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List of abbreviations

CL	Compulsory Licensing
FDI	Foreign Direct Investment
H	Hypothesis
IPR	Intellectual Property Rights
JV	Joint Venture
MNEs	Multinational Enterprises
R&D	Research and Development
VL	Voluntary Licensing
WOS	Wholly Owned Subsidiary

1. Introduction and Research question

The first chapter represents a research question according to the problem statements and the study purposes of this paper. It will also provide the content composition and an overview of the critical aspects of the thesis.

1.1 Problem statements and objectives overview

As a significant trend of the last century, globalization aroused internationalization compared to exporting as principal activity. As a result, MNEs (multinational enterprises) engage in overseas production and marketing through different entry-mode strategies. Since a chosen entering mode is a decisive settlement, which determines the long-term state for the MNE and is difficult to be modified, this question is becoming the key in internationalization strategy expansion. Of course, this choice depends on many factors, what type of equity-based or non-equity-based modes to adopt. Unfortunately, however, licensing remains deficiently examined, including historical regard, among other ways of reaching new foreign markets and customers.

Though the massive amount of literature on the entry mode subject, licencing is almost constantly below the investigations and is being mentioned in passing. There is no integrated research, only single aspects of it and different perspectives on the licensing, particularly on the strength of distinct characteristics of industries, which imply their specificity and incentives, environment, available information and resources. Besides, many global breakthroughs with irreversible changes as the Internet have appeared for a long time, with new possibilities and challenges. So, some studies are outdated because they were time-relevant for the pre-Internet era.

Regardless, this paper aims to supply the scientific findings of existing empirical studies and their hypotheses, facing the challenges mentioned above and incompleteness of information. These insufficiency lacunae set the master thesis's goal to gather and synchronize the available researches and theories that lie in their presumption to give an overall presentation of internationalization through licensing.

This gap sets a requirement to provide extensive analysis of the empirical and theoretical formulations and developments in the existing literature to explain internationalization

through licensing and to represent an exhaustive survey examination on this type of entry mode choice in particular, which factors are crucial in its favour.

The principal purpose of this paper is not only to amass the empirical data on the licensing from 1980 till nowadays but to provide a consolidated overview of the topic and establish its actuality, validity and prospects in future from the perspective of MNE. In particular, it is essential to look at how the concept of licensing was changing over time and shed light on its relevance and deployment for market penetration to today's circumstances and challenges.

Thus here will be disclosed the following questions:

1. What does licensing encompass?
2. How has the concept of licensing changed over the last 40 years and its contribution to internationalization?
3. In which cases is it reasonable to use licensing for market penetration, and what kind of risks may it bear?

1.2 Organization and structure

This paper scopes out the way the MNEs exert licensing for internationalization within the last 40 years. In order to guide the readers through this historical-economical path, this paper is structured in the following way.

Chapter 2 sets off with a definition review for understanding the central concept of licencing and its differentiation. Thus the first question will be covered.

Chapter 3 is dedicated to a literature review from 1980 to nowadays to provide some guidance regarding the evolution of licensing and historical modifications of its interpretation and theoretical perspectives on international licensing. It also contains a general analysis of the overall international licencing, regarding its nature and transformations from the MNE's perspective. Moreover, here one may find a general stance on the benefits of exploitation of licensing and possible shortcomings compared to the other methods of internationalization, particularly its changes over time. Thus it is supposed to get answered questions 2 and 3 from the previous subchapter. Then, a review of the results of empirical studies with conclusions will be provided in chapter 4; there will be pertinent to summarise and discuss the results.

Lastly, chapter 5 will bestow the summing-up about internationalization through licensing and plausible future research questions on this topic.

2. Licensing as an entry mode choice issue

The MNC's success is contingent upon certain strategic decisions, such as its commercialization across the border. It consequently requires to be farsighted, selecting the best suitable entry mode choice. So, to analyze the whole picture, licensing as an entry mode with no tremendous conjunction with the other entry modes will be presented in the following chapter. Chapter 2, section 1, represents the differentiated definitions of licensing one may encounter through the literature devoted to internationalization. Subsequently, in section 2 of this chapter, determinants of licensing are considered.

2.1 Definitions: Licensing and international licensing

Scholars look at licensing from different angles, depending on the focus of the area of their study. Therefore, according to accentuates in the scholars' interpretations, this subchapter will specify the divergent points of view to clarify the central concept of this thesis and relevant terminology.

In general, international theories suggest two entry modes: equity and non-equity one, where licensing belongs. In trying to find the most consistent definition and draw upon a complete one, O'Connor (2006) definition attracts attention by its simplicity and comprehensiveness; he writes that "licensing is a non-equity and contractual mode with one or more local partners". Still, the study of Niu (2017) provides an exception to the rule, which is "the innovation for equity deals", also known as profit-sharing licensing or equity licensing, epitomizing Motorola & Universal Display Corporation (UDC) agreement. Due to a difference in productivity between competing firms, they may contract on innovation for equity deals, where firm 1 obtains the right to use firm 2's process innovation and firm 2, in return, receives an equity stake in firm 1.

Notwithstanding, according to the extending description of licensing by O'Connor (2006), from the functional viewpoint, it is a transfer to a foreign entity the rights "to use some or all the following property: patents, trademarks, company name, technology or business methods", which is unarguable from the internationalization point of view.

However, other alternative opinions on this matter may differ enormously, especially if one inspects older studies published a quarter-century ago. Thus, Young (1987) considers the internationalization of business from the viewpoint of business strategy and describes

licensing as “a non-direct investment (production) overseas operation”. For this reason, he argues that “contractual arrangements such as licensing and management contracts represent only a second level of defensive, short-, medium-term supply strategy”.

As Mottner S, & Johnson J.P. (2000) notice, it is a notable common practice that the literature about licensing, particularly international licensing, identifies licensing in relatively narrow definitions. Indeed, many economists restrict their studies to a specific aspect; thuswise further will be given with the definitions according to the functional approach of scholars on the licensing.

In the literature on innovation, according to Tatsuya et al. (2020), it is customary to distinguish two types of innovation: product and process innovation; however, the literature on licensing focused historically mainly on process innovation. In terms of what is being licenced, the research differs by determining what is in focus. It is a process of an interfirm exchange of its’ technological or managerial skills and (or) industrial proprietary rights, such as patents or trademarks (Tesar, 1977), technical know-how (Root & Contractor, 1981), knowledge (Glowik, 2016; Ruzzier & Konecnik 2005), technology (Kotabe et al., 1996; Buckley & Casson, 1998; Anand & Khanna 2000; Mottner & Johnson, 2000).

Important will be to emphasize that under the licensing arrangement, according to Luostarinen & Welch, 1997 (as cited in Glowik, 2016), the licensor does not surrender his “ownership of the knowledge” in return for the payment of royalties by the licensee. A complementary explanation also gives Zhang et al. (2016) defining that transfer happens under the contract, and there is “no transfer of ownership and that the relevant laws or regulations will be observed”. Because “licensing is not a losing an active but getting a rent on it”, argue Avagyan et al. (2014), adding as long as the laws sustain it. From the legal point of view, Moreira et al. (2020) specify that licensing “entails a transfer of legal rights to grant access” and enables the usage of its products.

Licensing belongs to contractual agreements, which are used by unaffiliated entities permitting the use of some resources, usually intangible in return for compensation (Root & Contractor, 1981), for remuneration (Mottner & Johnson, 2000), for a fee or some other form(s) of compensation (Aulakh et al. 2010) paid to the licensor (patentee holder). It is widespread “in technology-intensive industries” (Kim & Vonortas, 2006).

Kotabe et al. (1996) point out that historically ‘technology licensing has referred to transferring technology for a fee from “a technologically dominant firm to technologically

deficient”. Being an effective method of transferring and getting knowledge & technologies, licensing calls attention to its innovation perspective. It is consistent with Khoury et al. (2019), who state that licensing has evolved into “the central form of interfirm technology transfer and commercialization” in the invention’s market.

The globalization process started in the mid of the last century and provoked a high international level in all fields, particularly business. It supported the wide spreading of local achievements and discoveries worldwide and triggered cooperation between the firms. As noted by Cho (1998), “international technology licensing, commonly defined as the sale of a firm’s technology and managerial skills in return for payments from the foreign party, has become one of the most important non-FDI forms of international business involvement for MNCs”, which meant easier access for recourses abroad. In general, the simplified international knowledge exchange through contractual entry modes, according to Ruzzier & Konecnik (2005), includes franchising, licensing, strategic alliances, and other entry modes (turnkey contracts, sub-contracting and different management contracts, has brought many alterations in global operations.

Licensing is a “form of distribution channel for the components of end products in high-technology markets”, according to Kotabe M. et al. (1996), which they also define as a means of spreading standards and market penetration. A comparable idea shows both Colombo (2014) saying that patent licensing is a fundamental channel for disseminating innovations and Kotabe et al. (1996) stating that more advanced licensing leads to enhanced product standardization.

Bessy & Brousseau (1998) find that licence agreements are striking from a theory vantage point because they govern informational and immaterial transactions. Similarly, points provide Kotabe et al. (1996) considering only a particular type of licensing, specifically technology licensing, from the resource-based view of the firm and stating that licensing of technology is no longer restricted to a state of the form of entry into foreign markets but being used as “an explicit proactive element of the firm’s global marketing strategy”. Consequently, as Link & Scott (2002) remark, there is a necessity to learn “patterns in licensing agreements as a part of the overall understanding of the innovation process and the innovative environment of firms.”

Due to the long-range nature of these agreements and its impact on the firm’s knowledge-based resource assets, Teece (1986) argue that the R& D (research and development)

investment decision cannot be separated from the strategic investigation of markets and industries and the firm's position within them. Avagyan et al. (2014) give an appropriate explanation on this matter, defining a license as a contract by which an IPR (intellectual property right) holder firm (licensor) transfers the right to exploit its innovation to another firm (licensee) under certain conditions and for a particular time. Such associations between an MNE and an entity in a foreign country define long-term, non-equity cooperation commonly observed in studies on international management. Accordingly, before starting a cross-border activity, companies must define their commercial purposes and goals in the long run because it may substantially affect the MNE's vitality, which will be described later.

Nevertheless, holding to the central theme of this thesis, it will be passed to the other element that is crucial for understanding the topic of licensing - its differentiation.

2.2 Differentiation of licensing

This subchapter is primarily concerned with providing an overview of the types of licences that scholars distinguish according to the criteria they consider in their researches. In addition, chapter 3 discusses the nature of licensing and its theoretical representation over the past 40 years. At this point, however, a more comprehensive explanation of the constituent context of licensing will be provided.

