

Chapter 3

A Model of Planning Intellectual Property for Marketing Strategies

In practice, a digital content company usually sells/provides a digital content product which may be in tangible or intangible “forms” (a digital format or with a physical product), so a digital content product shall not be defined as a tangible asset nor an intangible asset—there are rights from the intellectual property system for the origin of the product—“content” and other rights from Civil Code for the product itself. Most content can be protected by the copyright system, yet some types of content cannot fulfill conditions of intellectual property protection, such as a database.

Due to the complication of rights in a digital content product/service, a digital content company sometimes needs to deal with various rights owners before it is able to sell/provide its product/service, for example Apple’s iTunes music store. Therefore, end users usually do not build any direct relationship with the rights owners, but obtain a product/service that consists of various rights.

These make a digital content product become a unique asset. This situation also has showed the need of improving intellectual property system and definition, in order to protect such a distinctive asset, but as yet, not enough attention has been applied to this subject.

Because “content” is the origin of digital content industry, the design of business flows and business models follows characteristics of different “content” which establishes various roots of diverse digital content companies. Basically, business flows and business models make “content” into profit. Without such application, “content” certainly has no value for a company. Therefore, business flows and business models are very crucial to a company in this industry.

Based on the current intellectual property system, there is one major benefit for a digital content company to use such system, which is to protect its business models and business flows, in order to build effective “entry barrier”. In other words, content is protected by copyright, business flows and business models are protected by patent.

Concerning the marketing system, for a long time the subjects of marketing

research considered in intellectual property, all revolved around patent or technology¹⁵⁶. They often use the theory (aims at the tangible property) of market-environment analysis (environmental analysis, industrial analysis, buyer demand analysis), marketing strategy (Segmentation, Target Market, Positioning), a marketing mix (product, price, place, promotion) or a combination of the above three in the analysis structure. Also, such research provides either a marketing work list, or concepts or “ideas” based upon the experiences of the writers¹⁵⁷. Simply, giving the reader lots of information but not explaining how to distinguish which tools or information is right for the product in their companies. Furthermore, there are various IP management and related services¹⁵⁸ in the market that usually provide several similar steps helping a client to generate income or value from IP. In other words, provide when, what and how to do, but not why.

Therefore, this chapter provides information on the primary infrastructure of a digital content company and groundwork of IP management. In addition, this chapter provides and explains significant linkages between the most effective applications of intellectual property and successful marketing during the product R&D process or so-called PLC—a practical structure that links with PLC, marketing strategy and IPR strategy. Moreover, as mentioned previously, this chapter guides the reader in the design of a marketing strategy as a business model which includes the costs-benefit concept.

1. The Organizational Infrastructure

As described previously, there is a lack of practical theory or a training system for planning intellectual property for marketing. In order to follow the concept that is recognized by everyone, namely intellectual property is important, many companies

¹⁵⁶ For examples:

Mohr, J. J., Sengupta, S. & Slater, S. (2005). *Marketing of high-technology products and innovations* (2nd ed.). Upper Saddle River, N.J.: Pearson Prentice Hall.

Pitkethly, R. H. (1999). The valuation of patents: A review of patent valuation methods with consideration of option based methods and the potential for further research (WP 05/99). *OIPRC Electronic Journal of Intellectual Property Rights*. Retrieve September 2, 2005, from <http://www.oiprc.ox.ac.uk/EJWP0599.html>

¹⁵⁷ For examples:

Clancy, K. J., & Shulman, R. S. (1995). *Marketing myths that are killing Business: The cure for death wish marketing*. New York; London: McGraw-Hill.

This book does expose some fallacies of conventional marketing thought and give practical examples, but it only provides conceptually advice, no feasible and executable structure for readers.

See *Chinese Ref. 17*.

¹⁵⁸ For examples: QED, a provider of patent licensing services, see <http://www.qed-ip.com/>; CPI, a supplier of patent, trademark and agreement management systems, see <http://www.computerpackages.com/>; IP Surveys, LLC, a intellectual property management firm, see <http://www.ip-surveys.com/main.htm>

just rush into any possibilities without observing and examining the most basic problem which is to identify the necessity and the preparation. Therefore, speaking of a company itself, before a company is able to execute strategic intellectual property management and exercise IP to create profit, the primary infrastructure inside of a company is needed to be established. Details are described as follows and shown in Figure 3.1.

1.1 Talents

The author of “Good to Great”, Collins (2001) concludes before a company takes action, it must first find appropriate talent to form the right driving power (team or unit) and then to formulate an efficient structure¹⁵⁹.

Therefore, the analysis mechanism of human resources should not merely take the information of school diploma, age, job duty and period of service of employees as the foundation of the value analysis of the manpower, but should link with the company strategy, the R&D achievement and the contribution of intellectual property to discover talent who have business experiences, characters, and skills. Then, these talents can establish a suitable and correct driving power for intellectual property in the company.

