The Role of the IP Market Place in the Performance of the Patent System:
An agenda for a PhD thesis

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1.0 Introduction

In the new knowledge economy, strategic value for Intellectual Property Rights (IPR) has become a central issue for creating and sustaining competitive advantage of a firm. This has heightened the need for exploiting more fully IPR for firms, especially in the IP marketplace. It is becoming increasingly difficult to ignore the IP marketplace, as many firms are interacting with each other in the marketplace in order to create greater value with their IPRs.

While there are different kinds of IPRs\(^1\), this paper will only focus on patents. Its aim is to address the issue of the IP marketplace. Although the role of the strategic value of patent in giving competitive advantage to firms is recognised, this aspect has less been the focus of attention. While much research focuses on the strategic value of patent, few studies in economics and management have focused on the role played by patents in facilitating or impeding the performance of the IP market. In fact, the IP marketplace can be used as a platform to create more value. Instead, the literature on IPRs focuses on the different motivations and uses of patents by firms such as bargaining for joint ventures or license deals (Blind et al, 2006). Cohen et al. (2000) probe the differences in the motives of patenting across industries. Levin et al focus on patent effectiveness across industries in explaining the variation of R&D productivity. Their survey shows that covering of R&D expenditures is not

\[^1\] IPRs can be categorised into patents, trademarks, copyright and Industrial Designs (UK Patent Office, 2007)
the primary motivation for appropriation from patents, and that those motivations are related to the strategic value from patents which can be obtained through licensing markets (i.e. the IP marketplace) (1987). However, their important contribution ends here. Another important contributions is the one of David Teece (1986) who has discussed some aspects of licensing markets in value creation from patents, tends to merely assume that the IP marketplace functions perfectly. However, the critical operation of the IP marketplace has more recently become a subject of concern as many firms experience that this market place does not function very well (see the EU software hearing 2002-2005, and see IBM’s Global Innovation Outlook Report by IBM on Building an IP Market Place (2006). This will be discussed further in section 3 of this paper.

This paper aims to explain how strategic commercial value from patents (c.f. the commoditization of knowledge) can be achieved through the operation of the patent system where patents are ‘traded’, in terms of licensing (e.g. simple licensing, cross-licensing, patent pools, selling or buying.) In doing so, this paper will endeavour to combine approaches within evolutionary economics and strategic management toward understanding the value creation of patents. Section 2.0 explain the current situation of the IP marketplace by first demonstrating its importance before examining the proposition that the IP marketplace is not working as well as it could (see Section 2.1). Section 3 will look into characteristics of a properly functioning IP marketplace. It will then explain in section 4, the coordination mechanism of the IP marketplace in order to know its true performance. In doing so, the paper will identify all the players and their motivations, before drawing attention towards a typology for patent’s strategic value and how values are realised through the marketplace in section 5. Finally, this paper will justify the options available for operationalisation of the intended research. (see Section 6)

2.0 The importance of the IP marketplace

We are experiencing a revolutionary era in information, a post-industrial era. This new economy is indeed different from the ‘old economy’ in terms of the structural changes that it brings which focus more on knowledge, networking and innovation. Technological advance and globalization have been the key driving forces behind this economic progress. They create new markets and transactions that leave firms with new opportunities and risks at the
same time. Thus, firms have to be able to demonstrate capability for speed, flexibility and the ability to connect. These explain the changes in focus of the firm’s competitive advantage from the combination of cost and product differentiation into leveraging on the intangible assets. Interestingly, these changes explain the shift of strategic value towards intangible asset, which include IPR as it can be used to create more value. Consequently, understanding of how to create and extract more value from IPR will be beneficial to businesses and society in general. Hence, the transformation of the economy is changing the nature of competition and how business works which leads to the asymmetrical performance of the IP marketplace across industry, sector, and country.