There are many facets of licensing, and the scholars do not disentangle different types of it, though considering a particular variety of it with its specific characteristics. The phenomenon lies in the contractual nature of licensing and the difficulty to categorize it precisely for this reason. Herewith is another issue regarding collecting data on this matter due to a licensing contract's individualistic approach.

According to the permission rights of licensing agreements, which a licensor endows a licensee, arguably the most critical fundamental choice is whether the license is exclusive or nonexclusive (Somaya et al., 2010; Aulakh et al., 2013). Because for licensor firms, as Aulakh et al. (2013) argue, exclusivity diminishes "strategic flexibility to choose other licensing partners or to choose different ways of entering the market during the duration of the contract." However, the opposite was concluded by Jiang et al. (2007), that exclusive licensing may "help maintain the flexibility of future actions because a single licensee can be co-opted as a future collaboration partner".

Consequently, the first differentiation is based on the extent of transfer property rights on a specific licensing product and its coverage. Somaya et al. (2010) present an extended categorization:

- nonexclusive licensing,
- unrestricted exclusive licensing,
- exclusive licensing with product restrictions,
- exclusive licensing with geographic restrictions.

Commonly it is considered only two methods of licensing: fixed-fee (sometimes stipulated as lump-sum payment) and royalty or per unit (Wang et al., 2013; Mukherjee & Tsai, 2015). Nevertheless, very often some scholars consider as well a mixed licensing or two-part tariff licensing, consisting of both a fixed fee and a royalty per unit (Lu & Poddar, 2014; Zhao et al., 2014; Hong et al., 2014) and only a few more recently take into account *ad valorem* (San Martín & Saracho, 2016; Heywood et al., 2014), which means “according to value” and expresses royalties with later established royalties, based on the value of the product.

Nevertheless, there is no bound in possible variations of licensing payment schemes; as Varner (2011) displayed in his paper, there is a common practice within the pharmaceutical industry to apply a running royalty with a sliding scale of royalties (up-tiered vs down-tiered royalty structures) or “tiered” (mixed) royalty rates, which are “based on the magnitude or time horizon of sales”. He argues that those royalty deals may occur as a response to predicted fluctuations in profit margins for licensed products and can be seen as a means of mitigating the risks of financial success between the licensor and licensee.

Considering the contracting in technology licensing agreements (TLAs), Bessy & Brousseau (1998) propose a differentiation based on the categorization by MacNeil (1974) and explore two types of contracts, which are reflected in Figure 1 (including factors that cause each of them):

- “transactional” contracts for a horizontal license (in industries characterized by shared knowledge and by strong technological interdependencies).
- “relational” contracts for vertical agreements (the settlement of a private order contract that enables them to negotiate and state their fundamental rights and duties, making them enforceable).

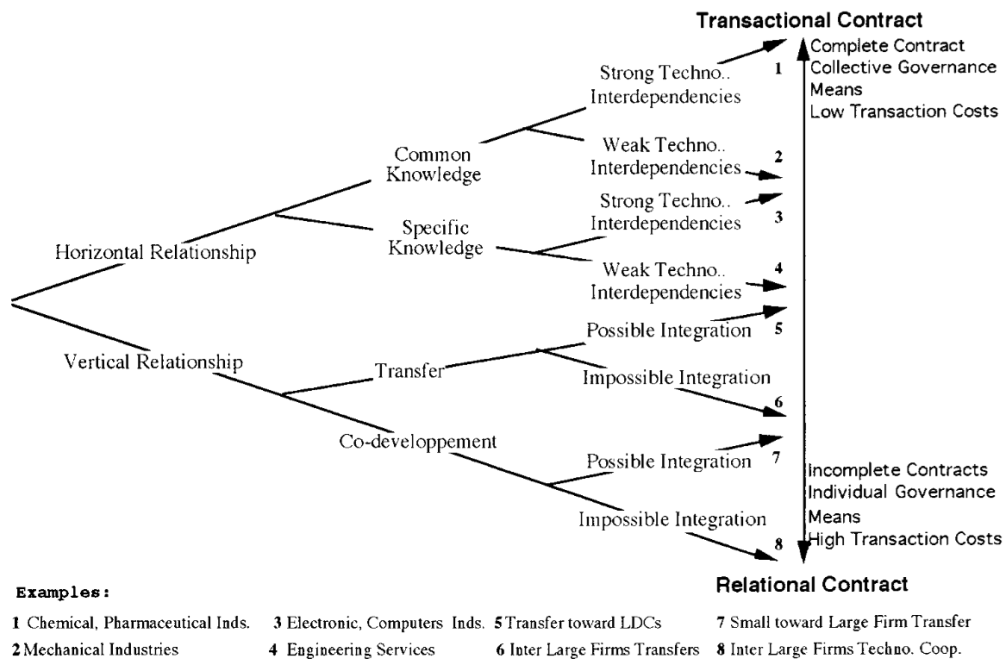


Figure 1. Causes of TLA differentiation by Bessy & Brousseau (1998, p. 484)

A similar differentiation based on “the level of inter-organizational dependence and the level of joint commitment” between the licensor and licensee offer Klueter et al. (2017) dividing them into:

- standard licensing,
- partnership-embedded licensing.

They suggest that more straightforward standard licensing, which usually “entails a simple exchange of knowledge for money”, is less prone to product innovation than licensing embedded in a broader partnership-embedded licensing.

The previous licensing division may correlate to the following kind of differentiation since the licensor must consider a bunch of factors, external and internal, before making his decision about licensing. Some researchers (Colombo, 2014; Zhang et al., 2016; Sen & Tauman, 2018) estimated it in their theoretical investigation of innovations and distinguished two models, where:

- the innovator is an outsider
- the innovator is an insider / incumbent innovator

As Lee et al. (2018) state, a firm may decide to license if the innovation falls into areas not core to their business, making them the innovator-outsider.

Most authors regard both perspectives of a licensor in their studies, where he may be the leader and a follower. Additionally, some researchers observe the licensor's position, which is a majority, and rarely the licensee's viewpoint (Leone & Reichstein, 2012).

A case where a company may play both roles is alliances; according to Cabon-Dhersin & Lahmandi-Ayed (2011), "cross-licensing is a bilateral licensor/licensee relationship where each firm is at the same time a potential transferor and recipient of technological transfer". Shapiro (1985) proves the same idea that competitors could step into a cross-licensing contract with a mutual royalty fee to use the one other's technology, thus being a licensor and licensee at the same time. However, he warns that licensing may hinder innovation since "each firm is more content to wait, lose the race, and become a licensee".

This perspective lies in the examination of Khoury et al. (2019) as well, supporting the concept of differentiating the roles companies had in its previous dealings depending on whether they performed "as licensees (i.e., buying or in-licensing another firm's technology) or licensors (i.e., selling or out-licensing their technology)". Consequently, they complete distinctive assignments according to their roles, as shown in Table 1, represented by Glowik, M. (2016).

Licensor	← →	Licensee
<ul style="list-style-type: none"> • owner of knowledge assets • transfers, but does not give up the ownership of the know-how • attractive firms that do not commit substantial resources abroad but seek fast foreign market entry 		<ul style="list-style-type: none"> • takes the entrepreneurial risk • undertakes financial investments (e.g., procurement, manufacturing, sales) • saves R&D expenses • pays a license royalty for each unit manufactured and sold based on the licensed technology

Table 1. Mutual commitments of licensor and licensee (Glowik, 2016, p.165)

According to Leone & Reichstein (2012), a firm may have diverse causes to in-license: intellectual property rights to get a proven technology, diversification purposes, or learning interests to increase the probability of becoming innovational.

Since licensing is bound up with an innovation process and may be seen as an instrument of worldwide sharing of recent know-how and technologies, which may, to a great degree, predefine welfare in countries using it. That is especially relevant for the third world countries, which get all the technologies too later on because, among other things, they cannot provide a reliable environment for it. Bond E. & Saggi K. (2014) made such a kind of study, analysing a price-setting and control for MNE's by the host country's government, which affects consumer access in a developing country to patented foreign products, particularly drugs. In their model, they single out two types:

- voluntary licensing (VL),
- compulsory licensing (CL).

A patent-holder chooses between entry accompanied with voluntary licensing (VL) or withholding operating in a distinct area, which automatically allows the host country to resort to compulsory licensing (CL). However, as Bond E. & Saggi K. (2014) explain, it may negatively affect consumers, who will the patented good with a lower quality version of it the most probably or will get it with delays.

2.3 Determinants of licensing

Choosing the ways to internationalize, a firm must investigate certain advantages and evaluate risks connected with each alternative. This subchapter will overview the determinants, which may incentivize licensing as an entry mode to penetrate foreign markets. As Lichtenthaler (2011) mentioned in his paper there are monetary and non-monetary benefits of licensing activities.

First of all, it is doubtless that the external factors determine a firm's activity pretty much, especially due to industry-related conditions. For example, according to Arora & Fosfuri (2003), in some industries, it is relatively common to observe large established companies selecting a licensing strategy for generating revenues, and the unusual point is that frequently these firms license their technology to other firms that could potentially compete with them. However, such behaviour and licensing activity are focused in high-technology fields such as chemicals, biopharmaceutics, semiconductors, electronics and computers (software), telecommunications (Arora & Fosfuri, 2003; Anand & Khanna, 2000; Fosfuri 2006; Arora &

Ceccagnoli, 2006). According to Kotabe et al. (1996), there is also a higher “industry converge when technology intensity is high, a higher rate of technology transfer and, therefore, of licensing, is implied”.

Secondly, institutional regimes and law validity are determinants for the firms that owe some technologies or (and) knowledge to save them and not get them infringed. Glowik (2016) remarks that the licensor, as the proprietor of knowledge or technology - needs to have a recorded patent or trademark, which legitimately protects him from illegal use of his intellectual property. Therefore, robust IPR systems are tremendous for the patentholder (Anand, & Khanna, 2000; Bessy & Brousseau, 1998; Avagyan et al., 2014), and they also influence the success of a licensing strategy.

However, there is a controversy regarding a vague term, so-called appropriability regime for defining the market environments, which several scholars use. For example, Teece (1986) explains that when the appropriability regime is "tight" - technology is comparably easy to defend, and when it is "weak" - technology is nearly impossible to defend. Thus, from his point of view, contracting instead of integrating may be the optimal strategy when the innovator's appropriability regime is tight, and there is sufficient assets' capacity. Whereas Kotabe M. et al. (1996) argue that "strong appropriability regimes, where they exist, decrease the incentive for licensing because the firm can reap the rent from the technology without apprehension of losing its proprietary knowledge.". Comparing these two statements cause blurry conclusions about the appropriability regimes.