In addition, a company should establish a human resource system for selecting, training, employing, and retaining talents for utilizing the manpower adequately (hire the right person to do the right thing at the right time). Furthermore, training is very important, although industrial experience and personal character may possibly train a person to be a talent, the company still needs to provide accurate and relevant information which meets the needs of the company and then these talents can truly understand and carry out the core corporate strategies.

1.2 Implementation of Intellectual Property Culture

Before going into applying a model of planning IP for marketing, a digital content company must establish a strong intellectual property culture. A company needs to develop the highest principles and norms of intellectual property management and utilization, which include education, protection, application, incentives, ownership (employees, manufacturers, etc.), and maintenance of

¹⁵⁹ Jim Collins led a research team and spent five years to explore in depth of eleven (such as Fannie Mae, Gillette, Walgreens, Wells Fargo, etc.) outstanding enterprises in order to identify the process of transformation of excellence (a good-to-great transition).
Collins, J. (2001). *Good to great: Why some companies make the leap... and others don't* (1st ed.). New York, N.Y.: HarperBusiness.

intellectual property.

It is also crucial to include how to prevent violations of the rights of others in the workflows and principles. However, a company should not only focus on the protection and implementation of its own intellectual property, but also needs to ponder with other economic incentives of the company's own IP and others' IP. Moreover, talents must be able to use the data provided by the system to carry out analysis of the original intellectual property related information such as technologies and portfolios¹⁶⁰.

Also, trade secrets are one kind of IP which are the most easily to be neglected in the company. Indeed, all relevant information within the company may have its commercial value, so the company must educate employees continually and take protective measures.

1.3 Knowledge Management¹⁶¹

No matter how the word of knowledge management (KM) is popularly and abusively used, the ultimate goal of KM must be to create profit for a company, otherwise it is just wasteful to put effort in this direction¹⁶². The process of accumulation, selection, management and sharing of knowledge not only increases the knowledge power, but also establishes a strong foundation for a company. Therefore, in order to establish central and de-central knowledge management, activities and workflows of every function (department) in a company, including R&D, accounting, legal, marketing, sales, customer relations, human resource and et cetera, need to be systemized, process-oriented, platform-oriented and linked with each other.

Most of all, the overall development strategy should be developed and determined centrally and so employees obtain consistent core value and guidance from the company. Consequently, all performances and outputs can be measured and

¹⁶⁰ See Jou, Y. P., supra note 125, at 18-31. [Text in Chinese]

¹⁶¹ There is no universal definition of knowledge management (KM). Basically, KM is the process through which organizations generate value from their intellectual and knowledge-based assets. The KM process transforms information to knowledge which focus on "organization" and "digitization". In general, generating value from intellectual assets involves codifying what employees, partners and customers know, and sharing that information among employees, departments and even with other organizations in an effort to have the best practices. KM is facilitated by information technology, but technology by itself is not KM.

Awad, E. M., & Ghaziri, H. M. (2003). *Knowledge management* (1st ed.). Upper Saddle River, N.J.: Prentice Hall.

Drucker, P.F., Garvin, D., Leonard, D., Straus, S., & Brown, J.S. (1998). *Harvard Business Review on knowledge management*. Boston: Harvard Business School Press.

Levinson, M. (2005, December 27). *The ABCs of KM*. Retrieved May 10, 2006, from <http://www.cio.com/research/knowledge/edit/kmabcs.html#what>

¹⁶² Dalkir, K. (2005). *Knowledge management in theory and practice*. Amsterdam, The Netherlands; Boston, Mass.: Elsevier/Butterworth Heinemann.

managed under the same standard.

1.4 Analysis

Planning and exercising intellectual property for marketing strategies should not be limited in the specific regions, therefore, besides market analysis, PEST¹⁶³ analysis, Porter's Five-Forces analysis¹⁶⁴, or SWOT¹⁶⁵ analysis that marketers are used to apply, the analysis must link with industrial technology development and industrial trends.

Furthermore, quality intellectual property comes from quality R&D achievements that means the processes of R&D must be examined through, (1) the analysis of all related information such as the technology structure, the value chain, and the product structure of the specific industry; (2) the analysis of its corresponding global intellectual property; and (3) the plan of its intellectual property deployment. Accordingly, the company is able to discover potential targets of investment, licensing, assignment and infringement and establish a platform for different needs and operational procedures of the transaction.

2. Groundwork of IP Management

If a digital content company has already established the primary infrastructure as described above, it may start the groundwork of IP management which includes the three most basic steps.

2.1 Audit

There are various meanings of “audit” such as in Finance, it means going through the process of examining and verifying a company's financial records and

¹⁶³ PEST stands for the Political, Economic, Social and Technological issues that could affect the strategic development of a business.

