

RELATION OF INTELLECTUAL PROPERTY MANAGEMENT TO FIRM PERFORMANCE IN THE TEXTILE AND GARMENT INDUSTRY IN VIETNAM

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Abstract

In this knowledge-based era, intellectual property management (IPM) plays an important role in companies' strategic decision-making process and contributes to firm performance. Textile and garment is one of the most crucial industries in Vietnam's economy. Firms in this industry are, however, trapped in the lowest part of the U-shape international value chain, which creates small added value. One of the reasons for this stagnancy is the low capability of IPM. How does intellectual property management affect firm performance in Vietnam's textile and garment industry? To address this question, we study three Vietnamese companies in the industry. We used the AIDA behavioural maturity model adopted from Kjaer (2009) to analyze the position of intellectual property management in those companies. We then provided some directions for Vietnam's companies in the textile and garment industry.

Keywords: Intellectual Property Management, firm performance, textile and garment industry, Vietnam.

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1. Introduction

Managing intellectual property (IP) of firms is one of the most essential activities in today knowledge-based economy (Kamiyama et al., 2006). IP protects company's valuable knowledge, which does not belong to its competitors and can generate competitive advantage (Spruson & Ferguson, 2007). By including intellectual property management

in strategic decision-making process, IP can become constructive to firm performance (Bollen et al., 2005). If managed properly, IP can motivate and bring a myriad of benefits for the company such as generating revenue, increasing customer royalty, export value, corporate value and R&D activities (WIPO 896, p. 9). Nevertheless, if not managed properly, IP's values and benefits would fail

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to be recognized and a firm would put itself in the position of facing unnecessary threats (Spruson & Ferguson, 2007).

Nonetheless, insufficient attention has been paid to IPM in the textile and garment industry of Vietnam. Despite their positive performance, the actual benefits that Vietnamese firms have gained are low. Statistics in 2015 show that most of Vietnam's textile and garment productions belonged to the lowest part of the U-shape value chain - "processing trade", which created small added value for Vietnamese firms (Bloomberg - FPTIS, 2018). On the other hand, although Vietnam has inexpensive, abundant and young labour force, this seems to be insufficient as recent Free Trade Agreements (FTAs) bring more challenges to the industry. In terms of technology, the majority of firms in the industry is depending on imported inputs, thus preventing firms from gaining more value. With regard to R&D, some firms have recently attempted to invest more in this activity to enhance quality and designs. They are still struggling to surpass famous brands in the world. One of the reasons is the underestimation of IP in business activities and IPM is rarely included in firms' daily decisions, which limits their full potentials. Thus, there is an urge to take a deeper look in the role of IPM in the textile and garment industry in Vietnam.

This research focuses on the relation of IPM to firm performance in the textile and garment industry in Vietnam and attempts to answer questions including: (1) What are the dimensions to measure IPM and firm performance? (2) How does IPM affect firm performance in Vietnam's textile and garment industry? and (3) How can the findings be

used to improve the situation of using IP in this industry?

The paper is structured as follows. To construct a theoretical framework, Section 2 reviews the literature about IPM and firm performance and the relation between the two. The AIDA IPM behavioural model adapted into the context of Vietnamese garment and textile firms is also presented in Section 2. Defining the conceptualization of the analytical framework and describing data is the content of Section 3. The three cases of three firms of different sizes are described and interpreted in Section 4. Section 5 concludes by highlighting the role of IPM for the textile and garment industry in Vietnam. Section 5 also proposes a future research agenda in this topic.

2. Literature review

2.1. Intellectual property management

IPM is defined as the way institutions organize and administrate IP when immaterial rights are created and commercialized (IP4GROWTH, 2013). Cela and Cela (2013) consider IPM as a set of perceptions, techniques and routes to align IP strategy in the innovation and business strategy of a firm.

Many managers are not even aware of the importance of their IP. Therefore, they cannot exploit them to integrate into business strategies (Bontis, 1998). Reitzig (2004) finds that activities that reap benefits from IP are capital intensive and long-term ones, which require concerns from functional and business leaders through IPM practices. In other words, IPM exists in order to allow managers to evaluate and defend their IP portfolios (Jain & Sharma, 2006).

2.1.1. Intellectual property management model

IPM models are designed to help managers self-assess their existing IP strategies. There are several types of IPM models, which can be categorized as progressive, typology, and maturity (Gibb & Blili, 2012).

Progressive model suggests IPM strategy for each stage of firms' development. The model proposed by Goldrian (The management and exploitation of intellectual property rights by small and medium sized industries, 1993) includes three levels with the aim to link proactive IPM with R&D activities in a firm. This model is simple, patent focus and does not connect with the behaviour of managers nor give any insight to the need of a firm in managing IP. Harrison & Sullivan (2011) focus more on the behaviour aspect and redesign the value hierarchy with five levels. Each level symbolizes various expectations and demands of a firm's executive team and the board of directors toward IP function. The model is future oriented including the changes in technology and seeking opportunities in these changes. Nevertheless, since it is based on large firms' frameworks rather than small and medium enterprises' (SMEs), it cannot fully function in these business environments. Chesbrough (Open Business Models: How to thrive in the new innovation landscape, 2006) takes a step further by adopting a more sophisticated approach and designs a model with six stages, which links business model, open innovation, and IP. This model, however, requires firms to have clear business model frameworks. Thus, start-ups cannot apply this in their strategies.