Thirdly, there are always financial incentives in priority for every commercial entity, which drives the MNEs to entertain various strategies for more favourable financial results. Arora, A. and Ceccagnoli (2006) mention that “both start-up and established firms had relied extensively on licensing to appropriate rents from their innovations”. Other scholars also provided the same idea (Teece 1986; Wang 2002; Zhao et al., 2014), explaining that in highly efficient innovation enterprises, licensing helps the company reap early R&D expenses, improve its total return of research investments, and increase profits. Except for gaining additional rent of the innovation through licensing contracts, Gallini & Winter (1985) reflect also licensing from the cost-reducing perspective. Furthermore, according to Zhao et al. (2014), licensing also facilitates the company to choose “good competitors” and discourage potentially disruptive newcomers to the market.

It is even more crucial for small technology-based companies to license their intellectual property because according to Lee et al. (2018), patent licensing might be fundamental for firms with restrained resources for commercializing their innovation. Alternatively Fosfuri (2006) suggested, “lacking the downstream manufacturing, distribution, and marketing capabilities, they otherwise have no other means of appropriating returns from innovation”. Moreover, particularly in a highly competitive environment with information asymmetries, firms looking for ways to increase profit from existing assets are likely to license technologies to other firms (Kotabe et al., 1996).

Even more comprehensive explanation regarding receiving a reward on investments in research and development gives Wang H. (2002), implying that a non-producing patent holder gains it through licensing its innovation to the producing firms. On the contrary, a producing firm may gain an advantage in competing with its rivals if the innovation is kept for its interfirm use or will be licensed to its competitors to get additional licensing revenues.

However, as Cho (1998) emphasizes, to get a licensing rent 'to ensure 'fair' compensation for imported technologies', the licensor must acknowledge the bargaining nature of price-setting on licensing. Though the patent value may be unknown to the license holder, argument Heywood et al. (2014), especially when the firm is entering a different market with unknown competitors. As Hu et al. (2015) note, the same applies to a licensee who cannot be aware of all potential opportunities. Accordingly, last insight on this matter delivers Varner (2011), arguing that "the structure of agreements" also may be induced by diverse expectations of each party regarding the commercial prosperity of the licensed product.

Additional revenue and appealing economic rents are not the only motives, especially for technology-intensive fields, though eventually they indirectly affect the future cash flow. As mentioned by Hong et al.(2014), technology licensing is a meaningful approach to the technology commercialization's strategy because it exerts a crucial impact on products' market competitiveness, innovation incentives and capabilities.

The early stage of developing technology with expensive R&D, scarcity of complementary resources, and uncertainty in the potentiality to get the technology ahead of the competitors are the incentives for innovative firms to use licensing to spread it and enter new areas while it is still possible. This regard is consistent with Kotabe et al. (1996) argument that "The payoff for the firm tends to be higher in the initial stages of the technology life cycle than in

the latter because the likelihood of standards already being established is greater in the latter stages. According to Jiang M.S. et al. (2007), standards-setting incentivises firms to "disperse their know-how by granting non-exclusive rights to multiple licensees" due to economic and strategic reasons. For example, to access complementary capabilities, as some managers often attribute using exclusive licensing, however, Somaya et al. (2010) claim that the licensees may experience transactional hazards due to the uncertainties associated with early-stage technologies or if they are required to make technology-specific complementary investments.

Particularly for small MNEs, as Kotabe et al. (1996) argue, licensing appears to be "a means of amortizing the high fixed costs of operating in global network markets" due to the rising costs on R&D, prompting to redeem those investments instantly through licensing prior then competitors. However, this is a double-sided situation, and from the licensee's point of view, there are some risks and concerns to consider additional. According to Bessy & Brousseau (1998), license contracts, like much information related to firms' intangible and intellectual assets, are often considered highly confidential. Hence, TLA practices are highly suggestive for economic agents and policymakers when dealing with technology and other intangible transfers.

Still, when an innovator licenses his technology, as Bessy & Brousseau (1998) note, he "spreads it in the economic system" while increasing return on R&D investments. Shapiro (1985) announced its suggestion even earlier, described licensing as a "voluntary form of dissemination (of new technologies)" through which an innovator can experience some earnings of spreading his superior technology. As a result, licensing stimulates innovation flows and helps present innovations more quickly than firms that do not engage in licensing deals Klueter et al. (2017). Thus, as Moreira et al. (2020) argue, licensing influences innovations by incorporating licensed knowledge into internal R&D forces, facilitating fields "where they are under competitive pressure".

All determinants to license mentioned above leave still some space for another one - sales diffusion acceleration; Avagyan et al. (2014) suggest that a spring take-off enhances the net present value of the innovation, as "revenues cashed into the distant future are heavily discounted due to higher innovation awareness through the combined marketing effort and cross word-of-mouth effects".

While Kotabe M. et al. (1996) argue that technology licensing, as a method of technology diffusion, “occurs more in an oligopolistic industry than in a monopolistic situation”. An opposite opinion expressed Avagyan et al. (2014), claiming that the company would instead choose a monopolistic position if the desired price is high enough and prefer to license the product if they expect to get the profit instantly, preferring that licensee “diffuse” faster to get licensing fees earlier.

Finally, another reason to consider licensing as an entry mode may prevail in demand for cooperation and collaboration to get know-how and technologies in that way and solve own resource shortage issues. However, Moreira S. et al. (2020) regard licensing as "differs from collaborative forms of knowledge sourcing", allowing firms to choose a particular off the shelf technology they would prefer to acquire ex-ante.

It is challenging to do everything independently while remaining innovative when dealing with more substantial and complex systems. Consequently, external support for stimulating product development activities may lead to some advantages. According to Hätönen (2010), technologies licensing may increase the firms’ level of innovation, support the internationalization process, and possibly accelerate the firm’s overall growth because the acquisition of ready to use technology helps to focus on the core product, which is essential for small with limited sources to avoid time and cost consuming R&D phase.

Kotabe et al. (1996) considered a scenario from being already involved in an innovative research process when firms face a situation in which they possess fewer complementary assets than are required, while the number of technologies used in the end product is increasing. Then, instead of looking for required knowledge, they may authorise its technology to others to create and sell the final product to solve this matter.

Indeed, with a high level of development lately, it is required to use multiple technologies to invent a new one without infringing the existing patents for some products. Moreover, as noted by Teece (1986), "the technological interdependence" expects collaboration between the innovators of separate components of the system, therefore intensifying "cross-boundary coordination and information flows." This point shares Hätönen (2010) as well, arguing that although traditional technology licensing aimed at gaining knowledge for production purposes, "in the software industry, licensing is more often a tool to complement the whole

product/technology package" since solutions are turning out to be highly extensive and more technologically complex.

The overview of the given section gives a broad answer to the first research questions of this thesis about the components of licensing, its differentiation and its determinants. Various studies show that licensing is underestimated in its use but has a high potential, especially in the high-technology world. For licensors, a licensing arrangement could often be the most or the only viable option open to reach distinct foreign markets and receive additional revenue on their research and development. In addition, such an arrangement frequently carries a relatively lower degree of risk compared with the FDI form of involvement, according to Cho (1998).

That unveils to some extent the contribution of licensing in the internationalization process, which will be nevertheless revealed further in Chapter 3.

3. Literature review from 1980 to nowadays

Although licensing is frequently considered one of the most straightforward modes of penetration into a foreign market, this chapter will stumble at this statement through literature review with accompanying analysis of several significant studies of the last 40 years on this matter.

As already learned from the previous chapter, licensing is a multifaceted definition in international management, which states some crucial questions requiring a complex explanation. However, the results might be vast and ambiguous as well, considering this ambitious task. Nevertheless, the aim here is to conceptualize licensing development as an entry mode by learning its nature and the theoretical points of view.

3.1 Evolution of licensing and historical modifications of its interpretation

The foreign entry mode selection is a significant decision, and as Brouthers & Hennart (2007) argue, it is influenced by a multiplicity of variables driven by complementary theories.

Traditionally, when it comes to comparing, licensing is seen as the most accessible mode of internationalisation, among others. Figure 2 is based on the commitment level, which firms may decide between several strategies— from exporting their products to establishing a WOS (Wholly Owned Subsidiary). Two modes of entry that share the advantage of low development costs and risks are licensing and franchising (Wendy, 2011).



Figure 2: Entry Modes, Wendy (2011)

Admittedly, this assertion was embedded in the last century's studies, confirmed by papers of Tesar (1977), where he states that licensing is a process that includes low risks, provides comparatively quick financial returns, and does not require the involvement of corporate

sources. Similarly, Agarwal & Ramaswami (1992) say that licensing is "a low risk/return alternative", providing the licensing firm with the least control. Thus, it was seen back then as a substitute, mainly to FDI (foreign direct investment), except for some circumstances to consider entering the market through licensing. Concerning, it was common to consider setting a WOS as the primary method of internationalization; according to Dunning (1980), "without the advantages of internalization, much of DFI would be replaced by the international transaction of resources on a contractual basis between independent buyers and sellers", which suggests that he did not see the potential of internationalization through licencing.

In the literature of that time, many studies were conducted based on this statement. For example, Cho (1988) considered licensing arrangement one of the essential non-FDI forms of foreign business engagement for MNEs, which usually bore a comparatively lower risk than FDI form of engagement and served as an essential alternative on markets "where FDI is discouraged or virtually impossible". Furthermore, Hill & Kim (1988) set up their study model to compare establishing a WOS and licensing as alternative governance modes.

Young (1987) considered licensing not only as an alternative to DFI but to export, offering some conditions under which licensing may be preferred strategy, as constraints on the financial and managerial resources due to the firm size or its diversification strategy for overseas investment or constraints on FDI or its income as well as constraints on imports in the host country. Saggi K. (1996) also supports it, insisting that licensing is obtained if government policies restrict WOS, as well as Horstmann & Markusen (1987) title it an alternative in case of banning DFI and exporting in the host-country

While other entry strategies, such as production establishing or distribution, would take a longer to implement, Mottner & Johnson (2000) suggest that a small firm may view licensing as a viable strategy for market entrance when "direct investment is a financially unviable option for international expansion".

Assess licensing in a counterbalance to FDI is also expressed by Horstmann & Markusen (1987), reflecting about a mode to transfer the assets in a knowledge-based firm, where one option is an arm's length arrangement such as licensing, and another is to transfer them internally within the firm through wholly-owned operations. In addition, the circumstance of possessing unique and "difficult to replicate" technological capabilities, according to Arora & Fosfuri (2000), is imperative in choosing between WSO and licensing.