NetMBA.com (2005). *PEST analysis*. Retrieved June 7, 2006, from <http://www.netmba.com/strategy/pest/>

¹⁶⁴ Michael Porter's Five Forces Model is recognized as the most influential analytical model for assessing the nature of competition in an industry. These five "competitive forces" are the threat of entry of new competitors (new entrants), the threat of substitutes, the bargaining power of buyers, the bargaining power of suppliers, and the degree of rivalry between existing competitors.

Porter, M. E. (1998). *Competitive strategy: Techniques for analyzing industries and competitors*. N.Y.: Free Press.

¹⁶⁵ SWOT is an abbreviation for Strengths, Weaknesses, Opportunities and Threats. For more information on SWOT, see

Tutor2u (2006). *SWOT analysis*. Retrieved June 7, 2006, from http://www.tutor2u.net/business/strategy/SWOT_analysis.htm

supporting documents. The closest term that relates to the intention of this research is resources audit which refers to an analysis and investigation of the company's internal, external, physical, and virtual resources systematically by planned procedures and reviews. However, "audit" in this structure simply means a process of examining intellectual assets (resources) and its corresponding assets. The basic questions of an audit can be:

- (1) which types of IPRs does this company own?
- (2) which other IP assets does this company own?
- (3) what is the status of these IPRs?
- (4) how does this company protect IP assets?
- (5) how important are these IPRs and IP assets to the business (profit)?
- (6) does this company own the IPRs and IP assets that make it succeed, or does the company need to rely on others' IPRs and IP assets?
- (7) which IP system or IP strategy does this company apply?
- (8) are there any potential licensees and possible infringers (monitor the market)?

Therefore, before auditing the company's business model or marketing strategies, and intellectual property, this company must honestly review all intellectual property resources, in order to identify¹⁶⁶:

1. The global deployment of the company's IP

To analyze the deployment of a company's intellectual property, including types, portfolios, families, and territories, as well as proceed with the differentiation analysis of the major global competitors' intellectual property.

2. The industrial "position" (value) of the company's IP

To analyze the relation between the company's intellectual property and present or future global industrial development, product structure, value chain and technical structure, then a company can discover the value of own intellectual property rights.

3. Problems in IP management

To analyze and evaluate the management efficiency and achievements of the IP exercising which includes "productization" and industrialization, licensing, assignment, litigation, joint venture, new venture, and technology/management service.

4. Problems in R&D activities

After identifying the position and deployment of the company's IP, it is important to analyze to see if the company is taking the most appropriate means of protection for intellectual property arising from the process of R&D. For

¹⁶⁶ See Jou, Y. P., & Kuan, Audrey H.Y. supra note 124, at 63-90. [Text in Chinese]

examples, valuable IP has not applied for the protection, or there are insufficient claims in a valuable IP application.

2.2 Quality IP

How to figure out what makes IP valuable and how to identify those valuable IP? There are no generally accepted right answers for the above questions. Yet, back to the most basic and the simplest concept is whether this type of IP can protect the company's R&D achievements, create profit or stands through a litigation that the company might encounter. As mentioned before, a valuable IP¹⁶⁷:

- 1. should be the indispensable technology in a specific (technical) field;**
- 2. can not be replaced by other substitutive technology; and**
- 3. is unable to let the others design around.**

However, the above conditions for copyright and trademark should be different, in other words, it is crucial to search out prior art in the database of IP systems and non-IP systems thoroughly.

2.3 IP Deployment

To ensure that R&D achievements have complete "independency" is the first key step to obtain the maximum economic value of the company's intellectual property. Therefore, the most important step is proceed the deployment of intellectual property of the R&D achievements, including its type, cluster, portfolio, family and territories, as well as the differentiation analysis of the major global competitors' intellectual property. In short, the purposes of adequate global IP deployment are to:

- 1. ensure R&D achievements have complete "independency";**
- 2. deploy types, cluster, portfolio, family and territories of intellectual property; and**
- 3. proceed differentiation analysis of the major global competitors' IP.**

Furthermore, a company needs to apply IP protection in the various countries synchronously based on the specific industrial cluster¹⁶⁸ in that country or territory, such as a company should apply TFT-LCD relevant IP in Korea and Taiwan, not the U.S. because there are no major manufacturers (competitors) in the U.S.. Also, the

¹⁶⁷ See Jou, Y. P., at p.4 of this research.