Typology model is more commonly used in studies about SMEs. It basically differentiates

ways firms choose to manage their intellectual assets, formal or non-formal, having IP or not. Kitching and Blackburn (1998) identify four types of behaviours, which are continuously related, from informal to formal legal protection. The research focuses on only a few business areas and does not clearly define the action of IP owners. Brant and Lohse (2013) also approach IPM as formal and informal activities with the addition of hybrid strategies that combine formal IPRs and complementary methods. The model is broad and covers patents as IP. The approach of Frieeseke et al. (2009) is clearer by considering the categorization of IPM into activities for IP users and non user. The IP Portfolio is also developed by following the life cycle of the products. The model, however, focuses on formal protection only. Fisher and Oberholzer-Gee (2013) construct a map that also divides IPM into two parts, one for IP holders and the other for IP non-holders, with five alternative options for each part. The map can be applied to all sizes of firms, yet, focuses on formal protection.

Maturity model is outstanding from other models because it can be divided into stages, be continuous, or be the combination of the two (Jokela, 2006). In developing IPM model, the maturity model can eliminate problems in typology and progressive approaches as well as adapt to various firm sizes. Reekum and Kern (The use of patents in Dutch biopharmaceutical SME: a typology for assessing strategic patent management maturity.), New Technology-based Firms in the New Millennium, 2012) design the maturity model that focuses on strategic planning attitude of patent management in biopharmaceutical SMEs with four stages of activeness in order to describe eight

functions of patents. Nonetheless, since the scope of the research focuses only on patents in biopharmaceutical industry, where patents play a vital part, it is not generalizable. In addition, some of the capabilities of patent have been missing. Gibb and Blili (2012) raise the level of the IPM maturity model by using twelve dimensions of intellectual asset (IA) governance capabilities with five maturities levels. The first six dimensions relate to operational levels and the other six relate to firms' organizing of IA governance improvement. The research provides a framework for later maturity models as it includes capabilities. Nevertheless, they are rather brief and do not fully cover all aspects of IP. Moehrle et al. (2017) try to cover the lack of IP aspects by designing a seven-dimension patent maturity model with five core dimensions, which runs through some firm's managerial decisions to decide which patent application is needed and two

sub-dimensions, which are organization and culture, to show the limit power of a manager to cover 24 different elements of patents. As a patent management model, this is the most suitable for firms of at least medium-sized, which operate in technology-oriented industries or possess their own R&D departments. Nevertheless, since the progressive character is not included in this model, it is hard for firms to identify their own situation and their ultimate goals. Garate and Momaya (2018) develop an IPM audit model with 32 IPM processes. They then organize them into 15 groups and finally club them together into 5 super codes of IP life. Although this model is broader than the previous ones as it covers all types of IP, it only focuses on formal protection. Another problem is that the research focuses on the electrical engineering industry so that it may not function properly in other contexts (Table 1).

Table 1. Literature review on IPM model

Research	Type of model	Model contents	Focusing areas
Goldrnan (1993)	progressive	Three levels that link IPM with level of R&D activities in the companies	Patents
Harrison and Sullivan (2011)	progressive	Five levels, each level represents companies' demands and expectations toward IP function	Leading companies
Chesbrough (2006)	progressive	Six levels that link business model, open innovation and IP together	Companies who are having clear business model frameworks
Kitching and Blackburn (1998)	typology	Four types of behaviours toward using IP, from informal to formal ways	A few business areas

Research	Type of model	Model contents	Focusing areas
Brant and Lohse (2013)	typology	Three types: Formal, informal and combined ways	Patents
Frieseke et al. (2009)	typology	Dividing into 2 categories: IP users and IP non-users, each category is divided into 5 stages, linked with product life cycle	Formal protection
Fisher and Oberholzer-Gee (2013)	typology	A map with two parts: IP users and IP non-users, each part consists of 5 options	Formal protection
Reekum and Kern (2012)	maturity	Four levels of IP activeness describing eight functions of patents	Patents in biopharmaceutical industry
Gibb and Blili (2012)	maturity	Twelve dimensions of IA with five dimensions	All
Moehrle et al. (2017)	maturity	Seven dimensions, covering 24 different elements of patents	Patents in companies from at least medium-sized that work in technology-oriented industry or have their own R&D departments.
Garate and Momaya (2018)	maturity	IPM audit model with 32 IPM processes, organized into 15 groups that club into 5 super codes of IP life	Formal protection in electrical engineering field

Source: author's compilation

2.1.2. The approach for IPM in this research

This research adopts AIDA maturity model of Kjaer (2009) in assessing firms' activities of IPM. Originated from a marketing framework, AIDA is a model with progressive characters including attention, interest, desire, and action. The four scales help firms to recognize increasing levels of integrating IP into business strategy and then identify four relevant maturity levels of IP

behaviour, which are awareness (level A), protection (level I), management (level D), and exploitation (level A). This model paints a broad picture of the status of IP activities in firms as it can cover both IP owners and IP non-owners (Petit, 2011). Petit also finds that the scale Attention - Interest - Desire - Action, which relates to the act of purchasing in buyers, can match naturally with the IP management assessment due to the growing awareness of IP. Moreover, the model's

linearity allows researchers to measure IP performance and identify the “gap” more easily to give the best recommendations to companies.

