2005; Timmer et al., 2014; Lee & Gereffi, 2015). We suggest that the growing information intensiveness of the International Business will continue strengthening the status quo and benefit primarily the regions with a highly educated workforce. We imply that companies should observe the pool of sufficiently educated workforce before expanding their operations in the area, thus increasing their chances for a successful FDI.

P3: *The increasing information intensiveness of International Business benefits primarily the regions with high-skilled labour force.*

The transforming reality of IB changes what makes companies competitive and increases the importance of Knowledge-Based Capital (OECD, 2013). The empirical testing conducted by OECD (2013:17-18) has discovered that investments in the Knowledge-Based Capital (KBC) stimulate the growth of productivity by 20-34% on average and that there is a *"positive correlation between the market value of firms and investment in KBC"*. The study has also shown that countries that invest more in KBC tend to be more effective in funding innovative companies, which is an important prerequisite of success in the present business environment (Morrison et al, 2008; Scalera et al., 2014; Foster & Graham, 2017).

Since human capital is the foundation of KBC, firms can benefit from the locating their processes into regions, which are successful in educating their population. However, we are convinced that when the disintegration of GVCs progresses further, the companies will have to participate on educating their employees to a significantly larger extent. Apart from the need to develop more specialized skills for the employees, this strategy can also help the firms to stay prepared for other potential transformations caused by the advent of other technologies.

P4: *Companies can benefit from a more active engagement in the education of their employees.*

10.3 Networks

By making Information and Communication Technologies more efficient and more affordable, the advent of ICT facilitated contact between firms. The ICT advancements enabled to increase the use of contractual modes of GVC governance in the last decades (Hätönen & Eriksson, 2009) and became the foundation, upon which alliances between companies had been built (Dunning & Wymbs, 2001). It should be noted that international alliances are of vital importance in the contemporary business, as they help firms to face the substantially increased competition following from the advent of globalization (Dunning, 1998a). Due to the essential nature of collaboration between firms, Dunning (2006) even calls our times the period of *"alliance capitalism"*. Thus, we propose that managers should be open to an external collaboration, as synergies with other companies not only grant access to a larger pool of expertise but are beneficial also from the cost-reduction aspect. We are convinced that the following statement applies:

P5: *ICT advancements lead to a more frequent networking and collaboration between companies.*

10.4 Geographical Clusters

There is a growing number of IB scholars that observe the trend of geographical regions focusing on specific business functions (De Backer et al., 2013; Lee & Gereffi, 2015; Alcácer et al., 2016). This applies to both the low and high value added processes. Due to the advancing ICT, improving logistics and falling barriers, firms are becoming more mobile and, thus, able to move even into locations that were previously inaccessible for them (Laplume et al., 2016).

While the relocation of less complex activities tends to be driven primarily by a cheap labour force, the complex processes are attracted by a series of different motives (Sethi et al., 2003; Nachum & Zaheer, 2005; Narula & Dunning, 2010). Apart from the existence of a sufficient pool of skilled workforce in the location, we observe that the relocation of innovative capacities tends to be driven primarily by three factors. The first of them is the existence of a quality ICT infrastructure, which enables fast and reliable communication with the rest of the organisation. The second important determinant is the potential of technological spillovers, which exists in locations where other companies execute similar processes (e.g. science parks). Finally, the intellectual capital legislature and the enforceability of patents in the area are of vital importance as well. That leads us to the following proposition:

> **P6:** *Innovative capacities accumulate in specialized clusters, which are characterised by a quality ICT infrastructure, technological spillovers and proper intellectual property protection protocols.*

10.5 Disruptive Technologies

There is a number of innovations based on the ICT that can substantially affect or even disrupt the way how International Business is conducted at the moment. This relates particularly to the less-information intensive industries, which rely primarily on cheap labour force that could be disrupted by the advent of automatization. There already exist various studies that discuss what impact can be expected from advances of technologies such as 3D printing (Laplume et al., 2016), robotics (OECD, 2015b) or cloud computing (Pon et al., 2015; Kushida et al., 2015). However, since the technologies have not reached their maturity yet, it is difficult to project their concrete effect on the field of International Business (Laplume et al., 2016:606). Despite this fact, it should be noted that the effect can be of a revolutionary nature that may substantially affect the labour and industry characteristics. We imply that the managers should periodically analyze the development of potentially disruptive technologies and consider their industries in the context of the overall scientific development. Thus, the following proposition applies:

> **P7:** *New information intensive technologies can disrupt labor and industry characteristics.*

10.6 Sub-Conclusion

Having studied more than 60 scientific articles related to the influence of ICT on the field of International Business and a number of reports debating the future impact of the ICT advances, we have formulated the following propositions:

P1: *Geopolitical and institutional influences can change the attributes of GVCs.*

P2: *The increasing information intensiveness of International Business puts pressure on MNEs to use ICT more efficiently.*