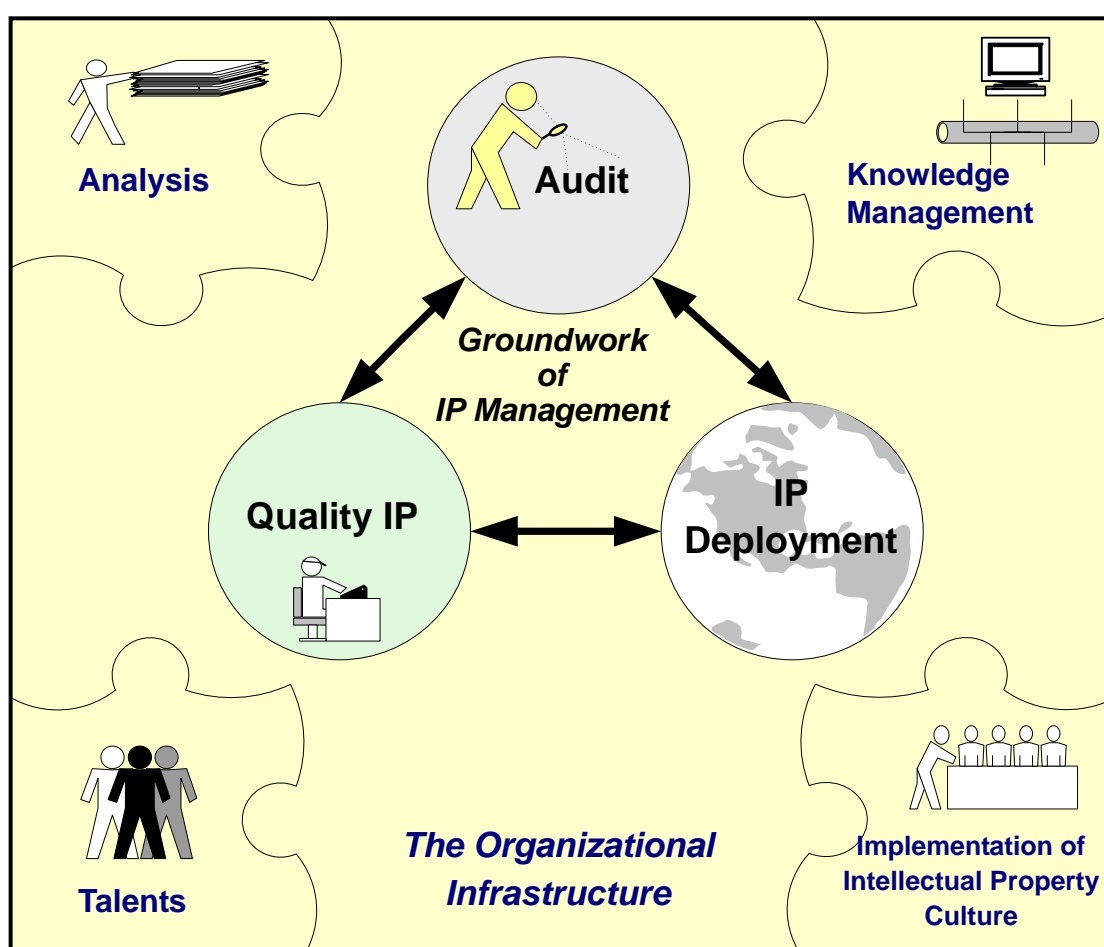
¹⁶⁸ Michael Porter defines an industrial cluster as "a geographic concentration of interconnected companies and institutions in a particular field. Clusters encompass an array of linked industries and other entities important to competition."
Porter, M. (1998, November-December). Cluster and the new economics of competition. *Harvard Business Review*, (4), 77-90.

company should take necessary means to manage cannot-be-applied IP regarding the characters of the rights (trade secret, know-how), such as having various levels of security measures regarding trade secret.

Finally, if a company proceeds with the groundwork of IP management using the proposed organizational infrastructure, the company may have the opportunity to identify quality R&D and obtain valuable IP, accordingly it is able to realize value (create profit) from their intellectual property.

Figure 3.1

The Organizational Infrastructure and Groundwork of IP Management



3. The 4C Structure & the Actions for Exercising Intellectual Property

The core concept of marketing is exchange, in other words, “exchange” for profit for a company. As mentioned previously, there are ten actions can transform IP into profit. However, there is a need to distinguish between what actions make the

company fly up or dive down and what kind of concerns should be checked. Thus, this research provides a perspective through the 4C structure.

Yet, each type of IP has its own special conditions and so this research takes “copyright¹⁶⁹” as the example which is the most relevant to the digital content industry. In addition, actions of new venture, joint venture, stock acquisition, and IP litigation involve various parties and complicated benefit, this research only takes productization as the example. This means, this research takes the stand of the copyright owner and asks: what if a company takes the action of productization and what the role of each cost is. The 4C structure provides useful ideas to the rights owner, where to pay attention while exercising IP and planning marketing strategies.