2.2. Firm performance

Firm performance is a broad term, which covers both economic and operational perspectives. It also refers to profitability and productivity (Tangen, 2005). Nevertheless, a clear definition for firm performance does not exist (Santos & Brito, 2012).

2.2.1. Firm performance measurement method

Measuring performance is significant to firm management activities (Demirbag et al. 2006). Originated from strategic management research, action of creating a platform for reaction to changes in business environment is based on firm performance (Selvam et al., 2016). Since the success of a firm in one period is expressed by its performance, identification of ways to measure firm performance can give managers clear insight into the firm’s achievements as well as help managers to easily track the firm’s progress, improve communication activities, and detect problems (Waggoner, 1999).

The construction of firm performance measurement can be unidimensional or multidimensional. Some studies reflect firm performance as unidimensional but admit its multidimensional characteristic (Miller et al. 2013). Richard et al. (2009) suggest that researchers should find more relevant dimensions if they want to choose the multidimensional approach. This is important because it depends on the purposes of the researchers as studies on firm performance relate to different fields such as strategy

management, operations management, human resources, organizational behaviour, information systems or marketing (Neely, 2002; Marr and Schiuma, 2003).

Researchers for many years have adopted different approaches to analyse firm performance. Nevertheless, there has not been a precise way to measure all performance aspects (Snow & Hrebiniak, 1980). The most common approach to measure financial and non-financial performance.

Business executives and policy researchers use accounting indicators and the capital asset pricing model to measure financial performance (Hitt, 1988). Accounting-based measurement “is generally considered as an effective indicator of the company’s profitability and business operation when compared to benchmark rate of return equal to the risk adjusted weighted average cost of capital” (Al-Matari et al. 2017). Nonetheless, there are some criticisms towards these short-run elements as the profit rate is calculated by different methods applied by each accountant (Kapopoulos & Lazaretou, 2006), which may easily distort the results. On the other hand, the capital asset pricing model helps to minimize the deficiency caused by accounting data. Market return is used in this tactic on behalf of firm stockholders to assess long-run performance potentials. Nevertheless, as this underlines the view of only one stockholder, it conflicts with the idea that organizations ought to fulfil multiple constituencies to survive (Hitt, 1988).

Regarding non-financial measurement, the approach is diversified. Venkatraman and Ramanujam (1986) design a model with three overlapping circles. The outer circle represents organizational effectiveness. The

middle circle is operational performance or non-financial performance including product quality, innovation, or marketing outcomes. The inner most circle denotes financial performance. Although the model seems broad, there are still some operational variables such as innovation and marketing being left out. Another problem with this approach is that indicators are not so much performance outcome as performance antecedents, which may neglect other important aspects such as customers and employees satisfaction (Combs et al., 2005). Chen et al. (2016) find that employee treatment plays an important part in firm performance. Those that have better employee treatment schemes perform better in production activities and innovation due to high employees' satisfaction and improved teamwork abilities. Some studies suggest that the wellness of performance should be estimated from different perspectives of a firm's stakeholders such as owners, managers, employees, customers, and suppliers (Connolly et al. 1980). Hitt (1988) identifies two ways of approaching this measurement based on different groups of stakeholders including business executives, policy researchers, and organizational researchers.

2.2.2. The approach to firm performance in this research

This research uses unidimensional approach to measure firm performance, which implies the interchangeable nature of all indicators that show the performance of a firm. These indicators are highly correlated (Santos & Brito, 2012). Five dimensions that are used to represent performance of a firm include profitability, revenue growth, market share, employee treatment, and performance satisfaction.

Using such financial variables as profitability, growth, and market share brings many benefits to measuring firms' current activities as well as helps to predict future performance (Delen et al. 2013). Profitability measures firm's past capacity to generate returns (Miller et al. 2013). Revenue growth or sales growth is the most significant growth variable that affects financial performance (House & Benefield, 1995). Employee treatment relates to investment in human resource practices of a firm. This includes meeting job expectation, training, bonus policies, and peer relationship (Harter et al. 2002). Performance satisfaction is the overall satisfaction of a firm toward its activities and achievements. This includes other matters that relate to a firm such as customers, partners, and communities, or other financial indicators. Moreover, in the context of globalization, it is necessary to consider the expectation of firms to the globalization. Although the existing of FTAs can bring opportunities to firms in the textile and garment sector such as expanding new markets and finding new customers, Vietnamese firms also have to face with the protection of domestic products in foreign countries or the loss in the Vietnamese market due to the invasion of foreign fashion brands.

2.3. Relation of IPM to firm performance

2.3.1. Research on the relation of IPM to firm performance in various fields

The positive correlation of IPM to firm performance has been mentioned in several economic and strategic management studies. IPM allows a firm to accomplish its goals, "including securing investment, identifying and attracting potential partners or buyers, deriving value from collaborations, and managing litigation risks" (Brant & Lohse,

2013, p. 5). Having a strategy to utilize the benefits of IP can significantly enhance firm performance since IP can generate income, enlarge market share, and increase firms' value (Cela & Cela, 2013).