Risks concerning the political and financial ambience and possible restrictions on investment's capital are named by Arora & Fosfuri (2000) as arguments for enhancing the exercising of licensing. In addition, they argue that licensing contract is less sophisticated "in terms of acculturation", where the cultural gap between home and host country diminishes the plausibility for a foreign project to be conducted through a WOS rather than by licensing. Finally, on the matter of interaction between people in the firm's country and a foreign one, Scott (1994) suggests that in countries with less required monitoring, which he identified as "high trust cultures", licensing is more expected than FDI because of fewer control costs since "licensing permits less monitoring of people in the host country".

Another striking point in earlier studies is considering licensing as a learning tool or trial method for internationalizing. Jiang et al. 2009 (as cited in Sikimic et al., 2012) estimate licensing from a strategic point is "an initial trial of a foreign market before a firm commits fully to it".

Saggi (1996) expresses a similar suggestion that a firm with a small market in its homeland and without overseas's experience may favour licensing to FDI as its strategy for cross-border expansion. Alternatively, entering a transitional economy or emerging market, according to Mottner & Johnson (2000), a firm may employ licensing to gain a first-mover advantage, minimize risk, and access a growth market.

This case is also given in Carstairs & Welch (1982), saying that a small firm with limited potential to develop marketing activities on a broad scale may have gone into licensing arrangements. Due to their limited exporting experience or lack of other international backgrounds, licensing may be a "phase in internationalization", becoming a means of risk and uncertainty reduction in the long run. Eventually, the scholars (Carstairs & Welch, 1982) assume that the licensing deals may occur the chance of taking over or a JV involvement later.

Eventually, some scholars assume that the licensing deals may occur the chance of taking over or a JV involvement later (Carstairs & Welch, 1982). Licensing was initially practised as an alternative to FDI, discerning the argumentation mentioned above. More than 20 years ago, Buckley & Casson (1998) noted that many strategies are evaluated as alternatives to exporting or as alternatives to greenfield FDI in literature. As a result, they introduced an original analysis of the foreign market entry decision for that time, containing the choice

between exporting, licensing, JV and WOS. Buckley and Casson (1998) state that in the 1970s, the internalization approach identified licensing, franchising, and subcontracting as other strategic options and being the pioneers in this research area, they had written articles on this matter before having their own expert opinion. Buckley and Casson (1976) (as cited in Buckley and Casson, 1998) “focused on market-based versus firm-based solutions highlighted the strategic significance of licensing in the market entry”. Similarly, Contractor (1984) observed a choice between direct investment activities and licensing in his paper and conveyed that licensing as an overseas market-entry mode was “no longer an inconsequential strategy for American multinationals”. Again, it can be said that this was an exceptional opinion for the time.

Forty years ago, Telesio 1979 (as cited in Mottner & Johnson 2000) claimed that licensing was used “as a means of extracting remaining value from a mature technology”. In this regard, Katz & Shapiro (1985)² noted that the existing studies on innovation ignore the possibility of licensing, although licensing is a crucial element of conducting in diverse markets. They also suggested that this omission to consider licensing stems from the fact that most recent authors have considered new technologies superior to existing ones that the patent owner to the innovation would enjoy a production monopoly if he refused to license.

Based on the formal literature analysis, Kotabe et al. (1996) reached the same conclusion, that common opinion at that time was that the net profit extracted by the licensor from a licensing transaction is lower than for keeping the technology in-house or licensing it to a firm’s subsidiaries because transaction and opportunity costs are higher for transferring technology to other firms.

However, in today's world with the faster and more dynamic flow of information globally, according to (Mottner & Johnson 2000), the likelihood that a firm will concede its technology "to mature before it thinks about the competitive global environment claim" is low. They argue, therefore, that due to market asymmetries, licensing as the quickest method to penetrate the market may be the preferable option among others.

According to Sikimic et al. (2012), increased competition and faster product and technology cycles have led companies to thoroughly evaluate their technology portfolio, considering licensing as a commercialization strategy to generate additional revenues at almost no

additional cost. Likewise, Kotabe M. et al. (1996) remarked trends in technology licensing, indicating that it is adopted frequently “as a conscious, proactive component of a technology-based firm’s global product strategy”.

It is argued that the forecasting interrelations, which firms expect in foreign countries, determine a firm’s decision on entry method. According to Hill et al. (1990), not only the choice of entry mode but also the way it will be incorporated in the chosen strategy.

The presence of other sources of technological competencies favours the use of licensing in comparison with FDI, claim Arora & Fosfuri (2000) and explain ‘the lack of technology does not constitute a barrier to entry, an entrant does not need necessarily to develop the technology to start production because it can acquire it from any of the potential licensors.’ Consequently, this is expected to stimulate competition on the global scale and favour licensing as a foreign entry mode. Thus, a licensing contract is the less integrated, more market-based alternative that allows firms to profit from innovation (Fosfuri, 2006).

Alternatively, it might also be the other way to licence a technology to get capital for further development and starting operating actions in its application. For example, Rawsthorn, 1995 (as cited in Mottner & Johnson, 2000) described a case of British inventor James Dyson, who could not attract venture capital to finance the production of his innovative vacuum cleaners. Instead, he licensed the design overseas and used the proceeds to manufacture and launch his Dual Cyclone vacuum cleaners in the U.K. market. According to Mottner & Johnson, 2000, In transitional and emerging markets, domestic firms have opportunities to follow Dyson’s example and license their know-how overseas to provide funds for domestic expansion. Kollmer & Dowling (2004) submit that licensing strategies facilitate start-ups setting new business paradigms with licensing as the principal commercialisation channel, which may supplant full integration.

Moreover, According to Ruzzier M. & Konecnik M. (2005), recently, it has become more common to combine methods of entry and operations due to “the dynamic nature of internationalization”. However, they also remark that there is no perfect entry strategy, and each of them might be utilized by different firms entering the same market.

Petersen & Welch (2002) state that the various modes focus on the identical segment but deal with different value chain activities. For instance, MNEs may transfer production in another

country to a licensee but conduct sales and promotions within their sales department, thus dividing tasks between the two process modes. As proof of manufacturing and marketing separation in foreign activities, they exemplify Nike and Reebok's sports shoe and clothing firms.

Remarkably, but eventually, the scholar's opinion on licensing went the other way around, from overlooking to predominance compared to DFI. This process was probably caused by the protectionism policy in various restrictions after internationalization gained steam, and obviously by the transition from just manufacturing to high technology activities.

3.2 Theoretical perspectives of international licensing

A theoretical perspective is an essential element of each study because it represents assumptions through which the scholars look at the problems and situation in general. Therefore, in this thesis, exploring the theoretical basis of the processed literature is crucial for comparing the results obtained in each reading.

The core of all studies varies depending on the field of investigation; there is no unified approach to licensing as an entry mode, allowing to relate these results completely. Regardless, focusing on methods and theories in the used literature will help answer the questions and attain the purposes listed at the beginning of this paper.

In their investigations, scientists make various propositions, depending on their theoretical and empirical base and what aspects they consider. Thus, for example, Leone & Reichstein (2012) claim that their hypotheses, presented in their paper, build on contractual economics and innovation management, which scholars use while technology licensing on the global scale lies in the centre of most readings. As

(2011) noted, economists can employ an extensive record of business literature relevant to licensing technologies, including such fields as “property rights theory, contract theory, transaction-costs analysis, game theory under asymmetric information, and agency theory”.

Going through the available information on international market entry modes, specifically through licensing, several models are typical for exploring this question. In studies on licensing as a method of entering foreign markets, scholars consider various theoretical

paradigms to make their suggestions, which differs in their propositions. However, the most commonly used models for these purposes are the following:

- the Cournot model (Sen & Tauman, 2018; Wang et al., 2013; Katz & Shapiro, 1985) competes on quantities (sales volume).
- the Bertrand model (Lin 1996) that competes on price.
- the Stackelberg model (Zhang et al., 2016; Hong et al., 2014) in which one firm is a leader and other firms are followers, where: firms sell homogeneous products, competition is based on output, and firms choose their output sequentially and not simultaneously.

These models investigate the research questions usually between two firms (in a duopoly) and usually as a sequence of propositions flowing from their speculation or one another. Besides, international management has vital paradigms: transaction cost, resource-based view, institutional theory, and Dunning's eclectic framework. They strongly influence the output of studies and determine the propositions one makes.

Young (1987) stated that international production theory is “the best-known synthesis of the various contributions and found the scientific ideas developed by Cason, 1986 and Dunning, 1981 being essential by its efforts to differentiate conditions favour FDI comparing to exporting or licensing.

According to Arora et al. (2000), Dunning's Eclectic Theory “pointed to internalization advantages” and applying the insights of the transaction cost theory of Williamson, 1991 suggests that absent significant contracting hazards, the “default” low-cost governance mechanism is a simple contract, which is nonetheless a part of the general clause of his four-way classification of contract in Williamson (1985), where he observed 4 cases: 1. unbounded rationality/ nonopportunism – a state of utopia; 2. unbounded rationality/opportunism – operates through a comprehensive contracting; 3. bounded rationality/ nonopportunism – operates utilizing general clause protection against the hazards of contractual incompleteness; 4. bounded rationality/opportunism – which he declared accorded with reality and was where “all the problematic contracting issue resided”.

It is argued that transaction costs can be divided into ex-ante, including contracting costs Hill & Kim (1988), specifically drafting and negotiating agreements (Williamson, 1985), and ex-

post, which include costs of opportunism to the exploited firm (Hill & Kim, 1988) to correct misalignments and secure commitments.

Khoury et al. (2019) consider ex-ante contract costs for gathering information about the market before the licensing and ex-post costs associated with technology transfer and trainings of its using, as it defined “monitoring and enforcement costs”. Additionally there is costs for monitoring the licensee “even beyond the contract’s expiration” Williamson (1991).

For example, Khoury et al. (2019) based their study “on transaction cost, experiential learning, and bargaining power theories”, arguing that, while licensors have a solid reason to engage in nonexclusive licenses a priori, experience with prior licensing deals and deal-specific bargaining power considerations also influence this outcome.

However, as Williamson (1985) explained, the costs of both types are often difficult to qualify, but the absolute magnitude does not matter because they are always addressed in a comparative institutional way in empirical researches.

In the context of a mode of entry into new markets, Kotabe M. et al. (1996) declare that “existing theory tends to identify technology licensing as a step toward or an alternative to WOS”. Therefore, they present a “conceptual framework” on technology licensing from the licensor’s viewpoint by consolidating the present findings and licensing practices “to identify the antecedent product market, industry level, and resource-based factors that lead to technology licensing”.