The fast-paced market for patents is forcing firms to rethink their patent’s value creation strategies to boost speed on patenting and to fight for market share. Identifying the activities that can generate patents’ value which are most beneficial to the firm is a challenging exercise. However, by understanding the IPR system, a firm will be more able to grasp the benefits of each strategy implemented. This is because markets are shaped by institutions; in this case, by the IPR institutional environment and its governance structure (Andersen & Konzelmann, 2008). In stressing its importance, Scherer and Ross demonstrate that the IPR system performance is actually dependent on the market structure and conduct (1990, p.659). Vanberg, 2001 explains that the market, as an institution, also involves complex rules like social norms, customs, instituted exchange relations, and information networks that have to be explained (Hodgson, 2004). To stress the importance of the IP marketplace even further, Mansfield (1986) found that twelve of his sample industries patented at least half of their patentable inventions. Thus, there must be other forces that motivate them to patent despite the inefficiency of patents. What is happening in the IP marketplace that could explain this issue?

2.1 The Imperfect IP Market

Markets are imperfect and so are the patent and the IPR systems. Mainstream economics assumes that firms are rational-homogenous units, and disregards their complexity (Andersen, 2001 p.10), despite the importance of habit and custom’s contribution in the functionality of the complex system. Additionally, the mainstream economies also emphasize maximization and equilibrium in a system (Hodgson, 2007, p.7). Nonetheless, the IP market
is full of uncertainty, where all players make decision with bounded rationality. As change is continuous, it is hard to say that static equilibrium exists in the IPR system. Furthermore, the heterogeneity of firms and the social structure of their interaction contribute to asymmetrical performance of the IP market. This is supported by Hodgson (2004) who shows the relevance of the importance of upward and downward causation in a complex development of a system, and it is not merely a one way interaction as explained by mainstream economics. Firms’ interactions in the system will definitely affect the overall performance of the IP market, with the IPR regime shaping its boundaries.

As the mainstream economics model is far from reality, it will not be able to deal with the growing impact of technology on the dynamic economy. This contribute to the explanation of why the IPR system cannot cope and do not behave as it is intended to do. Scherer and Ross (1990, p.621-628) point out a few revealing reasons why it happens. It covers problems and issues of the classic function of IPR, the patent as an instrument itself, market, technology, and the inventor (ie: firm). All the issues mentioned have their own benefaction in the performance of the IPR system.

3.0 IP Marketplace: Strategic exploitation and its problems

Before the performance of the IPR system can be dealt with, it is necessary here to clarify exactly what is meant by a properly functioning IP marketplace. This section will lay out the key characteristics of a properly functioning IP marketplace, as discussed mainly in the Global Innovation Outlook Report 2.0 by IBM (2006) and mentioned briefly in other sources.

As explained in the previous section, the IP marketplace has limitations that able to inhibit the overall innovation system. Generally, the limitations are caused by two problematic events: Increase in litigation and increase in speculative behaviours. If we look at recent years, there has been an increasing interest in patent. Although patent application might have been previously regarded as a one-off event, the complexity of current technology and the current patent application system have combined to make it more cumulative and demanding process. Building from that is the problem of ‘invent around’ and ‘patent blocking’ activities. The increase number of litigation cases lately shows that the patent strategy implemented by firms may create other future problems within the market. Apart from what Meurer (1989)
revealed that the US Supreme Court considered that patent litigation arises due to ‘notorious difference between standards applied by the patent office and by the courts’, whereas Cook (2007,p.50) provided a simpler analysis. He claims that the number of conflicts over the IPR will accumulate with the increase in the granting of additional patents that will later raise the number of litigation cases. Another example is related to the software patent issue, whereby many companies could not identify whether they already violated software patents or not when writing software codes. This brings about the issue of patent system behaving as counter-productive and counter-innovative (Andersen and Konzelmann, 2008 p.14). It is important to understand the increase in patent litigation and patent grants in the area of technological innovation and productivity with each of its underlying causes.

Another limitation to the IP marketplace is increase in speculative behaviours among the players, especially firms. This will bring up an important question whether firms feel compelled to patent in a complex industry after anticipating that others will do the same in order to maintain their status as a player, despite realising the complexity involved in patenting. Firms speculate in order to achieve profits using information and cost advantages. By patenting, firms will be able to protect themselves from infringers, and ‘patent attack’ from other firms. In this context, firms decide to speculate in order to reduce their risk in the IP market.