Moreover, IPM helps a firm to push up its innovation capacity. Without IP, innovation activities would be stifled (Bainbridge & Howell, 2014; Kubis, 2011). At the firm level, royalty rates have been observed in firms with strong IP portfolios since innovation and IP are premium in competitive fields such as high-tech industry (Grindley & Teece, 1997). IP should be included in firms' innovation process from idea conceptualization to product commercialization, which enables the success of launching new products to the market (WIPO Magazine, 2005). By including IP in strategic decision-making process, it can become constructive to firm performance (Bollen et al. 2005) or even become a key for firms to enter foreign markets (Neuhausler, 2012). In a knowledge driven economy, IP should be considered in daily business decisions because competitors can easily exploit an unprotected invention (Sukarmijan & Sapong, 2014). In fact, firms with more advantages are usually large firms and IP owners, whose performance is much better than that of non - owners (Wajzman et al. 2015)

When managed properly, IP can even “motivate and help generating revenues from product sales and licensing royalties; increase high value exports; enhance corporate valuation; promote funding for R&D, which provides and enhances needed technologies and products; provide bargaining power in technology transfer negotiations and help to gain access to goods and technologies

through licensing agreements” (WIPO 896, p. 9). In contrast, if firms fail to manage IP wisely, the values and benefits of IP would not be recognized and, thus, putting them in the position of facing unnecessary threats (Spruson & Ferguson, 2007).

2.3.2. Research on the relation of IPM to firm performance in the textile and garment sector

Not only in Vietnam but also in several developing countries, the correlation between IPM and firm performance is neither studied widely nor applied in practice. Hardly any research discusses either IPM, especially in the textile and garment industry, or its relation to firm performance.

Nonetheless, it cannot be denied that IPM is necessary for the success of firms in the textile and garment industry as innovation plays an important role in this sector when it comes to quality improvement. This is unnecessary to come up with a new and advanced technology, while firms can focus on understanding the current demand and providing the product that is perceived as more valuable than or distinct from existing ones in the market places (Frumkin, Bradley, & Weiss, 2012). (Frumkin et al. 2012). Frumkin et al. (2012) also highlight the tremendous role of IP as a shield for printed patterns, designs or any other characteristics of the fabric or clothes from counterfeits. SMEs can easily lose in competition because they cannot avoid the infringements from larger firms due to the lack of attention to protect their IPs (Dickson & Coles, 1998). As the competitive advantages of firms in this industry are innovation and creativity, managers need to identify valuable intangible assets in a timely manner, determine their

business relevance, and conduct cost-benefit analyses to decide which of these should be protected and leveraged by using the tools of the IP system (WIPO Magazine, 2005). Thus, there is a need for firms to have IPM strategies in order to succeed in this industry.

3. Theoretical framework and methodology

3.1. Theoretical model used in the research

The research applies the AIDA maturity model of Kjaer (2009) in assessing firms' activities of IPM. The independent variable is IPM of firms, the dependent variable is firm performance, and each of them contains several control variables.

Independent variables

Four dimensions, based on four progressive scales of the Kjaer (2009)'s IPM AIDA model, form the independent variables. As the research explores the formal side of IP protection, some changes have been made in the model to fit with this purpose. The AIDA scale applied to IP is described with an increasing level of IP awareness, understanding of IP application procedures, as well as the ability to exploit, manage and protect IP of firms.

Level 1 - Awareness

This level contains several criteria such as knowledge, trust, protection and confidentiality, and information. Knowledge explores whether or not firms know about IP and types of IP. Trust analyses whether firms know about the advantages of IP. Protection and confidentiality discover whether firms are aware of the danger of not having IP protections. Information shows the

availability of IP information to firms. If a firm does not own IP, then it should consider whether it needs a person or a department responsible for IP.

Level 2 - Application

This level deals with firms' IP application activities. The knowledge of firms on IP application procedure, the constant updating of changes in IP regulation as well as the research on other firms' IP rights before applying are investigated. If these activities have not been performed well, the question is whether firms need to train their employees about IP application activities.

Level 3 - Management and Exploitation

This level includes operational management of IP as well as having IP strategy. The research uses some criteria in the Kjaer (2009) model. Strategy explores whether an IP strategy exists and whether IP rights are optimally used. Each IP is considered for maintaining and being renewed or being left out. Operational management addresses how IP is embedded in firms' management activities and the cooperation between departments when it comes to issues relating to IP. Other criteria are the availability of documents, procedures or tools for v to deal with IP matters; the frequency that firms check the values of different types of IP and the way firms seek opportunities in the market to exploit its IP value. The research also looks at the need of firms to train their IP departments about IP management and exploitation if these activities have not been performed well.

Level 4 - Protection

This level shows firms' attitude toward the ways to defend their IP, including defence,

information monitoring and third party rights. Defence addresses the issue of whether firms are checking IP infringements. Information monitoring reflects firms' attitude toward information monitoring of infringement cases in the industry. Third party rights show how firms handle infringement situation and the cooperation among departments towards the matter (Kjaer, 2009). Finally, the need of training on IP protection is also included if these activities have not performed well.