Brouthers & Hennart (2007) examined the empirical articles to investigate decisive grounds for cross-border penetration “on the four most employed theoretical perspectives on entry mode selection: transaction cost, resource-based view, institutional theory, and Dunning’s eclectic framework”. According to the results they gained, it is suggested that a firm’s choice of internationalization is determined by reasonable transaction cost, institutional forces, available resources and the adopted organizational structures.

Gallini (1984) invokes Perfect Nash Equilibrium for her model to explore the choice between continuing to develop own technology or licensing it from a rival. The gained results predict that “the incumbent firm must decide to offer its technology to the rival, or risk being pushed out of the market” if they let the rival discover a better technology.

Lu (2014) used Salop’s model to check “whether no licensing is better or worse than fixed fee licensing depends on how the industry profit changes” and got the results that it relies

upon the price contestant and the product cost in the industry. Except that, they also applied a location model or spatial model, “which refers to any monopolistic competition model,” and expresses partialities of customers for distinct trademarks on goods.

Since there is no abundance of literature, particularly on licensing, they often focus on single aspects of license agreements, making it hard to complete the picture. Hence, there is a need for an aggregated examination of empirical studies and their formulated proposition for testing -hypotheses, which are supposed to be testable. Hence, the last part of this chapter will elaborate on different scholars’ argumentation in their empirical research to serve this goal.

3.3 Nature of licencing and its transformations from the MNE's prospective

Amongst other modes of penetration foreign markets, licensing contrasts differ in many aspects due to their characteristics, especially regarding technology transfer. So, the nature of contracts, according to O’connor (2006), are generally observed under the following conditions:

- parties cannot foresee all potential contingencies;
- often, it is more economical to react to predicted events when the need arises than to plan it;
- formulating specific contracts is challenging because of languages of origin;
- enforceable contracts can be made contingent only on information that the parties share and that courts can verify.

Due to the points mentioned above, he implies the term “incomplete contracting’ meaning that all complex contracts are unavoidably incomplete or “a fortiori, an optimal contract is out of reach” according to Bessy & Brousseau (1998).

Indeed, Williamson (1985) argues that a complex contract existed only when the parties' recognized various contingencies and appropriate adaptations are stipulated and agreed to in advance, which is almost impossible. Alternatively, it can be incomplete, and all events will be ad hoc managed as emergencies arise.

Kranenburget et al. (2014) imply that technology-providing firms are faced the risks of incomplete contracts, the illicit exposure of their precious knowledge, and its transfer inefficiency, which are even more crucial dealing with a foreign partner.

The other constitutive aspect of licensing contracts lies in knowledge transfer as the main element of these deals, particularly across borders. Hu et al. (2015) state that technology licensing is challenging "due to cognitive, intangible, idiosyncratic and predominantly tacit nature of technological knowledge". It supports by Arora & Fosfuri (2000), claiming that "tacit and complex technologies are more difficult to transfer through market-based transactions"; therefore, they tend to be transferred through internal rather than market-based transactions.

Consequently, Gallini (1984) also states, technological knowledge can exclusively be obtained through a licensing contract. At the same time, she accentuates that it must be protected by a patent, which allows the flow of information by protecting property rights under license, therefore, emphasising "a contradiction with the traditional view that patents invariably create monopolies by prohibiting the exploitation of information flow".

This point is also provided by Zhang et al. (2016), saying that "as an exogenous variable, technology spillover mainly depends on the strength of intellectual property rights; as an endogenous variable, technology spillover mainly depends on the complexity of technology and the strategic intent of the innovator".

Hence, the robust IPR systems of the host country are essential, because if the costs of writing and enforcing contracts are relatively high, it may refrain from entering a country through licensing, especially if there is a danger of dissipation of knowledge. Therefore, when MNEs decide to licence in other countries, patent and trademark protection is fundamental (O'Connor, 2006). Still, according to Agarwal & Ramaswami (1992), based on a personal interview with a leading multinational leasing firm, it was unveiled that middle eastern countries are not appealing to export equipment there because, "regardless of the nature of the contract, the equipment became the property of the ruler of that nation".

Arora & Ceccagnoli, M (2006) use the expression "effective patents", meaning strength to patent protection, which is prone to boost licensing among firms with lacking assets contrasted to firms that possess them. Besides, they suggest that patent protection can alter licensing in two ways, which are jointly determined: "the patenting decision (because non-

patented inventions are challenging to license) and the licensing decision conditional on patenting”.

So, licensing is a vital instrument for knowledge transfer, especially with a strong IPR, and as Colombo (2014) assert, “the technology exchange patent licensing is a fundamental channel for the dissemination of innovations”.

In their paper, Leone & Reichstein (2012) generated the opinion that licensing-in decreases its recipient’s invention time on the product development. Exercising already revealed solutions “accelerates the rate at which firms can identify a technology trajectory that leads to the introduction of a new invention”. However, they note that the grant-back clause, which might be incorporated in the licensing deal and “obliges the licensee to hand over the rights to future advances or improvements in the licensed technology to the original licensor”, may mitigate the licensee’s incentives for further expansion of the licensed technology.

Anand & Khanna (2000) provide a similar thesis concerning various restrictions on the processing of the licensed technology, which contracts may comprise, besides possible limitations concerning the geographic area or the contract term. They claim that the most restrictions are observed in the chemical industry (41%) and computers & electronics (about 30%).

Due to the fact, that institutions influence the strength of IPRs and provide agents with collective resources, “the features of licensing contracts greatly depend on each industry’s institutional environment” Bessy & Brousseau (1998).

Admittedly, the industry is an essential determinant in a decision-making process because its peculiarity characterizes it. For instance, in some fields, it is typical to cooperate with rivals because there is a high level of interdependency between them due to a high level of spin-offs in the development of products. According to Lee et al. (2018), licensing is an essential component of the business model in the pharmaceutical and biotechnological industry since its core activity is determined to a great extent by that.

In their study, Grindley and Teece (1997) determine cross-licensing as a reciprocal licensing typically pointed at technology exchange to avoid patenting interference and “provide firms active in R&D with protection against inadvertent infringement and rights to use the licensee’s patents”. They also distinguish this operating as “cumulative systems technologies” with one innovation facilitates the creation of another, such as electronics

including computers and semiconductors and industries, which “not characterised by cumulative systems technologies, such as chemicals and pharmaceuticals”. This approach goes in contradiction with the majority of scholars.

Confirmation of this can be found in Kim & Vonortas (2006). They claim that in particular businesses such as pharmaceuticals, “the costs of fielding products is very high (clinical trial costs may run into the hundreds of millions of dollars)”, making alliances and assistance from larger established companies essential, especially for small biotechnology companies, which often cannot afford it. Additionally, Kollmer H., Dowling M. (2004), researching the same field, suggest that “the commercialization of biotechnology is characterized by extensive cooperative arrangements for both fully and not-fully integrated firms”.

As Bessy & Brousseau (1998) suggest the very nature of technology creates, to some extent, “technological interdependencies among industry members that affect the density of technology license agreements and, in the end, their ability to govern such transfer”. Although according to Klueter et al. (2017), the type of knowledge transfer between the MNE’s determines the innovation effect, in a way that 'knowledge acquired from standard licensing, when contrasted to partnership-embedded licensing, may be less effective in creating product innovations. They explain that conventional licensing is designated by the one-sided flow of information and the absence of distinct resources committed by the licensor and licensee.

Teece (1986) formulated a supposition on this, assuming that the technological interdependence between firms, which create different system parts, requires intense cross-boundary coordination and information flows. It assorts with Grindley & Teece (1997) epitomise a stalemate in the electronics industry at the beginning of the previous century, where firms refused to cross-license each other to launch radio, and “several technologies were needed to manufacture radio system”. It was eventually solved by forming the Radio Corporation of America (RCA) and attracting the major patent holders to become shareholders in RCA, which may be stated as the wellspring of future licencing cooperations. They also named AT&T and IMB the influencers in setting up licensing process and speeding up the technology developments.

This is also supported by Mottner & Johnson (2000), who suggest that through the process of licensing information, a synergy between firms creates and “the core competency of each

firm may be better utilized, thereby resulting in economies of scale if the firm match is optima". As the network effect increases due to licensing, higher product quality and a higher evaluation of the product by consumers will lead to far greater industry profits, as Zhao et al. (2014) maintained.

Cross-licensing arrangements were already being used at the beginning of the 20th century to maintain market shares and deter entry into an international chemical market characterized by the presence of solid cartels. Arora, 1997 as cited in (Fosfuri, 2006). Concurrently with cross-licensing, according to Eswaran (1994), the phenom of "patent-pooling" means that firms deliver their patents into a shared 'pool' and license them to outsiders as a set with royalty payments appropriately distributed between the owners of the patents. He also argues that it may form a difficulty to enter the market. According to the results of Kranenburg et al. (2014), which was conducted in the American market, suggests that innovators favour technology alliances with more extensive relations and a greater level of involvement for reducing the expenses, risks and appropriability hazards in contrary to partnering with an unrelated foreign firm.

However, with all benefits from cross-licensing, there is reversed side. Both partners may encounter transactional hazards in these cooperative agreements due to the uncertainties associated with risks as interdependency and hazard (Somaya et al., 2010). Besides, Eswaran (1994) suggests that cross-licensing intensifies collusion by introducing the menace of expanded competition. It is correlated with Lin P. (1996), who states that "tacit collusion" is more expected while licensing occurs.

Furthermore, there is a discussion among scholars on the monopoly nature of licensing. For example, according to Fosfuri (2006), the licensor's bargaining power increases with the strength of IPR protection and the number of suitable licenses. Cho (1998) went further, referring to international technology transfer as a "bilateral monopoly" where recipients have insufficient information and knowledge about the product and suppliers. As a result, it allows the licensor to obtain more economic rents "from the ultimate use of technology and behave like discriminating monopolists". This point is also supported by Buckley & Casson (1998), who argue that the licence deals confer enough monopoly power on the local licensee; moreover, they infer the granting this power through the licence agreement, which "allows the entrant to appropriate all the monopoly rents by negotiating suitable terms for it" at the same time.

According to Jiang et al. (2007), the exclusivity of licensing can design a monopoly “if no close substitute exists” because it pertains to their ability to maintain a competitive position enjoying a monopolistic profit, whereas non-exclusivity raises competition for licensees.

The opposite findings obtained in their research Avagyan et al. (2014) declaring that licensing might be a profitable approach for the innovator, “who renounces monopolistic power derived from the exclusivity”, but could obtain a constant revenue from royalties.