Nevertheless, the two limitations explained above create more problems to the patent systems. Due to the patent racing postulation, many inventors file patents that consist of a low quality patent, in terms of the level of novelty and the non-obviousness inventions of certain scope. Apart from that, poor patent documentation supplied by the inventors impede the objective of the patent system, which is to facilitate knowledge spill over and expansion of knowledge based ideas. Ironically, fearful of being left behind in the IP marketplace, firms with insignificant invention apply for the patent in well written, high quality documents. The high number of applications, especially the insignificant application, received by the patent office may slow down the overall evaluation process. Influenced by the patent rat race, many take advantage by not searching for prior art before filing, and this leads to double applications that waste many patent office’s resources. The high level of litigation cases could be associated with the low quality of patent documentation submitted by inventors as well.
Consequently, the lack of transparency of the patent documentations provided by the holder makes it hard for others to track the owner in the future. This will reduce the facilitation towards licensing in order to increase spill over that compromises the rationale of IPR system. Therefore, what is needed now is a player who has a high degree of integrity that comes into the IP marketplace with a clear agenda. Issues of trust will emerge in the interaction between firms in the IP marketplace. The notion of determining the true value of a patent in the market reinforces the importance of trust and integrity. Irresponsible players will try to suppress the value of the patent by abusing their power in the marketplace. The dynamic of the open IP market make it more difficult to determine the value of the intangible asset.

On the other hand, not all firms are fortunate enough to be part of the IPR system. At the EU hearings of 2002-2005, there was a sharp difference of views of large firms and small firms in terms the issue of proposed software acts. Many SMEs claim that they did not have enough resources or institutional capabilities to participate, and this raise the issue of distributional problem of the IPR system (Andersen and Konzelmann 2008, p.14). In the case of software companies, some of them choose to be part of the free software communities as an alternative to the patent communities. Nonetheless, Foundation for Free Information Infrastructure (FFII) expressed their concerns that there will come a time where the big firms obtain the free software, and develop it slightly before patenting it. Sooner or later, the free software will become patented and subsequently destroy the software community (Andersen and Konzelmann, 2008, p. 14).

Thus, the market infrastructure of the IP marketplace needs to be flexible enough for players to interact. Rigid infrastructure will hinder innovation and competition. This leads to the question of the appropriate scope of the IP marketplace infrastructure in supporting innovation.

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2 For the protection of computer-implemented inventions and business methods, many large firms in favour for option 1 (technological progress patent) or option 2 (technological patents -like in the US) whilst majority of small firms in favour for option 4 (No patents, with communities of free software, open source, freeware and shareware)
4.0 The IPR System

Andersen and Konzelmann (2008) clearly explain the IPR system using the New Institutional Economic (NIE) framework by referring to the distinctive explanation made by Williamson (1998) on the differences between the institutional environment which is defined as the ‘rules of the game’ and the institutions of governance which are the structures where the ‘play of the game’ is carried out. In this context, the theoretical framework by Andersen and Konzelmann (2008) is beneficial in terms of segregating the context of each entity in the system. A conceptual framework that exhibits the entities existing within the IPR system was constructed to give an overall picture of the proposed research area (Figure 1).

![Conceptual framework: ‘factors’ which generate ‘the performance’ of the ‘IPR system’](image)

**Figure 1: IPR system performance conceptual framework**

4.1 The players and the IPR rationales

When the IPR system is not performing in accordance with expectations, all the players in the system share the same responsibilities towards its performance. The players may be classified into two types, governmental and non-governmental stakeholders. Specifically, governmental
stakeholders include policy makers and IPR offices. The non-governmental stakeholders consist of firms, lawyers, and individuals who show interest in IPR.