Dependent variable

The dependent variable of firm performance is measured by five dimensions including profitability, revenue growth, market share, employee treatment, and performance satisfaction, which also includes global integration expectation. After the relation between independent and dependent variables is set up, the final questionnaire is designed for the survey.

Figure 1. Model of relation between IPM and firm performance and hypotheses of the research

IPM	1. Awareness	<i>(H1) positively correlated</i>	Firm performance	1. Profitability
	2. Application	<i>(H2) positively correlated</i>		2. Revenue growth
	3. Management & Exploitation	<i>(H3) positively correlated</i>		3. Market share
	4. Protection	<i>(H4) positively correlated</i>		4. Employees treatment
				5. Performance satisfaction

3.2. Data and method of analysis

3.2.1. Data

In this research, primary data were obtained from deep interviews and secondary data were collected from reports and news that relate to the situation of the textile and garment industry in Vietnam as well as current Vietnamese IP law relating to this industry. Data were also extracted from documents and reports of firms under study. Primary data are collected from deep interviews through open-ended questions to get both facts and opinions of the matters from the interviewees. This method is suitable for case studies as it

can provide rich information, which can give the deepest insight into the subject-matters. Questions were sent out beforehand to the respondents so that they can prepare for the interview. In order to ensure the validity of the data, all interviews were recorded.

3.2.2. Samples

The research includes three cases of different firms in the textile and garment industry of Vietnam. In each case, the interviewees were managers or CEOs, who comprehend the activities and achievements of the firm, especially those that relate to IPM activities and firm performance in the last

⁴ The firm sizes are categorized according to Vietnamese law - Decree No. 56/2009 / ND-CP on June 30, 2009. In this case, the determination of the type of enterprise is based on the size of total capital or average number of employees.

three years starting from 2015. Firms selected vary in size⁴, which can help to give a broad view of the industry in IP matters.

3.2.3. Method of data analysis

After collecting the data, the study compares theoretical framework with the data to find the patterns in each of them. If the patterns in hypotheses and in collected data are the same, the results from case studies can strengthen the appropriateness of the existing theory. Meanwhile, negative results suggest that further investigation should be carried out in future studies. The results gained from the case study approach can be ambiguous rather than concrete like in the quantitative approach due to differences in the contexts.

Overall, the method used in this research is to follow the proposed model to write the cases and find the patterns from the interviews and connect them with the theories. Answers to open-ended questions from various interviewees from different firms are compared in order to see the similarities and differences among the cases.

4. Results and discussions

4.1. The case of a large firm: Dong Xuan knitting sole member limited liability company

Dong Xuan knitting Sole member limited liability Company with trade name DOXIMEX has the production chain that applies the ODM model with Japanese standards. The company constantly carries out R&D activities for new inputs and technology to create high-quality garment products with various designs for different uses.

IPM activities in Dong Xuan Company

(1) Awareness

Compared to other firms in the industry, Dong Xuan Company has a relatively high level of awareness of the importance of IP as it has frequent accession to IP information. Nevertheless, the company only builds its trademark. Other textile and garment-related IP rights have not been paid attention to.

The company currently has several registered trademarks including its logos and trade names. Since its establishment in 1959, the company has registered the trade name as “Đông Xuân”, which has been used in the domestic market. Later, when expanding to the foreign markets, the company applied for its international name as “Doximex”. Dong Xuan uses the image of a Swallow and the globe filled with the registered blue colour as its logo.

Having IP rights has brought Dong Xuan Company great benefits, which are proved by the high brand recognition in the market. For nearly sixty years, the company has been recognized as a top one producing high-quality knitting products, of which undershirts are the company’s main products.

(2) Application

The application procedure is fully understood by the company’s legal department, which is responsible for all matters related to IP. All employees in this department comprehend major procedures when registering for IP protection as well as the way to investigate other existing IP rights of other enterprises before creating their company’s IP portfolios. The department also constantly updates changes in the IP law or procedures. The company’s IPM activities

are, thus, stronger than the majority of others in the industry, which often outsource legal services.

(3) Management and Exploitation

The IP management and exploitation strategy of Dong Xuan Company is quite vague and includes basic steps only. In terms of IP management strategy, the employees in the legal department always pay attention to ensure that the company's trademark extension is granted every ten years. The team also responds to any changes of the company logo by quickly preparing necessary registration documents as well as adjusting to changes in the IP law and procedures. The company has clear actions when it comes to IP application. Nonetheless, documents that are dealing with IP matters are insufficient as they only include materials related to IP application procedures. As the company has never dealt with major IP infringement, it has no clear procedures and tools to solve IP problems.

In terms of IP exploitation, the company is always active in finding opportunities in domestic and foreign markets to fully exploit benefits of its IPs. Recently, Dong Xuan Company is trying to approach the Vietnamese market through prestigious distribution systems. Although product prices are quite high, the logo and the name of the company are the guarantee of quality, that makes consumers willing to pay for its products.

Dong Xuan Company, however, fails to turn IP matters into a concern of the whole company. The legal department is the only division that takes care of any activity related to IP.