Productization:

A. Explicit Unit-Utility Cost (Important)

Lowering Explicit Unit-Utility Cost is important for productization of the copyrighted work. There are two primary reasons. First, as mentioned in the last chapter, the general rule of Explicit Unit-Utility Cost is the company must know whether the Explicit Unit-Utility Cost of this product is competitive or not before this product goes to the market. Also, the copyrighted product generally does not meet the qualification of three exceptions which a company can allow a product without competitive Explicit Unit-Utility Cost going to the market. Second, “the winner takes all” is a specific character for such copyrighted product, such as iTunes Music Store, the most popular digital music-download service, the policy of 99 cents-per-track retail price, has sold more than 500 million songs.

Among the rules of lowering Explicit Unit-Utility Cost as noted previously, the effective methods for the copyrighted product are described as followings:

- (1) Lowering cost structure of the product by
 - a. creating economic of scale and economic of scope;
 - b. bringing down the distribution cost; and
 - c. proceeding fine control of other expenses.
- (2) Increasing product utility to a buyer (end user/company) by
 - a. understanding the buyer’s real needs;
 - b. being familiar with the buyer’s value chain; and
 - c. noticing the change of the Explicit Unit-Utility Cost.

B. Information Search Cost

¹⁶⁹ Copyright includes literary works and scientific works, and Related rights. Also computer programs also are protected by copyright, whereas apparatus using computer software or software-related inventions should be protected by patent.

If this copyrighted product takes the certain market share (the product is popular), Information Search Cost shall not be high for productization of such product, for example the movie series of Harry Potter, because of the mega-popular Harry Potter book series, innumerable information has filled up the Internet and almost every kind of communication channels before the first Potter movie hits the theater. Accordingly, people can easily find out related information and certainly such popularity helps the box-office performance of the movie. Therefore, “popularity” shall be the key factor for lowering Information Search Cost of the copyrighted product.

As described previously, there are basic rules to lower Information Search Cost and certainly those rules can be applied for this type of product.

How to lower Information Search Cost:

- (1) Carrying out a clear-cut positioning
- (2) Defining distinct product positioning
- (3) Having long-term identical positioning
- (4) Integrating marketing mixes
- (5) Exploiting various communication channels
- (6) Taking advantage of the Internet
- (7) Making a comparable creative product
- (8) Balancing traditional and modern communication channels
- (9) Increasing Information Search Cost for making the comparison to various brands more difficult

C. Moral Hazard Cost (Important)

The most important condition for obtaining copyright protection is “originality” and the ruling of “originality” in court can bring unknown damages or consequences. Therefore, examining the “originality” of the copyrighted product is very essential for the action of productization and the result of examination surely influences the level of Moral Hazard Cost (the buyer’s degree of trust to a seller/product). In addition, the level of Moral Hazard Cost will decide whether there will be the next business or not between the copyright owner and the buyer. Therefore, Moral Hazard Cost is important for the opportunity of productization.

However, most of time, it is hard to examine “originality” thoroughly and the only rule can be depended on is “copyright protects the expression of an idea, not the idea itself”. So, “the new expression of an idea” is the key factor for “originality”.

For example, *Baigent & Anor v. The Random House Group Ltd (The Da Vinci Code)*. At the beginning of this year, Michael Baigent and Richard

Leigh, two of the three authors of *The Holy Blood and the Holy Grail* filed a copyright lawsuit in London's ornate Royal Courts of Justice, claimed The Da Vinci Code novelist Dan Brown stole ideas from their 1982 non-fiction book—both books contain the idea Jesus had a child. The Da Vinci Code was sold more than 40 million copies in the past three years, and a film based on the book - starring Tom Hanks and Audrey Tautou was due for release on May 19. If the verdict went in favor of Baigent and Leigh, this certainly would destroy “the Da Vinci Code marketplace” and so cause unknown “damages”, in other words, not only the publisher (Random House), but also merchandising companies and companies that involved in this marketplace that might pay out large amount of licensing fees and royalties. That could put some companies out of business. Finally, a High Court judge ruled on April 7 that The Da Vinci Code did not steal central themes from this 1982 work. The ruling was welcomed by authors and copyright lawyers as a victory for commonsense which copyright protects the expression of an idea, not the idea itself—Brown created a new expression of its idea. Also, Baigent and Leigh faced paying their own legal costs plus 85% of Random House's legal costs. Their total bill was estimated by The Times at \$ 3.8 million (£2 million).

Therefore, the “originality” of the copyrighted product is the most important factor. This is the key to influence Moral Hazard Cost and bring unknown profit or damage.

D. Holdup Cost (Important)

As mentioned in the last chapter, this cost comes into existence right after the transaction is done, due to Holdup asset is established. This asset causes “Switching Cost” if a buyer switches to the other exchange relationship. Also, when each side of an exchange party terminates the transaction, Holdup asset immediately loses its value. On the other hand, the seller needs to build up tangible or intangible Holdup asset with the buyer and so Holdup asset can bring chances for next trade.