Each of the stakeholders has their own objectives in operationalising the IPR system. The governmental stakeholders have their own explanation of the fundamental reasons of why the IPR system exists, whilst the non-governmental stakeholders also have their own objectives of participating in the IPR system. It would be interesting to know whether the patenting practices of non-governmental stakeholders depart from the purpose of patent regime set by the governmental stakeholders.

In understanding the rationales for the governmental stakeholders, Andersen (2003) traces the historical arguments for the rationale of the IPR system and came out with a typology that can be used to explain its rationales. It covers the philosophical approach of moral rationales and social benefit from patents and the pragmatic approach of the industrial developments from patent and its economic rationale as well. The moral rationale of the system focuses more on the natural rights of an individual to own their own invention and not being exploited by others. There can be rewarding incentives inducing more creativity throughout the economic system. It is economically justified to provide incentives to invest in new ideas, invent and innovate (Andersen 2004). This rationales support firms’ concern in appropriating their returns on investment that they have made. However, the empirical research done by Mazzoleni and Nelson opposed the statement as their study reveals that patent does not encourage investment (1998).

Another rationale is the increased competition and market protection of entrepreneurial talent that focuses on the industrial development from patent (Mazzoleni and Nelson, 1998). In this case, supposedly the system will protect the patentee by giving them a platform for fair competition. This protection of entrepreneurial talent will give the patentee reassurance in developing their products based on their patent filed. Thus, it will be able to stimulate innovation based competition without having to worry about others stealing the brilliant ideas. However Arnold Plant (1934) argued that this type of monopoly gives extreme privilege to a person that can cause reckless rivalry, as we can see in today’s world (Andersen, 2003). Mansfield (1986) states that the absence of patent protection would have little impact on innovation, with the exception of the pharmaceutical industry.
Lastly, patent encourages the economic rationale of organising science, technology and creativity that are able to increase information spill over. The disclosure theory by Mazzoleni and Nelson 1998 is supported by the idea that without a patent system, the inventor will keep their invention secret and it will die with them. Society will lose the benefit of it. Thus, with the IPR system, the inventor will be granted the monopoly rights on the invention, whilst they have to disclose their idea for the benefit of society. Machlup and Penrose in 1950 argued that in reality, no idea can be kept secret for a long time, as similar idea will be developed elsewhere (Andersen, 2003). Sooner or later, the society will benefit from it. In fact, Cohen and Nelson (2000) postulated in their research that information disclosure is also one of the reason for firms not to patent, apart from issues of novelty, cost of application and cost of defending.

Davis (2004, p.400) explains that the role of the IPR has changed in this advanced digital technology age in respect of the change in the IPR regulatory framework. This is due to the fact that sources of competitive advantage of non-governmental stakeholders have shifted towards intangible assets (ie: IPR). Traditionally, the inventor sought a patent in order to protect their invention from competitors and eventually to protect their market segmentation when they commercialised the product (Rivette and Kline, 2000). The principle purposes of why firms patents focuses more towards protecting their market advantages, enhancing their competition and corporate competitiveness while improving their corporate performance. These somehow will strengthen the sectoral innovation system as a whole (Papaioannou, 2006)

Despite the relatively patent ineffectiveness in most industries in protecting returns on innovation, Mansfield 1986 shows that firms still have n interest in patenting. In fact, Scherer and Ross (1990, p.628) explain that patent is not very important compared to other incentives for innovation. This view was also supported by Levin’s study (1987, p.809). The World Intellectual Property Organization (WIPO) just released in early 2008 that a record of 156, 100 of PCT³ application were filed in year 2007. According to WIPO, growth rates in the filing of PCT applications have been particularly dynamic over the last nine years, with the year 2007 witnessing a growth rate of 4.7% over the previous year. It is clear evidence that

³ Patent Cooperation Treaty (PCT) offers inventors and industry an advantageous route for obtaining patent protection internationally. By filing one “international” patent application under the PCT, protection of an invention can be sought simultaneously in each of a large number of countries.
many firms and individuals in many countries are embracing the tools of the international patent system. If so, there must be an explanation for the increase in interest towards patenting in general in spite of its ineffectiveness. Thus, it would be fruitful line of research to investigate the true situation in the IP marketplace.