(4) Protection

The company is paying less attention to this level of IPM as it only worries about infringement that directly affect it. For many years, the company has never witnessed any major problems that relate to its IP. There are only some minor cases when small factories buy Dong Xuan's fabrics to make their own products. Nevertheless, never have they ever used the company's identity to attach to the final products. Being confident about the zero rate of IP infringement, Dong Xuan Company finds it is unnecessary to invest in any strategies to encourage cooperation among departments in order to deal with IP disputes.

Dong Xuan Company performance

(1) Profitability

Overall, Dong Xuan Company has had no problem with its profit in the last three years. In 2015 and 2016, the company gained the expected profit. The profit in 2016 was nearly 8% lower than that in 2015. The reason was that the company used a large proportion of its profit to invest in construction of new factories and equipment.

(2) Revenue growth

The company had good revenue growth in the last three years. The revenue of the company remained stable in these years as the company used a large portion of its revenue in 2016 and 2017, which accounted for hundreds of billion Vietnamese Dong, in construction to improve the company's efficiency. The construction included a processing factory, a sewing factory, and a weaving factory.

(3) Market shares

Dong Xuan Company has been able to penetrate foreign markets, of which 80% of the export quantity is from the Japanese market. The rest belong to other markets such as the US, the EU, and Australia.

The domestic market share of Dong Xuan is low. In 2016, the revenue earned from export activities was about 85.6% of total revenue. The quantity of knitting products consumed internationally accounts for 96% of the total quantity of knitting products sold. Nonetheless, the company has been trying to reach Vietnamese consumers through distribution systems such as Vinatex mart, Coop mart, Metro, Hapro, M2, etc. In the last three years, Dong Xuan Company has also attempted to reach more consumers by focusing on the medium income group, which buy high quality products.

(4) Employee treatment

Dong Xuan Company always complies with the Vietnamese Labour law and ensures the necessary welfare for its employees by giving such as high wages, insurance, and bonus. The company also holds extracurricular activities to strengthen the bond among its employees.

(5) Performance satisfaction

Having been continuously trying throughout its operation time, Dong Xuan Company has gained great achievement with its high quality 100% cotton knitted products.

In terms of globalization, in 2016, Dong Xuan Company showed high expectation on the Trans-Pacific Partnership (TPP) trade agreement, which would bring benefits to the company. Nonetheless, when the US

withdrew from the agreement in 2017, its hopes were shattered. The company since then has tried to find more markets and potential partners and to expand further into the US market, which constitutes high technical barriers that require Dong Xuan Company to get certificates such as Better Work and Walmart to sell its products.

4.2. Case of TNG Investment and Trading Joint Stock Company

TNG Trading and Investment Joint Stock Company (TNG) currently has 13 factories and two auxiliary factories with two forms of production methods, which are FOB and CMT. The garment manufacturing capacity of TNG is high. Each factory is equipped with top technologies. The company's designing processes including stitch design, grading, and marking take place entirely using computers.

IPM activities in TNG Company*(1) Awareness*

TNG, compared with other firms in the industry, has a relatively high level of awareness of the importance of IP. Although the company has relatively better access to IP rights information compared with other companies in the industry, understanding about different types of IP is limited. Similar to Dong Xuan Company, TNG only pays attention to the most common type of IP rights, which is trademark.

The company currently has several registered trademarks that are its logo and tradename - TNG. The current registered logo is TNG with a little heart above letter G and in the black colour. The IP rights, namely trademark, brings the company great benefits in terms of brand recognition. The logo and

name are the symbol of company's production capacity and organizing capability in potential partners' eyes. In contrast, without IP rights, the company may not in its position as today.

Nonetheless, although having a technological innovation and fashion design centre, none of the achievements and products are protected by IP.

(2) Application

TNG fully comprehends the IP application procedures. TNG is currently having a legal department, which is responsible for every matter that relates to IP. All employees in this department comprehend major procedures when registering for IP protection as well as the way to investigate other existing IP rights of other enterprises before creating their company's IP portfolios. The department also updates constantly changes in the IP law or procedures.

(3) Management and Exploitation

In terms of IP management, the legal department of TNG has a fairly clear trademark management and exploitation strategy. As the company has different product lines, the attachment of the TNG logo to each product must be ensured.

For the set of documents relating to IP matters, the guidance for IP application is available in the legal department so that the company can actively response to any changes of company logo. Nonetheless, since there has not any case of IP infringement. The company has not designed a clear process of solving this problem.

TNG always tries to exploit as much as possible from its trademark and tradename. Since the company is currently listed in the

stock market, maintaining these IPs can help investors to be more aware of such well-performed company, thus attracting more capitals. The company also uses its trademarks to expand to new markets. The TNG name and logo come along with many renowned fashion and retailer brands, which creates good vibes to new customers. Recently, TNG is trying to use its name to go deeper into the domestic market with the hope that in the next ten years there will be 100% of products that "made in TNG".

TNG, however, like Dong Xuan Company, fails to turn IP matters into a concern of the whole company. The legal department is the only division that takes care of all activities related to IP, while other departments solely focus on their own functions.