The copyrighted products include not only literature work, but also computer programs. Also, in the intellectual property system, computer programs should be protected by copyright, whereas apparatus using computer software or software-related inventions should be protected by patent. Taking the computer game as the example, a fighting game- *Street Fighter*, this type of games have arisen since mid-1980s and became a phenomenon with the release of *Street Fighter II*. Because of the popularity, playing *Street Fighter* is the necessary experience for game players. Also,

experiencing the following release of this game becomes the needed action for players. Because of Holdup asset—psychological identification and particular social pressure, it helps pave the way for the next product.

The other example, *Final Fantasy*, now is one kind of massively-multiplayer online game (MMOGs) which are virtual worlds in which potentially players interact together over the Internet. Among various types of MMOGs, fantasy ones are the most popular such as *EverQuest* and *Final Fantasy XI*. Yet, before *Final Fantasy* changes to an online game, SquareSoft had released all previous games in its *Final Fantasy* series for Nintendo consoles and then turned to the Sony PlayStation; a huge success of *Final Fantasy VII* (1997) established the popularity of role-playing games and made the PlayStation as the primary console in the west. In this case, distinctive use knowledge, unique physical equipment & software, and psychological identification are major Holdup asset to make these users keep coming back to play this game.

Therefore, it is important to deal with Holdup cost and Holdup asset for productization of the copyrighted work.

In addition, there are six categories of Holdup asset that can cause the switching cost makes who have devoted are more willing to stay with the product:

- (1) Distinctive use knowledge;
- (2) Unique physical equipment, software or service;
- (3) Special preferential benefit for loyal consumers;
- (4) Intangible asset, such as communication efficiency;
- (5) Psychological identification; and
- (6) Particular social pressure.

After all, for the action of productization, a company must pay more attention to Explicit Unit-Utility Cost, Moral Hazard Cost and Holdup Cost while exercising IP of the copyrighted product and planning marketing strategies.

4. Linking IP strategy to Marketing Plan throughout

Product Life Cycle

Basically, a business plan is the practical application of the marketing strategy and it incorporates all aspects of the operation of a company, a marketing plan is a

schedule for implementing the marketing strategy¹⁷⁰.

If marketers are able to obtain complete information and support from the company, marketers must plan the corresponding intellectual property strategy and marketing strategy before and during the product R&D process. The structure of this section mirrors the process of evaluating and identifying a company's intellectual property and deploying marketing solutions to bring out most of the IP value over time.

4.1 The Product Life Cycle (PLC)

In order to develop a practical marketing function that is needed to cohere with the reason that a company is operated: profit. Accordingly, it is necessary to include product life cycle (PLC)¹⁷¹ as one of major elements in this structure because product life cycle uses rate of sales growth and rate of return on investment as two variables marked on the major axes of a graph. Although not every product shows a typical S-shaped product life cycle¹⁷² that is shown in Figure 3.2¹⁷³, a product still needs to pass through its product life cycle and the shape of curves just shifts upon the changes of those two variables.

The typical product life cycle (PLC) is divided into five stages¹⁷⁴ and each stage's characteristics are shown as in Table 3.1:

Table 3.1

Characteristics of the Product Life Cycle (PLC)

Characteristics Stages	Sales	Costs	Profits	Customers	Competitors
Product Development	(Note)				
Introduction	Low sales	High costs per customer	Negative profits	Innovator customers	Few competitors
Growth	Rising sales	Average costs	Rising profits	Early adopters	Growing competition

¹⁷⁰ See International Trade Centre, & World Intellectual Property Organization, supra note 80, at 34.

¹⁷¹ Product life cycle (PLC) was firstly brought up by Theodore Levitt in 1965.

¹⁷² Kotler, P. (1991). *Marketing management: Analysis, planning, implementation, and control* (7th ed.). Englewood Cliffs, N.J.: Prentice-Hall, pp. 351-371.

¹⁷³ See Armstrong, G. & Kotler, P., supra note 26, at 277-286.

¹⁷⁴ See Kotler, P., supra note 26, at 171-180.