P3: *The increasing information intensiveness of International Business benefits primarily the regions with high-skilled labour force.*

P4: *Companies can benefit from a more active engagement in the education of their employees.*

P5: *ICT advancements lead to a more frequent networking and collaboration between companies.*

P6: *Innovative capacities accumulate in specialized clusters, which are characterised by a quality ICT infrastructure, technological spillovers and proper intellectual property protection protocols.*

P7: *New information intensive technologies can disrupt labor and industry characteristics.*

It should be noted that all of the above-presented propositions and managerial implications need to be further analyzed. As mentioned above, the purpose of these propositions is to summarize the observations we have made when working on this study and give an impulse for a further research of these issues. The managerial implications are closely connected with the elaborated propositions, allowing managers to organize the international expansion of their firms more easily. The scientific community should test whether the validity of the propositions can be confirmed or if it should be rejected.

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11 Conclusion

The purpose of this project was to answer the following main research question: **"What is the influence of ICT improvements on the field of International Business?"**. This was accomplished by analyzing the impact of ICT on the pillars of the IB field. The Global Value Chains, Foreign Direct Investment motives and the OLI paradigm were chosen to best illustrate the changes that ICT advances have unleashed. Subsequently, three sub-questions have been developed based on the previously mentioned topics:

1. **What shifts have the ICT advances triggered in the structure of Global Value Chains?**
2. **How have the FDI motives of MNEs changed?**
3. **How do the new global patterns affect the validity of the eclectic paradigm?**

The improvements of ICT have enabled MNEs them to manage their activities more easily and at considerably lower costs. The ICT advances have influenced every aspect of their activity, from internal communication systems, to acquiring knowledge, establishing operations or partnerships abroad, facilitating coordination of both external and internal activities. In turn, the ease of doing business, alongside several other influencing factors, like the opening of the markets or economic restructuring, have favored firms' expansion and dispersion of activities across countries and regions. Thus, value chains operating at the global level have emerged and gradually started to characterize and transform the global economy. Steered by their pursuit of finding the most cost efficient location, MNEs have relocated their activities, leading to a shift in production patterns from the advanced economies of the North-West to the emerging economies of the South-East. Furthermore, emerging economies have transformed to end-markets for a significant number of goods. Arm's length transactions have become one of the most used methods of firm expansion, driven by factors and motivations that were heavily influenced by ICT expansion. GVCs have become complex structures, being characterized by a high number of linkages, connections and business relationships between various firms and entities.

Given the decreased importance and at the same time the dispersion pattern of geographical locations, FDI motives are found to be different than in the previous decades. Information intensiveness has been found to be a salient factor influencing internationalization. Thus, in less information intensive industries, the most common driver for expansion is the market seeking motive. On the other hand, in industries that are more information intensive, efficiency seeking or strategic seeking motives seem to be the most common FDI drivers. Furthermore, just like the GVC analysis has shown, outsourcing has become a widespread phenomenon, with lead firms benefiting from the expertise and knowledge of their suppliers, while avoiding the risks associated with direct involvement. However, Dunning's four

motives should be seen as guiding principles in identifying the actual internationalization motives, rather than an exhaustive list of FDI motivations.

In regard to the eclectic paradigm, our research has shown that in spite of ICT advances, the framework continues to be valid, although ICT can shift the balance between the three components of the eclectic paradigm. Thus, in many industries, the extent of Internalization advantages decreases, whilst we can see an increasing role of Ownership advantages. Perhaps the most affected industries are the information intensive ones, where the levels of knowledge based assets are increasingly more important. Whilst the eclectic paradigm does face certain challenges, the integrity of the three components is not critically affected. The eclectic paradigm still retains its validity, despite the technological advancements that have impacted it. The eclectic paradigm is broad enough to accommodate these changes, including the future ones. However its components need to be continuously reviewed and if needed, adapted, as to maintain its ability to reflect the International Business reality even in future.

The propositions that were formed in the Discussion chapter react primarily on the increasing information intensiveness of IB, the growing importance of Knowledge-Based Capital and on the need of international enterprises to engage in the education of their workforce more actively. However, we would like to point out the last proposition, which regards the emergence and potential effect of disruptive technologies based on ICTs (e.g. 3D printing or robotics). Due to their potentially revolutionary nature, we are convinced that each MNE should dedicate a special effort to considering the effect that advancements of these technologies might cause to the industry they operate in. Moreover, despite the many benefits of the trend of increasing specialization and international alliances, the more complex GVCs that the ICT improvements enabled to build also have certain shortcomings. We imply that the current MNEs are significantly more exposed to the geopolitical and institutional risks, both directly and indirectly, through their business partners. We suggest that these managerial implications and propositions should be seen as a starting point, and further tested in conjunction with the new ICT developments.