(4) Protection

Similar to the case of Dong Xuan Company, TNG is paying less attention to this level of IPM. The company only concerns about infringement cases that directly affect it. Nevertheless, for many years, the company has never witnessed any major problems that relate to its IP. As the problem of IP infringement is insignificant for TNG, it is unnecessary to have any strategy to promote cooperation among departments in order to deal with IP disputes.

TNG Company performance

(1) Profitability

For the last three years, the profit gained by TNG has increased with fast pace and reached the expected level. The profit in 2016, however, was not high due to a large amount of investment in domestic showrooms as well as improvement of the company's technological quality, which accounts for more than 350

billion VND. Thanks to these changes in 2016, the company's performance was better in 2017. The company also invested less in 2017, which was about 250 billion VND. Thus, the profit was higher compared with 2016.

(2) Revenue growth

For the last three years, the revenue growth of TNG has an increasing tendency. The growth rate in the period of 2015 and 2016, however, remained stable. Overall, the growth level reached the company expectation.

(3) Market shares

From 2015 to 2017, TNG main revenue has been from foreign markets, which accounts for 94% of the total revenue. Recently, half of the export quantity of TNG has been from the EU market, which has become the number one exporting market of TNG. TNG also cooperates with many large and stable customers including Decathlon as the major one. In 2017, TNG established a representative office in New York in order to strengthen trade promotion and to find new customers.

On the other hand, TNG has been penetrating the domestic market through TNG Fashion Store chains with the wholesale and retail of products of TNG brand. In 2017, the company opened 19 new TNG fashion retail stores. By 2020, the company expects to raise the share of domestic revenue to 20%.

(4) Employee treatment

Employees are considered as the main resource of TNG. The company always ensures that their employees are treated with equity and working in a friendly and safe environment, which fulfil the government

requirements of wages, working hours and working conditions. In 2017, TNG launched the Occupational Safety and Health month for workers for the first time. The company rarely receives complains from its employees. If there is any, the company will response immediately. TNG also holds some extracurricular activities in order to strengthen the bond among its workers.

(5) Performance satisfaction

TNG has completed the last three years with good results. Beside the achievement in revenue growth and market shares, TNG has started investing in constructing new factories to have two more factories from 2017 to 2020, which are TNG Vo Nhai and TNG Phu Luong.

The company has also reached to a new level of customer engagement when launching a smart device app named TNG Office, which shows the most updated information about the company. TNG also adopts efficient production, human resource, cost and environmental management.

The global integration is a great opportunity for large enterprises like TNG. As the main activity of the company is exporting, the international integration of Vietnam helps TNG to find new markets and partners. The company also gains benefits from reduction in tariff. Current incidents of the withdrawal of the US from the TPP has brought TNG some problems as the export to this market reduced significantly due to lowered profits and increased costs. TNG has adopted some alternative approaches to overcome these problems such as seeking new clients, especially direct clients and avoiding commercial brokers and directly

visiting the customers' head or representative offices for better understanding.

4.3. Case of small enterprise: Hoang Phi International Joint Stock Company

Hoang Phi International Joint Stock Company specializes in designing and producing personal protection clothes and uniforms. These products are tailored according to each customer's requirements. The company focuses mainly on the production activities in the domestic market. Although it is a small, the company constantly equips itself with the latest imported technology, which can help it to increase the quality and quantity of its production.

IPM activities in Hoang Phi Company

On overall, the IPM activities in Hoang Phi Company are performed poorly compared with the two companies mentioned above. As the company is small, the legal department does not exist. The CEO, who is an interviewee in this study, supervises all of the company's legal matters.

(1) Awareness

Those who are in charge of the company understand about the value and importance of IP. Nevertheless, the level of understanding is not as deep as the other two large companies.

Even though the company has focused on developing its name in the market for many years, the logo or the tradename has not been registered for IP rights due to high cost of IP application. In fact, because the company is operating in the domestic market with small clients, the company finds it unnecessary to have a proper IP protection.

The company builds its own name through the traditional channel, which is word of

mouth, as their clients are individuals and small firms. Hoang Phi tries to perform well and satisfies customers' needs so that they will continue to work with Hoang Phi in the future and recommend the company to others. Having IP rights will help the company to enhance its performance.

(2) Application

Because the company does not own any IP rights, it is vague for Hoang Phi Company to understand about IP application procedures. Most of the legal related activities in the company are completed by the CEO or by hired external law firms. If it is possible, the company expects to have a department that is responsible for IP matters.

(3) Management & Exploitation

Because of the shortage in IP rights, Hoang Phi IPM activities cannot be expressed in these maturity levels.

(4) Protection

Without IP protection, Hoang Phi Company has encountered plenty of infringement incidents. For example, some customers after having ordered from the company and obtained samples and designs have terminated the contracts and switched to other companies using Hoang Phi's designs with a lower price. The other case related to other companies who used the company's logo in their products. The only solution in these situations is negotiation with other parties.

Hoang Phi Company performance

(1) Profitability

The company's profit, which is not high, reached its set goals. In 2017, the profit of the company was 25% higher than expected.

The profit had an upward increasing trend in the last three years, slightly increased in 2016 and grew considerably in 2017.

(2) Revenue growth

Due to its size, Hoang Phi revenue is usually lower than 10 billion VND and sometimes not as expected. The revenue of the company has grown with a fast pace in the period from 2014 to 2016. In 2017, Hoang Phi did not reach the expected rate of revenue growth.