See Armstrong, G. & Kotler, P., supra note 26, at 286.

				customers	
Maturity	Peak sales	Low costs	High profits	Middle majority customers	Stable/declining competition
Decline	Declining sales	Low costs	Declining profits	Laggard customers	Declining competition

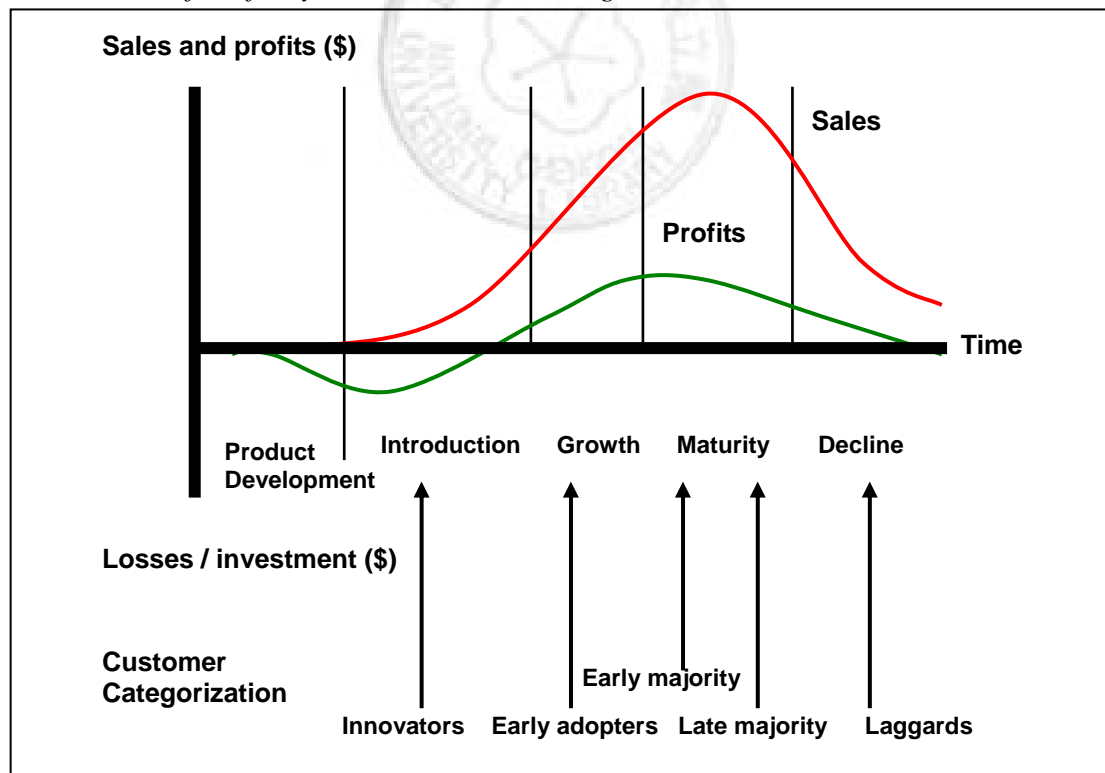
Source: Armstrong, G. & Kotler, P. (2005). *Marketing: An introduction* (7th ed.). Upper Saddle River, N.J.: Pearson Prentice Hall, p. 286.

Note. Product Development stage begins when the company finds and develops a new product idea. During this stage, sales are zero and the company’s investment costs growing.

Meanwhile, people adopt a new product at various stages depending upon the degree of a person’s innovativeness compared to other members of his/her social system. Base on product life cycle (PLC), link customer categorization to the relative time of adoption of a product as show in Figure 3.2.

Figure 3.2

Sales and Profit Life Cycles & Customer Categorization



(Armstrong, & Kotler, 2005, p.277)

(Kotler, 2001, p. 170)

Even though other researchers suggests more stages in the product life cycle such

as Wasson¹⁷⁵ suggests a stage of flat sales after sales have peaked, but the above shown product life cycle is the most common and widely accepted in the field.

On the other hand, the above traditional PLC avoids unnecessary change and uncertainty. In other words, when technologies, markets and product features are stable and predictable, this process works well. In current rapidly moving environments, effective development products in these environments are based upon extreme levels of flexibility and responsiveness, especially a digital (content) product. Thus, the concept and implementation stages usually overlap in the development of such product, allowing the specification to evolve during the life of the product. Digital products are characterized by the ability to gather and respond to changes in knowledge of technologies and their application context¹⁷⁶.

Therefore, this research certainly would stir up doubt why a digital product is able to fit into such an old-fashioned model of analysis. However, this research intends to emphasize not PLC itself, but the “flexibility” of PLC. In other words, the time of each stage may be longer, shorter, overlapping or even one stage may be missing entirely, but a product still needs to go through a life cycle. Many research papers and reports have brought out new terms or concepts, yet they still discuss a product life cycle. Especially, the PLC of a digital product is still in divergent development.

4.2 Product Life Cycle & Intellectual Property Strategy

For a practitioner, it is very important to see IPRs in an overall perspective, not merely focus on one particular type of IPR, thus the following table illustrate different types of IPR in the different stages of product life cycle (PLC):

¹⁷⁵ Wasson C. R. (1978). *Dynamic Competitive Strategy and Product Life Cycles*. Austin, TX: Austin Press.