As we can see, there is a bias on the monopolistic nature of licence agreements among the scholars and displacement of opinion over time about the licensor in them: from “a discriminating monopolist” to a know-how sharing innovator. One may conclude that due to the speed of technology development and hyper-competitive nature of innovation, it may not be relevant anymore to hide technology because the rivals can offer even a better one to the market soon.

3.4 Advantages and possible risks of licencing for the MNEs

Licensing as a means of cross-border penetration has the con and pros of its use for MNEs, which will be detailed in this subchapter based on processed literature.

Firstly, it is widely assumed that licensing could be preferable to other, more time-consuming forms of market expansion and penetration, such as investment and JV (Kotabe et al., 1996), because it requires fewer resources and commitment (Arora & Fosfuri, 2000), procures low risks while developing international solid marketing organizations, and has fewer restrictions on royalty payments (Tesar, 1977).

Secondly, contractual relationships may “enable start-ups to establish new business models by using licensing as their main commercialization channel, making full integration unnecessary even in the long term” (Kollmer & Dowling, 2004). Besides, they can add reliability to the innovator, especially if the innovator is almost unknown meanwhile “the contractual partner is established and viable” (Teece, 1986).

At the same time, for the wholly integrated organisations licensing contracts permit them to utilise available technology assets entirely “while focusing their internal resources on the core businesses R&D costs” (Kollmer & Dowling, 2004).

Similar Leone & Reichstein (2012) consider the advantages of licensing-in, which allows exploiting the licensed knowledge and, even more importantly with its help, favours new possible inventions and supports "increased efficiency in internal R&D activities, and synergy effects".

Thirdly, conventional wisdom holds licensing as a method for faster sales diffusion, especially concerning technology licensing. It is considered an explicit marketing strategy tool in obtaining rapid and deep market penetration in markets, according to Kotabe et al. (1996). Whereas Avagyan et al. (2014) connotate that faster sales diffusion happens due to cross word-of-mouth effects as a result of competition between licensors and licensees and higher innovation awareness through the combined marketing effort.

Fourthly, there are two types of incentives, according to Gallini & Winter (1985): the ex-post reflecting rents from the replacement of inefficient production and the ex-ante reflecting rents from the elimination of (privately) wasteful research expenditures by high-cost firms. For licensees, as stated by Cho (1998), it may be efficient and cost-effective to acquire proprietary technologies "to strengthen their market positions without unduly exposing them to substantial costs and various limitations in their utilization of acquired technologies". While in the opinion of Root & Contractor (1981) the licensing agreement is appealing as the entry mode for the licensee because "the possession of the property rights and know-how will provide a competitive advantage in the local market and therefore, will ensure higher profits".

Finally, some scholars consider that the licensing influences the host country's welfare, technologies over there, resulting in a cost reduction (Gallini & Winter, 1985; Katz & Shapiro, 1985²), which is "a clear social and personal benefit' plus cost reduction will also lead to an increase in industrial output, which accrues to consumers via lower prices" (Katz & Shapiro, 1985²). From a society point of view Zhao et al. (2014) concluded that, technology licensing might be seen as a practical means "to the diffusion of advanced technology", thus improving technology and bringing innovation in a particular industry as a whole.

On the contrary, as claimed by some researchers, cross-licensing cooperation could be used to reduce the competition in the product market, resulting in a welfare loss. (Pastor & Sandońs, 2002). One more issue concern which may cause welfare troubles for the customers it is the local government restrictions, dislocating entry affairs for foreign firms,

thereby Bond & Saggi (2014) state that the presence of price restraints and associated regulations admittedly discourages entry into pharmaceutical markets. In research of Lanjouw, 2005 (as cited in Bond & Saggi, 2014), it was discovered that price control reduced the chance of launching the new drugs or dawdled its occurrence in countries that imposed them. The licensor must realise that it is the license who creates an image of his firm abroad (Tesar, 1977).

However, there are also some trade-offs behind every choice and risks with it associated. For example, using licensing as an entry mode in foreign markets may be associated with the following disadvantages: legally and infringement risks, causing opportunism possibilities if there is weak property rights protection in the host country. The other issue concerning shortcomings, which may accompany licensing contracts, are image risks (Tesar, 1977). Since it is difficult to control and guarantee that the licensee maintains the licensor's reputation, Horstmann & Markusen (1987) advise that the licensing deal must assure appropriate for this purpose incentives.

Notwithstanding, some scholars notify the extraordinary idea that "the IPR holder may even prefer pirates to have some part of the total market potential, given that they speed up the diffusion" Avagyan et al. (2014).

As any market for intangible knowledge, technology licensing's market, according to Caves et al. (1983), is characterised by "appropriability problems, uncertainty, transaction costs, and impacted information coupled with opportunism". Thus the licensor risks losing control of his technology and the opportunity-loss from another possible entry mode, as FDI.

Thus, notwithstanding many merits of international licensing, like fast market penetration into other markets, it does not furnish a "sufficient hierarchical control mechanism" for licensors (Glowik, 2016). Taken all together, scholars see the problem of the low level of licensing organization and its management and consequently its unsatisfactory results of its using. (Lichtenthaler, 2011; Sikimic et al., 2012).

Despite the common opinion that licensing requires minor commitments and minimum management from the licensor as a market entrant, Sikimic. et al. (2012) propose a model, which considers four steps of realization internationalization through licensing, containing the control phase as the last action (Figure 3).

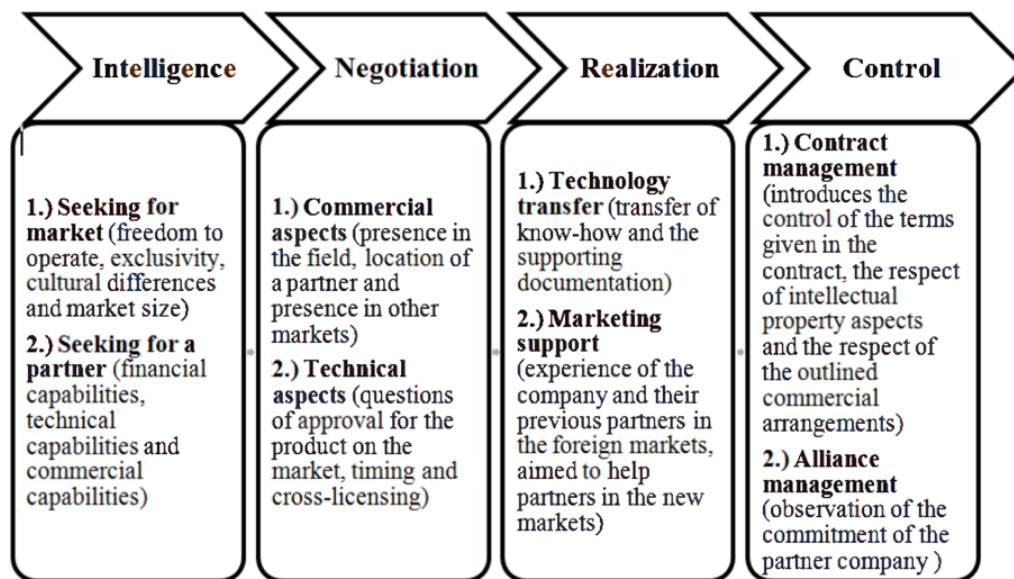


Figure 3. The model of a licensing process used as a market entry mode (Sikimic et al., 2012)

All in all, Mottner & Johnson (2000) present managerial options to minimize licensing risks, which is depicted in Figure 4, which gives a visual representation of already above discussed risks. Besides, the authors offer various means to govern licensing process, which are consistent with those were provided preceding.

Management options for reducing licensing risks.

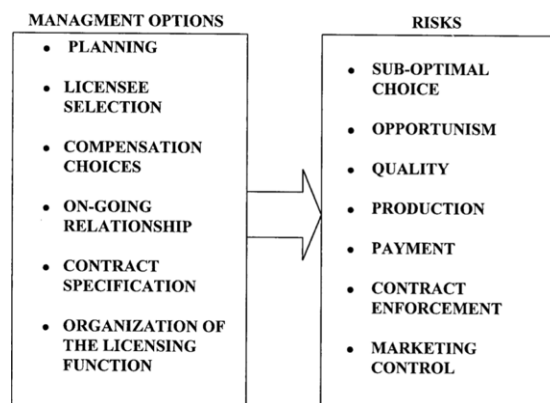


Figure 4. Management options for reducing licensing risks (Mottner & Johnson, 2000)

As any process licensing, as a means of internationalisation, has its merits and demerits. In the following subchapter, presenting preliminary findings, resolutions will expatiate about cases in which is it advisable to use licensing for market penetration and what kind of risks may it bear.

3.5 Provisional findings

A general positioning of licensing in international management is still relatively weak compared to the other ways of entering foreign markets. There is, therefore, a need to shed light on this matter. The preliminary results are presented in this subchapter based on the theoretical study of the scientific works on licensing in the last 40 years. Hereafter, the next Chapter then uses the empirical studies to verify that no discrepancies occur.

Chapter 1 interrogated three questions and two of them are still must be answered. Thus the responses will be provided below, according to the investigated literature.

Answering the second question addressed the licensing changing over the last 40 years and its contribution to internationalization, one may remark that the scholar's opinion on licensing eventually went the other way around, from overlooking to predominance compared to DFI. This process was probably caused by the protectionism policy in various restrictions after internationalization gained steam, and obviously by the transition from just manufacturing to high technology activities.

A response on the third query concerned cases, when it is reasonable to use licensing for market penetration, and what risks it may bear are complex and need an exceeding explanation.

Many scholars consent that licensing generates multiple advantages. Mainly, it might be beneficial for new-established companies with a lack of own resources and capabilities to internationalize. For the well-established MNEs licensing may be a source of additional rent on its know-how. Because, fundamentally, licensing serves as a means of knowledge transfer. According to Hu et al. (2015), the technology transactions may include mutual technology transfer in both ways, and "the number of in-licensing deals leads to a higher number of out-licensing dealings". Whereas, it means that license agreements thereby act as the catalysts for a licensee's invention activities, allowing a speedier invention process (Leone & Reichstein, 2012).

In general, launching new products renders progress and facilitates interfirm interactions and between the industries within cross-licensing, usually between settled MNEs. Besides, licensing is a source of additional revenue and fewer costs owing to ready-to-use knowledge,

which spares R&D time and expenses on R&D. According to Katz & Shapiro (1985)², the diffusion of superior technology and associated lower costs is privately and socially beneficial.