4.2 IPR system building block

From figure 1, it can be seen that the three building blocks that play a major role in the IPR system performance are the IPR regime, the state of the new economy and the operational excellence of the patent office and the firms. These three building blocks interact and link with each other and how they develop and interact affect the system performance. If one of them is not working effectively, it will affect the overall performance of the system as a weak system can have both missing parts and missing links. On the building blocks rest patent office that cut across all of them in the institutional environment, and firm in the institutional governance structure (See figure 1). Each of them has a goal to achieve once they become a player in the system. In the rules of the game structure, the goal usually focuses more towards achieving an effective and efficient execution of processes, while in the play of the game structure, the aims usually focus more towards financial and non-financial value of the patent (Figure 1). However, strategies taken to achieve the goal are not always mutually exclusive, as all of them are interdependent on each other. The ultimate unit of activity was explained by Commons (1932, p.4) who touched on the three principles that cover institutional governance which are conflict, mutuality and order. Considering that, governance is when order is carried out through potential conflict that can disrupt the opportunities of the mutual gains of the players. Firms have to know systematically how to relate the strategy to the specific mechanism by which patent creates value.

The rules of the game define the way the game is played. The objective of the player within the set of rules is to win the game (or to optimize). This can be done through the combination of skills, strategy and coordination (North 1999, p.5). Thus, it can be said that why and how firms’ patent are fundamentally influenced by the institutional framework (IPR system), especially by the IP marketplace. Firms’ role as agents of the institutional change emphasis on the interaction within the system while major role of institutions in a society is to reduce uncertainty through establishing a stable (but not necessary an efficient) structure of
interaction (North 1999, p.6). Andersen and Konzelmann (2008, p.12) hold that rules of the game is about ‘the roles and interactions of stakeholders with respect to the design of a particular item of IPR legislation’.

The play of the game covers the micro elements of the IPR systems, whereby the focus will be on firms and their interaction and motivations of having a private or public economic value of patent. The strength of IPRs depends on demand characteristics, market structure, and other forms of business and competition regulations (Maskus 2000, p. 28). As it can be perceived, firms play an important role in interacting with other players in trying to seek revenue, rent creation and distribution from patents. The interaction can be conducted through a market based or a non-market based arrangement (Andersen and Konzelmann 2008, p.4) (Figure 2). Apart from that, firms’ incentives for seeking financial value (i.e. royalty income) and/or non-financial value (e.g. venture capital, standard setting, setting market territories, etc.) will also be looked into. In 1983, Rahn (p.489) explained that the ‘secondary’ functions of patent are to attack, hedge, and building reputation. In contrast, currently we can say that the secondary functions have moved to be the primary functions of patents. The structures of contracts explains in this section are the avenues for the firms to exploit their patents.

**Figure 2: Alternative institutions of IPR governance (Source: Andersen and Konzelmann (2008, p.4)**
5.0 Patent Strategic Value

On one side, patent may be considered as strategic corporate asset from which firms derive their competitive advantages (Cohen et al, 2002). On the other side, how firms leverage on the value created through patents depends largely on their execution strategy in the IP marketplace.

Table 1 explains alternatives available for firms in realizing their IP value through the market or non market platform. The value realized are segmentised according to the preferences that depend on which utilities functions chosen, either group oriented preference, or individual or selfish preference (Margolis 1982 in North, 1990, p.12). In this context, it can be used to explain the patenting behaviour that determines the strategic value from the patent, based on how firms interact with other players in the system, whether in the market platform or in the non-market platform. In this context, the individual preference means that firms opt for strategic options that only benefit themselves as one of the players in the IP market. On the other hand, group preference means that the firms are engaging other players whilst benefiting each other.