Finally, whilst scholars like Schwab (2016) consider this era to be *"the fourth industrial revolution",* we rather identify with the view of Alcacer et al. (2016) and see the current times as being just the diffusion phase of new technologies and methods across all countries. However, regardless of how this period is called, the influence of ICTs on the field of International Business has been significant and we are convinced that the future advancements will continue shaping the domain of International Business.

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Appendix 1 – World Trade 1980-2015

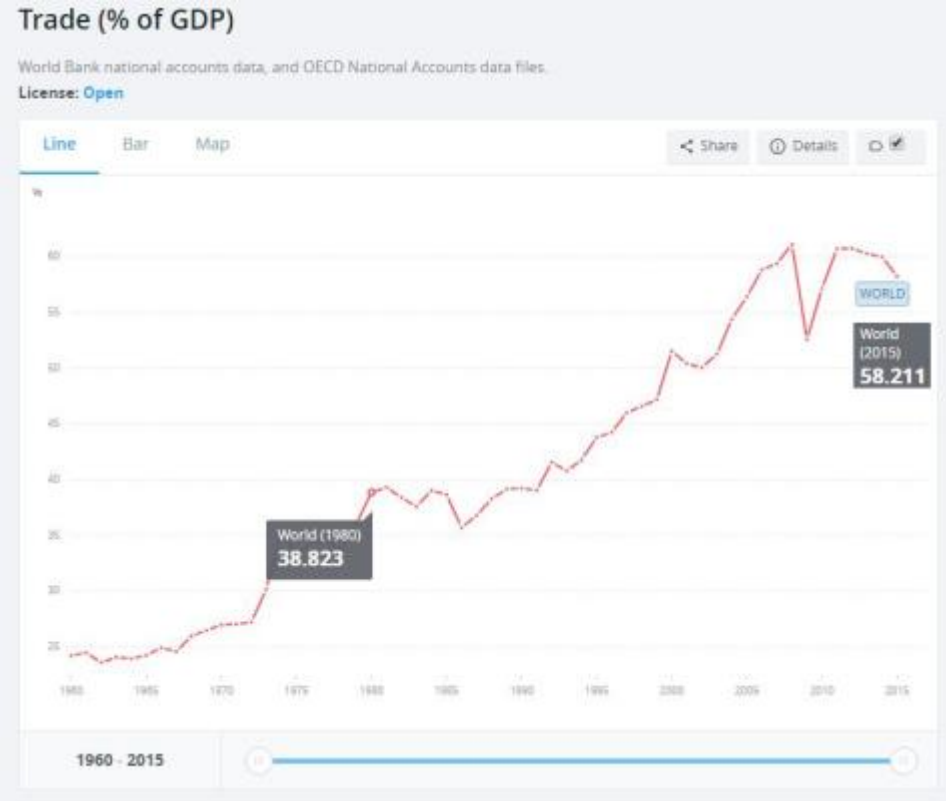

Figure 17 World Trade 1980-2015

Appendix 2 – Literature Review Working Table

No.	Year	Author	Title	Purpose	Type of study	Region	Source
1	2015	Agarwal J., Wu T.	Factors Influencing Growth Potential of E-Commerce in Emerging Economies: An Institution-Based N-OLI Framework and Research Propositions	ICT impact, IB theory	theoretical & empirical	Canada	Thunderbird International Business Review; Vol. 57; No. 3; pp. 197-215
2	2016	Alcácer J., Cantwell J., Piscitello L.	Internationalization in the Information Age: A New Era for Places, Firms, and International Business Networks?	Everything	editorial	USA, Italy	Journal of International Business Studies; Vol. 47; No. 5; pp. 499-512
3	2015	Ali-Yrkkö J., Rouvinen P.	Slicing Up Global Value Chains: A Micro View	GVC	empirical	Finland	Journal of Industry, Competition and Trade; Vol. 15; No. 1; pp. 69-85
4	2015	Alvarez I., Marin R., Santos-Arteaga F. J.	Foreign Direct Investment Entry Modes, Development and Technological Spillovers	MNCs, FDI motives	theoretical & empirical	Spain	Manchester School; Vol. 83; No. 5; pp. 568-603
5	2015	Benito G. R. G.	Why and How Motives (Still) Matter	FDI motives	conceptual	Norway	The Multinational Business Review; Vol. 23; Issue 1; pp. 15-24
6	2005	Bloningen B. E.	A Review of the Empirical Literature on FDI Determinants	FDI motives	theoretical	USA	Atlantic Economic Journal; Vol. 33; Issue 4; pp. 383-403
7	2015	Buckley P. J., Strange R.	The Governance of the Global Factory: Location and Control of World Economic Activity	GVC, FDI motives	empirical	UK	Academy Of Management Perspectives; Acad.Manag.Perspect.; Vol. 29; No. 2; pp. 237-249