(3) Market share

Hoang Phi Company focuses on the domestic market. The market scale is small, focusing only on small companies and individual customers. Nevertheless, such market share is considered suitable with the company's production capacity.

(4) Employee treatment

Hoang Phi always cares about the welfares of its employees. In terms of working hours, health, medical insurance, social insurance and wages, the company complies with the regulations from MOLISA. However, the employment stability is not high and the company constantly loses its workers to larger enterprises.

(5) Performance satisfaction

The performance of Hoang Phi Company in some aspects does not meet the company's expectation. The company still struggles with its production activities regardless of good quality technologies.

Global integration brings the company more disadvantages than advantages. Under integration, the company faces many pressures from foreign enterprises. Even though this is a great opportunity for large exporting

enterprises in the textile and garment sector, for small enterprise like Hoang Phi expanding to foreign markets means higher workload and more working pressures. The established plan may not be achieved, which is harmful to company's wellbeing.

4.2. Case studies discussion

With respect to IPM awareness, both large and small companies are aware of the importance of intellectual assets and intellectual property rights although the level of comprehension is higher in large companies. Nonetheless, most companies only care about protection for their logos and trade names, which are the common types of IP. Other types of the textile and garment-related IP such as patent, trade secret or industrial design are neglected. Some companies are unaware of them. The possession of IP brings a company many benefits because it can guarantee high quality products and efficient performance and enables the company to explore new markets and reach new customers. It also helps the company to reduce IP infringement cases. In contrast, the small companies who do not own IP rights constantly face with IP theft, struggling with their business activities and losing employees to their competitors. On the other hand, the availability of IP information is high due to technological advancement. Overall, IP awareness has positive correlation to company's firm performance.

Large companies, whose legal departments take charge of all matters that relate to IP, have high level of IP application procedure comprehension. The knowledge of IP research, application procedure and the constant update of IP rights help companies to respond quickly to changes in

the IP law and regulations. Understanding of IP rights application allows companies to have their latest brands recognized by new customers. Overall, IP application has a positive correlation to the company's firm performance.

The IP management and exploitation strategy in large companies in this sector, is just in the most basic phase and quite vague. There are management and exploitation strategies for trademark with sets of tools relating to IP application but they are unclear. Nonetheless, strategies for preventing IP infringement are not designed well because the cases of IP infringement in these companies are considered as rare and if there are, they are all minor cases. With respect to IP exploitation, companies try their best to use their trademarks as a way of showing their value and qualities to the market so that they can attract more customers. The legal department is the only part of the company who has insights about IP. Other departments only concentrate on their own duties. The relation of IP management and exploitation to the firm performance in this case is positive. The evidence is, however, not strong enough.

IP protection is usually neglected in many companies. Most companies care only about infringement incidents that happen directly to their companies, while others related to the industry are unimportant. As only minor IP violation cases happen, IP infringement is not a concern of companies' strategies. Overall, the correlation of IP protection and firm performance is vague.

For large companies, especially those with strong IP, global integration brings many advantages including reaching new markets and having new customers. Nevertheless,

these companies are strongly independent. They do not only rely on these uncertain opportunities through FTAs but also try to come back and find their own places in the domestic market. Small companies, whose IPs are not included in the business, find integration as a threat. Because they have weak capacities, they are usually put under pressure from not only foreign brands but also large domestic ones. There are more disadvantages than advantages for them when integrating into the global market. Overall, IPM is positively correlated with firm performance in the context of global integration.

5. Conclusion

The research gives insights into the relation between IPM and firm performance through several dimensions. It then adapts and disseminates using three cases of Vietnamese textile and garment companies. From those cases, it is concluded that companies should spend its resources to make IP become a part of the companies' decision-making process. Large companies, who own several IPs, find themselves in a superior position in competition with high brand recognition capacities, while small enterprises struggle with their daily businesses. Moreover, various types of IP rights, apart from trademark, should be included because they can help companies to reduce the fierceness of competition and to make their products more superior to the competitors' ones. IP managing and exploiting activities need to be paid more attention and should be the concern of the whole company rather than of the legal department only. Each employee should be more aware of keeping important information of the company's production, innovation or design activities

undisclosed, or expressing to managers about their needs of having a specific type of IP. On the other hand, IP protection is currently being underestimated, which requires more attention from companies regardless of their size. Finally, in the context of globalization, IPM needs to be included in the companies' daily activities because it makes companies' brands stronger and helps companies protect themselves in fierce competition from both foreign and domestic companies.

The research cannot meet all of its initial goals due to some limitations. First, the research applies an existing model to analyze IPM that also has its own limitations and may not be completely suitable to the context

of Vietnam. Second, when measuring firm performance, the research uses only five dimensions and neglects other factors such as the satisfaction of employees and customers. Third, the size of the sample is small and the interviewed companies are located only in Northern Vietnam, where the conditions might be different from the South. Thus, following studies need to consider making some changes in the IPM model to suit the characteristics of the industry as well as the context of Vietnam. Other elements of firm performance and larger sample size should be taken into account to provide deeper insights into companies' IPM activities and firm performance.

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