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<th>Market Platform</th>
<th>Non-Market Platform</th>
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<tr>
<td>Individual Preference</td>
<td><strong>Competitive</strong></td>
<td>• Increase corporate and financial performance</td>
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<tr>
<td>(selfish)</td>
<td>• Sell/Buy</td>
<td>• Increase knowledge</td>
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<td></td>
<td>• Defensive strategy</td>
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<td>• Litigation Value</td>
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<td>• Hold on</td>
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<td>Group Preference</td>
<td><strong>Collaborative</strong></td>
<td>• Sharing of knowledge that contribute towards knowledge spillovers</td>
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<td>• Licensing</td>
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Table 1: Strategic value based on market and non-market platform
Firms that own patents can choose to engage in a contractual market relationship by selling (see competitive box in table 1) or licensing them (see collaborative box in table 1) (Teece, 1986). Selling the patents means that firms forgo the rights to use and benefit from them. It is very rare to see firms failing to foresee the future usage of the patent and choosing to sell it off. Current trends show that instead of selling-off the patents, firms donate to universities and nonprofit organisations to gain savings on taxes and maintenance fees (under the non-market platform in table 1). Sometimes, firms that have patents outside their core business will decide to license out the patents. Licensing will give the firm revenues which can be enjoyed like a free cash-flow, while the right to use is temporarily transferred (Andersen and Konzelmann 2008, p.9). This arrangement allows market creation of the patents and improves the firm’s financial performance by giving the third party rights to manufacture, market and sell the product. In return, firms will receive compensation upon signing the patent licensing agreement. In addition, the firms also receive royalties that are based on a percentage of sales volume (Mazzoleni and Nelson 1998, p.281).

Cross-licensing has become a new trend that helps firms to share each other’s patent portfolio of basic technologies. Normally, firms decide to pursue this path in order to reinforce their market advantage. If firms need to use other technologies as a complement to their product, this will help them to save by not having to pay licensing fees to a third party. This will improve the credibility of a company’s product by reducing the cost of components (Rivette and Kline 2000, p.57). It is interesting to note that in 2004, Sony and Samsung set the trend of competitors embarking on a cross-licensing agreement that not only focused on one product or technology, but also on each other’s patent portfolios of basic technologies. However, they still exclude key technologies that help differentiate their products. Their aims are to speed up product development and avoid cross-border patent disputes (Takenaka and Layne 2004). In addition, firms can be part of setting the industry standard by participating in a patent-pool arrangement, where ‘a group of companies that hold patents in a technology enforces its IPRs as a collective’ (Anderson, 2007).

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4 Merill et. al. (2001, p. 31) explain that ‘patent holders are required to pay maintenance fees at the end of the third year, seventh year, and eleventh year to continue to be able to enforce their patents.’
Some firms adopt a defensive strategy that firms adopt by holding a broad patent which enables them to deter other firms from inventing within its proximity through clustering. This gives firms ample time to enjoy profiting from the patent without much intervention (Rivette and Kline 2000, p.58). Other defensive strategies that firms may use are blanketing or fencing strategy (Granstrand 1999, p.221). Using the blanketing strategy, a firm floods around the main patent, turning it into a jungle of patents. This will make it hard for the competitors to disturb their territory that may disrupt their further research. Fencing on the other hand refers to a series of patents that block a certain line or direction of invention (Granstrand 1999, p.221). Cohen et al. (2000) found that patent blocking is a common motive to patent in a ‘discrete’ product industry, while patents are used as a bargaining tool for negotiation of license agreement with competitors in the ‘complex’ product industry. In addition, firms can use an offensive strategy to intrude on a competitor’s initial market through bracketing by patenting surrounding technologies needed to develop the product. This strategy could be used to get strategic access to the surrounding technologies through cross-licensing (Granstrand 1999, p.221, Cohen, et al 2000, p. 27)

These strategies may impede innovation and increase the number of legal proceedings as current patent application are built on each other, and are cumulative and interlinking between technologies. Scotchmer (1991) analyses the relations between basic innovation and the second generation of innovation, and it seems that they both influence each other. This is also supported by Shapiro (2001) explaining the perverse effect of the current IPR system on innovation, that raises the barriers to the entry of new players. Cohen et al (2000, p.27) also state that the use of litigation-intensive strategies has increased over time.