8	2016	Cano-Kollmann M., Cantwell J., Hannigan T. J., Mudambi R., Song J.	Knowledge Connectivity: An Agenda for Innovation Research in International Business	GVC, IB theories	editorial	USA, South Korea	Journal of International Business; Vol. 47; No. 3; pp. 255
9	2010	Cantwell J., Dunning J. H., Lundan S. M.	An Evolutionary Approach to Understanding International Business Activity: The Co-Evolution of MNEs and the Institutional Environment	FDI, IB theory	theorethical	USA, UK, Netherlands	Journal of International Business Studies; Vol. 41; pp. 567-586
10	2012	Casson M.	Economic Analysis Of International Supply Chains: An Internalization Perspective	GVC, IB theories	theoretical	Great Britain	Journal of Supply Chain Management; Vol. 49; No. 2; pp. 8-13
11	2016	Chen W., Kamal F.	The Impact of Information and Communication Technology Adoption on Multinational Firm Boundary Decisions	GVC, ICT	empirical	USA	Journal of International Business Studies; Vol. 47; No. 5; pp. 563
12	2013	Chung C. K., Fleming P., Fleming E.	The Impact of Information and Communication Technology on International Trade in Fruit and Vegetables in APEC	GVC	empirical	Australia	Asian-Pacific Economic Literature; Vol. 27; No. 2; pp. 117-130
13	2015	Cuervo-Cazurra A., Narula R.	A Set of Motives to Unite Them All? Revisiting the Principles and Typology of Internationalization Motives	FDI motives	theoretical	USA, Great Britain	The Multinational Business Review; Vol. 23; No. 1; pp. 2-14

14	2015	Damijan J., Rojec M.	Topical Issues in Global Value Chains Research: A "Factory Economy" Perspective	GVC	theoretical	Slovenia	Teorija in Praksa; Vol. 52; No. 5; pp. 942-970
15	2013	De Backer K., Miroudot S.	Mapping Global Value Chains	GVC, ICT	empirical		OECD Trade Policy Papers, No. 159, (peer reviewed journal)
16	2001	de la Torre J., Moxon R. W.	Introduction to the Symposium E-Commerce and Global Business: The Impact of the Information and Communication Technology Revolution on the Conduct of International Business	ICT, IB theory	symposion	USA	Journal of International Business Studies; Vol. 32; No. 4; pp. 617-639
17	2002	Dunning J. H.	Theories and Paradigms of International Business Activity: The Selected Essays of John H. Dunning, Volume I	OLIParadigm	theoretical & empirical	UK	Edward Elgar Publishing Limited; 1st ed.
18	1977	Dunning J. H.	Trade, Location of Economic Activity and the MNE: A Search for an Eclectic Paradigm	OLIParadigm	theoretical & empirical	UK	The International Allocation of Economic Activity by Ohlin B., Hesselborn P. O., Wijkman P. M.
19	1988a	Dunning J. H.	The Eclectic Paradigm of International Production: A Restatement and Some Possible Extensions	OLIParadigm	theoretical & empirical	UK	Journal of International Business Studies; Vol. 19; No. 1; pp. 1-31
20	1988b	Dunning J. H.	Explaining International Production	OLIParadigm	theoretical & empirical	UK	London: Unwin Hyman; 1st ed.

21	1998	Dunning J. H.	Location and the Multinational Enterprise: A Neglected Factor?	FDI motives, OLI paradigm	theoretical	USA	Journal of International Business Studies; Volume 29; Issue 1; pp. 45-66
22	2001	Dunning J. H., Wymbs C.	The Challenge of Electronic Markets for International Business Theory	FDI motives, ICT, IB theory	empirical	UK, USA	International Journal of the Economics of Business; Vol. 8; Issue 2; pp. 273-301
23	2010	Eden L., Dai L.	Rethinking the O in Dunning's OLI/Eclectic Paradigm	OLI Paradigm	theoretical	USA	Multinational Business Review; ; Vol. 18; No. 2; pp. 13-34
24	2015	Evangelista R., Lucchese M., Meliciani V.	Business Services and the Export Performances of Manufacturing Industries	ICT, outsourcing	empirical	Italy	Journal of Evolutionary Economics; Vol. 25; Issue 5; pp. 959-981
25	2016	Foster C., Graham M.	Reconsidering the Role of the Digital in Global Production Networks	GPN (GVC)	empirical	UK	Global Networks; Vol. 17; No. 1; pp. 68-88
26	2014	Gereffi G.	Global Value Chains in a Post-Washington Consensus World	GVC	empirical	USA	Review of International Political Economy; Vol. 21; No. 1; pp. 9-37
27	2005	Gereffi G., Humphrey J., Sturgeon T.	The Governance of Global Value Chains	GVCs	theoretical	USA	Review of International Political Economy; Vol. 12; No. 1; pp. 78-104
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