However, based on the conducted analysis Leone & Reichstein (2012) also suggest that when competition overweighs cooperation, firms may use contractual clauses to hinder the following from their license inventions. But the reason lies in a dissemination risk, which according to Hill & Kim (1998), leads to the danger that a licensing or joint venture partner will expropriate firm-specific assets in know-how.

Due to incomplete information, uncertainty risks and bounded rationality, Hill et al. (1990) claim that "a comprehensive contingent contract" is impossible to draft because there is constantly a probability of "unanticipated contingencies occurring that give rise to opportunistic actions against which the MNC has no recourse".

Indeed some things are unpredictable or even unenviable when one goes into business, but the firm has to be ready to face the inherent adversities. Drawing up the appropriate unique blueprint of possible scenarios is a crucial and challenging task for each company, which decides to enter a foreign market and take related risks

4. Review of the empirical studies and future research questions

Compared with theoretical overviews, empirical studies look more attractive because they are based on the actual empirical data, meaning genuine cases and evaluated by statistical instruments to check previously made assumptions and propositions. As a rule, they provide more reliable results and conclusions, but unfortunately, they are too complex and time-consuming to conduct. Especially it is complicated for some processes as licensing because it is a contractual method of internationalization, and the information might be unavailable, causing scarcity of those research. Nevertheless, some of them will be presented in the table below and discussed afterwards to accomplish the outlined aims of this paper.

When selecting the studies conducted in the last 40 years, the preferences were given to those with before stated hypotheses concerning international licensing with subsequent testing. Therefore, secondary data and their discussions are provided here.

Table 2. Empirical studies overview

	Industry /data set	Authors	Hypotheses ¹	Results
1	U.S.- based manu- facturing MNEs in 1977 and 1982	Scott (1994)	Hypothesis (H) 1: Managers in high integration societies will perceive lower transaction costs than will managers in low integration societies and will be more likely to favour licensing to direct foreign investment.	These Hypotheses were not definitely formulated, because the MNE's choice depends on their perception of the other culture (trust worthy or not). The results will be discussed below.
			H2: Managers in high power distant societies will perceive higher transaction costs than will managers in low power distant societies and will be	

¹ All the hypotheses are presented original, according to the authors' formulations.

			more likely to favour direct foreign investment to licensing.	
2	A survey of U.S. firm, in mixed business domains	Aulakh et al. (1998)	H1: Licensor involvement in a foreign market will be higher under a royalties-based than under a lump-sum fee compensation structure.	Confirmed, due to the incentives of getting rents from the agreement.
			H2: The level of intellectual property protection in the host market is positively related to the use of royalties-based compensation structure.	Confirmed, due to the legal protection there is less risks of opportunistic behavior.
			H3: The favorableness of the host country economic environment is positively related to the use of royalties-based compensation structure.	Confirmed, due to better possibility to support licensee to gain the best use of the technology.
			H4: Lump-sum fee compensation structure is more likely to be used in the introduction and decline stages of the technology life cycle, whereas royalties-based fee in the growth stage of the technology life cycle.	Confirmed, due to the desire to and establish industry standards.
			H5: The international experience of the licensor firm is positively related to the use of royalties-based compensation structure.	The study outcomes expose that neither international experience nor firm size determines the compensation scheme; H5 and H6 are
			H6: The size of the licensor firm is	

			positively related to the use of royalties-based compensation structure.	not supported.
3	MNEs from North America, Japan and West Europe in chemical industry (1981-1991)	Arora & Fosfuri (2000)	H1: Cultural distance reduces the propensity of a firm to set up a wholly owned subsidiary rather than using licensing to exploit technological competencies in a foreign country.	Confirmed, 'opposite culture' of home and host firm increases the possibility that a foreign project is carried out by licensing rather than FDI.
			H2: Experience in a given country increases the propensity of a firm to set up a wholly owned subsidiary rather than using licensing to exploit technological competencies.	Confirmed, country-specific experience increases the probability of future investments through FDI rather than licensing
			H3: Firms accumulate more experiential learning from equity investments than from licensing contracts.	Confirmed
			H4: The larger the number of potential licensors for the technology employed in a given foreign project, the lower the propensity of the investor to set up a wholly owned subsidiary rather than using licensing for that project.	Confirmed, due to competitors' higher probability of entering the market, it may be more challenging to recoup the investment cost on WOS (case of no exclusivity).
4	MNEs in mixed	Leone & Reichs-	H1: Time to the introduction of a new invention is shorter for licensees than	Confirmed, the models indicate that licensing-in

	business domains	tein (2012)	for comparable non-licensees	does shorten the time to invent.
			H2: Time to invention is longer for licensees that sign license agreements that contain a grant-back clause compared to licensees that sign license agreements with no grant-back clause	Confirmed, although a grant-back clause aligns licensees with non-licensees.
			H3: The time to invention for licensees that license unfamiliar technologies will be longer than the time to invention for licensees that license familiar technologies	Partly confirmed: It did not confirm the time to the invention in general but confirmed the time to the invention in familiar for licensee technological framework.
			H4: The grant-back clause extends the licensee's time to invention less if the licensee is unfamiliar with the licensed technology compared with if the licensee is familiar with the licensed technology.	Partly confirmed: It was confirmed only in one model out of 7 with a substantial negative evaluation of the interaction between grant-back and unfamiliarity.
5	Bio-pharmaceutical firms from Europe and	Hu et al. (2015)	H1. For an entrepreneurial firm, social status is positively associated with the number of out-licensing deals which the firm secures.	Partly confirmed: a firm's status in the public knowledge domain does not remarkably affect out-licensing deals, but they may increase due to its status in the private

	North America over an 18-year period.			knowledge field.
			H2. For an entrepreneurial venture, the number of commercial alliances is positively associated with the number of out-licensing deals which the firm secures.	Confirmed: alliances in the private knowledge domain may bring more out-licensing deals.
			H3. For an entrepreneurial venture, the number of co-authoring partners in scientific publications is positively associated with the number of out-licensing deals which the firm secures.	Not confirmed, co-authoring scientific publications have negative correlation with out-licensing, resp. H1.
			H4. For an entrepreneurial firm, the number of co-authoring partners in scientific publications negatively moderates the positive effect of commercial alliances on the number of out-licensing deals which the firm secures.	Confirmed: there is a conflict between alliance portfolios in the public knowledge domain and those in the private knowledge domain, negatively influencing out-licensing deals.
			H5. There exists an inverted U-shaped effect between the size of an entrepreneurial firm's R&D portfolio and the number of its out-licensing deals.	Confirmed: The favourable effect of the R&D portfolio's size on the number of new out-licensing deals rises to a certain point, reaching its peak, it starts to decline.
6	Bio-pharma-	Klueter et al.	H1. A standard licensing agreement is less likely to lead to the creation of a	Confirmed: Partnership-embedded licensing is

	ceutical firms (1997 - 2015)	(2017)	product innovation than a partnership-embedded licensing agreement.	more advantageous than the standard type.
			H2. The difference in the likelihood of creating a product innovation between standard licensing and partnership-embedded licensing is attenuated in the presence of bottom-up attention by the licensee's R & D unit.	Partly confirmed: The standard licensing is less advantageous than partnership-embedded type at low Bottom-up Attention, representing "the unit's search focus", but its presence weakens the discrepancy between both types.
			H3. The difference in the likelihood of creating a product innovation between standard licensing and partnership-embedded licensing is attenuated when top management pays attention to a licensing agreement.	Partly confirmed: by top-down attention, both types of licensing agreements can generate similar outcomes on product innovations.
7	Bio-sciences industry, 27-year sample	Khoury et al. (2019)	H1a: Greater accumulation of out-licensing deals by the licensor leads to a decreased likelihood of a nonexclusive license.	Confirmed: It would additionally intensify ex-post transaction costs on the monitoring for the licensor.
			H1b: Greater accumulation of in-licensing deals by the licensor leads to an increased likelihood of a nonexclusive license.	Confirmed: Due to previous in-licensing deals, which lower ex ante contracting costs

			<p>H2a: Licensing out a technology of greater market relevance increases the likelihood of a nonexclusive license.</p>	<p>Confirmed: Market-relevant technology is attracting more prospective licensees.</p>
			<p>H2b: The negative relationship between a licensor's prior involvement in out-licensing deals and a nonexclusive license is less likely to occur when licensing out a technology with greater market relevance.</p>	<p>Not confirmed: Due to the observations, market relevance does not entirely counter the adverse effects of previous out-licensing deals, making exclusive licenses more likely. Besides, increasing experience in out-licensing makes market relevance less critical.</p>
			<p>H2c: The positive relationship between a licensor's prior involvement in in-licensing deals and a nonexclusive license is more likely to occur when licensing out a technology with greater market relevance.</p>	<p>Confirmed: The correlation between in-licensing deals' experience and non-exclusivity is positively governed by market relevance, making nonexclusive license more likely to occur. Same as in H2b, increasing experience in in-licensing makes market relevance less critical.</p>

8	Bio-pharmaceutical industry (1989–2004)	Moreira S. et al. (2020)	H1. Competitors' product launches in areas in which a firm actively invests in R&D increase the firm's rate of technology licensing-in.	Confirmed: Rivals point out the relevant knowledge, giving firms an opportunity through licensing to acquire specific technologies to expand it into specific R&D trials.
			H2. Technology licensing-in will be positively related to a firm's subsequent innovation in technological areas where competitors have launched new products.	Confirmed: In order to deter competitors from taking the lead, a firm may use licensing to accelerate the innovation process in fields where rivals succeeded, thus reinforcing its strategic position.
			H3. The higher a firm's accumulated R&D investments in the technological areas where competitors have launched new products, the stronger the relationship between licensing-in and subsequent firm innovation in these areas.	Confirmed: Since innovation is a cumulative process, significant accumulated R&D allows a firm to rely on its capacities to maintain a solid knowledge base in fields where opponents succeeded.

In the table above, eight studies are introduced, where the authors formulated the hypotheses and, by empirical approach, examined them. The striking fact is that half of them present the

biopharmaceutical business, and they are also the most recent in the literature. It is widespread among researchers to use data from this domain explaining licensing.

Another, the ninth empirical study was not included in the overview as there were no prior assumptions to test; instead, it only provides the analyzed data results. It is about the paper of Varner (2011), where he used as primary data set of multiple industries filed for over 17 years (1994–2010). The purpose of his research concerns patent licenses and their differences across sectors, including financial encourages and other motives behind them. According to the described outcomes in study of Varner (2011) The obtained results imply significant discrepancies in the licenses' structure across industries. Nevertheless, they can be investigated and interpreted with basic economic principles, such as "economic analysis of risk allocation strategies, product flexibility, differing perceptions of the likelihood of commercial success, or demand-side concerns such as price elasticity of the licensed products" However, this research's significance lies in the overall description of tiered royalties, widely practised in the biotechnological industry.