Another option that firms can consider is carrying out inter-firm collaboration. This can be done through a joint-venture or collaboration for commercialisation to capture the market. This is accomplished with those that have the point-of-distribution. Norman (1986) explains that ‘the point-of-distribution is where the profit and power are in the marketplace today ’as they are specialised in what they do, and able to perform a better job (Teece 1987, p. 292).

Nevertheless, all the strategies mentioned above have not escaped criticism from Arnold Plant (1934) and Merges and Nelson (1990) who argued on the issue of social cost. Consumers can be affected from the firms’ extreme privilege. Rivalry between firms can also
become distorted. For these reasons, Merges and Nelson (1990, p.839) suggested ‘compulsory licensing’ to be introduced into the system.

Difficulties arise, however, when an attempt is made to implement any partnership and licensing relationship. Each ‘play of the game’ explained before is carried out within the contracting structures. Williamson (1979) explains in detail the transaction-cost economics by looking into the governance of the contractual relations. Having bounded rationality, it is impossible for firms to include everything in a contract while maintaining the affordable transaction cost. This may later lead to difficulties in reaching agreement due to high transaction costs. It is also very difficult to avoid opportunistic behaviour in business dealing by taking advantage when they can.

Hence, sometimes, firms may decide to integrate vertically (forward or backward)\(^5\) by acquiring other firms (Williamson 1979, p.234). By removing the transactions from the market, firms gain more than just exclusive rights to the patents and the technologies. It allows the firms to enhance their competitiveness by controlling the overall production process and taking advantage of economy of scale (Reitzig 2004, p.37).

By patenting, firms will have more bargaining power and use it if they decide to cooperate. According to North, if they had no incentive to compete, they would not need to bargain at all. Consequently, neither a strategy of total cooperation nor a strategy of total competition will maximise individual gains (North 1999, p. 4-7).

6.0 **Operationalisation of the research**

From the previous sections, it can be concluded that there is a need for a thorough research in the IP marketplace, without neglecting the complexity of the current IPR system. These complexities that involve multiple players need an efficient coordinating mechanism to make their network relationship work efficiently (Andersen and Konzelmann, 2008). The proposed research will contribute to the recent debate within the literature firm’s motives to patent

\(^5\) Backward vertical integration signifies the supply chain of the products and forward vertical integration means the output chain of the products (i.e.: marketing, distribution points etc).
(cooperative vs competitive strategy) and its strategic value creations within the IP market. The proposed research plans to address the questions of:

- Under which conditions (collaborative or competitive) at the firm level within the IP market that able to generate potential for firms’ financial and non-financial value.

- Whether the use of patents in the IP market are complementary or substituting strategic activities of firms in realising the patent’s value.

- Whether the use of patents in the IP market depends on the characteristics of the industrial environment in which the firms operate.

In order to operationalise the research, the research will cover sectoral analysis of patents within selected countries. The sector to study will be chosen according to the relevance of the industries in explaining the coordination issues arising in the IP marketplace.

7.0 Conclusion

The emergence of the new economy definitely has put a terrific pressure on firms to increase their adaptability and innovation. This paper has explained the central importance the IP marketplace in supporting the performance of the overall IPR system. It argues that the market is not working in a perfect manner, which is a fact which has been generally ignored by scholars who has tended to focus on the properties of the knowledge which is traded rather than the operation of the market place itself. The current conditions of the IP marketplace with many limitations enable firms to strategically exploit it that raise further problems in the IP marketplace. Thus, understanding the coordination mechanism of the IPR system will give a practical introspection of the IP marketplace in order to know its true performance. A conceptual framework explaining the coordination issues was constructed. In addition to that, a typology of patent strategic value through market and non market platform was illustrated according to the firm’s preferences that depend on which utilities functions are chosen, either group oriented preference or individual preference. The structure of contracts chosen by firms is based on their motivations, either they prefer competitive or collaborative strategy. After what has been demonstrated above, it would be interesting to be able to conduct the research according to the research questions described in the last section of this paper.
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