Determinants of choosing a payment system for licensing also presented Aulakh et al. (1998), concluded that strong IPR, supporting environment, and the growth stage of the technology's life cycle favour royalties-based compensation, enhancing licensor's involvement in a host market. They also suggested that industry predetermine, and MNEs are more inclined to use royalties-based payment "for consumer goods and a lump-sum fee for technologies related to industrial goods". In contrast to some other studies, Aulakh et al. (1998) claimed that a firm's size and expertise do not matter.

For example, in their paper, Khoury et al. (2019) provide analytical insights into how firms learn to contract via prior collaborations, thus economizing ex-ante and ex-post transaction costs through licensing experience. Besides, they claim that a bargaining power leveraged by the market relevance of the technology influences contractual outcomes.

An indirect influence of licensing on the commercial results, presented in Moreira et al. (2020), the authors consider licensing versus other knowledge sources to strengthen a firm's capabilities against rivals. The results of their study suggest that licensing is not just an exchange of technology's rights but a method of facilitating the learning process, acquiring external knowledge and, therefore, forcing inventions.

The further enlightenment to this point provided Leone & Reichstein (2012) in a comparing study of licensees and non-licensees, which imply that “licensing-in involves much more than the transfer of IPR”. It is because licensees frequently invent more quickly than their non-licensed competitors, especially in acquainted technologies. However, a grant-back clause alters the licensee’s motive for further developing the technology, whereas it stimulates the licensor to support the licensee completely. Thus, according to the paper’s arguments and the author’s conclusions, “these clauses may separately hamper the invention process, but in conjunction, promote it”.

The interaction between counterparts is outlined by licensing contracts, which determine all the circumstances, carrying distinctive rights and liabilities. However, Klueter et al. (2017), in their study on the relations between licensing and innovation, had defined two principally diverse in its core types of licensing. The authors concluded that partner-embedded has more advantages than a standard one, “since the mere addition of knowledge through licensing may not be sufficient”, especially for complex licensing agreements. However, sufficient attention within the licensee’s R&D department and its management may mitigate disadvantages of a weaker type, levelling off them both.

Among the other determinants for using licensing as a mode of entry, interestingly, for instance, the study of Hu et al. (2015), analysing the dependence of out-licensing deals on a firm’s status in the public knowledge domain as co-authoring in scientific publications on the private knowledge domain, including its commercial alliances. Where the last one has a positive impact on it, comparing to the first one. This outcome is consistent with Gray, 2006 (as cited in Hu et al., 2015), who explains that “industry’s need to protect intellectual property may run counter to the open-access model of resource sharing encouraged in academia once discoveries have been published.” Thus, out-licensing deals are attracted by recognising the value of a firm’s PIR and its previous experience with commercial alliances.

Furthermore, Scott (1994) explored an impact of the cultural distance and trust variable on a choice of entry mode in a foreign market: licensing and foreign direct investment, thus varying the concept of trust in transaction cost. Although American MNEs favour licensing their products, which is relevant for high trust countries with lower technology transfer costs, they tend to engage in DFI entering low trust countries. Again, the reasons are low trust and

cultural distance with local entrepreneurs, “because contractual relationships are difficult to establish with foreigners who are seen as distrusted out-group members”.

On the contrary, Arora & Fosfuri (2000) argue that cultural distance from the home country favours licensing. Whereas learning influences an entry decision so that previous interactions with the host market support FDI. Besides, they claim that high competitiveness in the host market and the absence of the product's exclusivity would instead exert licensing as an entry method.

All in all, although the correlation between the studies is not always apparent since they examine diverse aspects of the whole under distinguishing assumptions, the revision of these studies provide a deeper understanding of international licensing's potential due to the representation of its notable characteristics.

Ultimately, there are comparatively few observational studies with massive data sets, especially across industries, due to the difficulties of obtaining enough raw data to test theoretical prepositions and afterwards conduct investigations. As Varner (2011) noted, one of the main reasons is protecting licensing agreements under confidentiality terms. Similar note gives Leone & Reichstein (2012), “writing that limitations related mainly to the nature of licensing agreements and patents, bias caused by firms’ disclosure policies”.

However, it merely indicates that further investigations are required. In the interim, due to some limits in conducted surveys, one may identify future research questions to extend the field’s understanding of the disputable issues.

The scholars propose to reflect the following subjects in further studies:

- to examine dynamics between licensor and licensee across a fuller range of compensation types (Aulakh et al., 1998)
- to analyse the conception of cross-licensing settlements in highly technological fields and dynamics in these partnerships, which may differ from traditional bilateral licensing contracts (Aulakh et al., 1998)
- o test the hypotheses regarding the environmental determinants on international licensing in such industries as electronics and telecommunications (Hu et al., 2015)

- to study other relationships, other than bargaining power's direct and contingent effects as the antecedents to bargaining power and how it affects additional contractual details, such as geographic area and equity arrangement outcomes (Khoury et al., 2019)
- to explore the influence of licensing on forming long-term internal innovation (Moreira et al., 2020)
- to test whether increasing patenting activity in the related areas will determine the firm's opportunities or evoke threats (Moreira et al., 2020)

Interestingly, almost all researchers suggest testing already worked hypotheses in other industries for additional evidence.

5. Summary and conclusions

Globalization reveals significant possibilities bringing businesses together and related complications, which require regulating the arising complexity. Moreover, it causes opportunities to expand the activities abroad and gain additional revenue for companies. Thus, this issue is not solely academic interest, but commercial also.

In general, among other methods of internationalization, one of the least investigated remains licensing. However, it generated enormous interest in specific, highly technological and innovative industries, such as pharmacy and electronics.

Indeed, the industry is an essential determinant in decision-making because its peculiarity characterizes each. For some, it is typical to cooperate with rivals because of a high level of interdependency between them.

Due to the inner nature of licensing and its explicit properties, it has a vast potential for further use in international management. It serves to cross the borders, entering new countries and therefore penetrating new markets. Moreover, it plays a crucial role in innovation spreading because it secures the transactions of transfer know-how. In general, it provides quicker access to new technologies, promoting further innovations and leading firms and the world to a new level.

Another critical characteristic of licensing is possible alliances between companies due to the intersection of innovations and the high costs of its creations. Based on the license agreement, it provides lower prices and thus brings benefits to the companies and society.

Except for the principal firm's activity, licensing can procure additional income with less effort and control from the licensor side if some conditions are met. First of all, as for each product not only a licensed one, there are market rules with its competition level, other providers of a similar product in its broadest meaning, including knowledge, services and know-how and market circumstances (host's country restrictions and limitations including shortage of resources and assets). The second and crucial is the robustness of IPR laws in a host country and whether it can assure & guarantee property rights and protect against infringements.

In contracting relations, transactions may be complete within a comparatively short time instead of other entry methods. Still, it also provides a low authority in running a business, explicitly using technology and its possible risks.

Since it has a contractual character, it highly depends on the contract's comprehensiveness; otherwise, the knowledge transfer may turn into infringement with further revenue reduction or even loss of the value-generating asset. Thus, not only the public authorities, which protect IPR and diminish opportunism possibilities, determine the use of licensing but also reliance on the licensee as a knowledge receiver. For example, Scott (1994), in his study on a correlation between trust and market entry, presumed that licensing is the preferred entry mode for high trust countries, which via sufficient skills and resources capable of lowering technology transfer costs.

However, as Hill et al. (1990) assume, management decision-makers must consider the relative weight of the strategic, environmental, and transaction-specific variables identified herein when selecting a mode of entry and, in particular, licensing for internationalization purposes.

This paper was also elaborated on the argumentation of different scholars in their researches from the previous chapter. In the fourth chapter, its correlation is not always apparent when analyzing other aspects under different assumptions. The research on licensing is scattered, and there are few on the licensing as a means of international entry. Thus our goal was ambitious in terms of getting distinctly unified conclusions on this matter.

However, this paper concentrated on the central empirical and theoretical attainment, opening the science horizons for further study.

Future research would be advisable to investigate the development of licensing within one industry and compare it to different countries, whether it provides the same level of protection, and what contractual differences does it cause because of it. Another question is the future of licensing due to the influence of E-commerce and social media platforms for entering the other markets. Where (in which branches) will it still be practical to licence and maybe even more critical than now, and where there may be no need for licensing per se.

Since licensing seems misjudged in international management, there is a need to conduct a further investigation according to the proposed research question and comply with the trends and changes on a global scale.

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Appendix

Abstract

Though the massive amount of literature on the entry mode subject, licencing is almost constantly below the investigations among the other internationalization methods and is being mentioned in passing. Given the lack of integrated research, this paper aims to provide an extensive analysis of the empirical and theoretical formulations and developments over the last 40 years to explain internationalization through licensing and to represent a survey examination on this entry method in particular, which factors are crucial in its favour. This thesis explores existing literature, including scientific studies, which present hypotheses and corresponding empirical investigations for its verification. Thus, it outlines the past-present opinions on licensing as a method of cross-border activity and the potential future research questions.

Keywords: Licensing; International licensing; Internationalization; Entry Mode.

Deutsche Zusammenfassung

Trotz der enormen Menge an Literatur zum Thema Markteintritt bleibt die Lizenzvergabe unter den anderen Internationalisierungsmethoden fast durchgehend hinter den Untersuchungen zurück und wird nur am Rande erwähnt. Angesichts des Mangels an integrierter Forschung zielt diese Arbeit einerseits darauf ab auf eine umfassende Analyse der empirischen und theoretischen Formulierungen und Entwicklungen der letzten 40 Jahre zur Erklärung der Internationalisierung durch Lizenzierung zu liefern und andererseits auf eine Übersichtsuntersuchung zu dieser Eintrittsmethode im Besonderen darzustellen, welche Faktoren entscheidend für sie sind. In dieser Arbeit wird die vorhandene Literatur, einschließlich wissenschaftlicher Studien, ausgewertet, die Hypothesen aufstellen und entsprechende empirische Untersuchungen zu deren Überprüfung durchführen. So wird ein Überblick über die bisherigen Meinungen zur Lizenzvergabe als Methode der grenzüberschreitenden Tätigkeit und über mögliche zukünftige Forschungsfragen gegeben.

Schlüsselwörter: Lizenzierung; Internationale Lizenzierung; Internationalisierung; Eintrittsmodus.