¹⁷⁶ Iansiti, M., & MacCormack, A. (1997, September-October). Developing products on Internet time. *Harvard Business Review*, 75 anniversary issue, 108-117.

Table 3.2

Product Life Cycle & Intellectual Property Strategy

PLC	Intellectual Property Strategy	IPRs (Emphasis)
Product Development	Research Planning: <ul style="list-style-type: none"> ● Identifying the company's IPRs and intellectual property assets ● Identifying potential competitors ● Determining the state of the art in existing research ● Determining the current vulnerabilities ● Finding the niche (opportunities) ● Avoiding repetition research efforts 	<ul style="list-style-type: none"> ● Know-how
	Research & Development: <ul style="list-style-type: none"> ● Keeping information (research outcomes and directions) confidential ● Starting a security process of IP ● Requiring an IP filing strategy for domestic and international use, such as determining to keep outcome as a trade secret or patent, or cost for maintenance of IPRs ● Protecting associated developments such as industrial designs ● Protecting associated software and documents through copyright system 	<ul style="list-style-type: none"> ● Trade Secret ● Patent ● Industrial designs ● Copyright
	Development: <ul style="list-style-type: none"> ● Requiring an IPR licensing strategy ● Developing and protecting trade marks 	<ul style="list-style-type: none"> ● Trade mark
Introduction	<ul style="list-style-type: none"> ● Promoting trade marks ● Proceeding groundwork of IP management (Figure 3.1) ● Monitoring possible infringement 	<ul style="list-style-type: none"> ● All types of IPRs
Growth	<ul style="list-style-type: none"> ● Proceeding groundwork of IP management (Figure 3.1) ● Monitoring possible infringement ● Taking enforcement actions 	<ul style="list-style-type: none"> ● All types of IPRs
Maturity	<ul style="list-style-type: none"> ● Proceeding groundwork of IP management (Figure 3.1) 	<ul style="list-style-type: none"> ● All types of IPRs

	<ul style="list-style-type: none"> ● Requiring a plan of exit market mechanism 	
Decline	<ul style="list-style-type: none"> ● Proceeding groundwork of IP management (Figure 3.1) ● Evaluating IPR licensing strategy ● Evaluating the strategy for exercising of IPR 	<ul style="list-style-type: none"> ● All types of IPRs

5. Exclusive Summary

Subjects	Summary
The Organizational Infrastructure	<ol style="list-style-type: none"> 1. Talents <ul style="list-style-type: none"> ● “Right” talents are able to form a correct driving power (team or unit) and formulating a correct efficient structure ● The analysis mechanism of human resources should link with the company strategy, the R&D achievement and the contribution of IP to discover talents have business experiences, characters, and skills ● Training is very important, although industrial experience and personal character may possibly train a person to be a talent, the company still needs to provide accurate and relevant information which meets the needs of the company and then these talents can truly understand and carry out the core corporate strategies. 2. Implementation of Intellectual Property Culture <ul style="list-style-type: none"> ● A digital content company must develop the highest principles and norms of intellectual property management and utilization ● Trade secret is one kind of IP which is the most easily to be neglected in the company. 3. Knowledge Management <ul style="list-style-type: none"> ● The ultimate goal of KM must create profit for a company ● Establish central and de-central KM systems 4. Analysis <ul style="list-style-type: none"> ● Besides market analysis, PEST analysis, Porter's Five-Forces analysis or SWOT analysis that marketers are used to apply, the analysis must link with industrial technology development and industrial trends
Groundwork of IP Management	<ol style="list-style-type: none"> 1. Audit <ul style="list-style-type: none"> ● A process of examining intellectual assets (resources) and its corresponding assets ● The goals of audit are to identify: the global deployment of the company's IP, the industrial “position” (value) of the company's IP, problems in IP management, and problems in R&D activities 2. Quality IP <ul style="list-style-type: none"> ● Whether this type of IP can protect the company's R&D achievements, create profit or stands through the litigation for the company.

	<p>3. IP Deployment</p> <ul style="list-style-type: none"> ● The purposes of adequate global IP deployment are to: ensure R&D achievements have complete “independency”, deploy types, cluster, portfolio, family and territories of intellectual property, and proceed to do differentiation analysis of the major global competitors’ IP.
<p>The 4C Structure & the Actions of Exercising Intellectual Property</p>	<p>1. This research takes the stand of the copyright owner and asks; what if take one of the following actions and what the role of each cost is.</p> <p>2. Taking “productization” as the example, what if a company takes the action of productization and what the role of each cost is. The 4C structure provides useful ideas to the rights owner, where to pay attention while exercising IP and planning marketing strategies.</p>
<p>Linking IP strategy to Marketing Plan throughout Product Life Cycle</p>	<p>1. Product Life Cycle (PLC)</p> <ul style="list-style-type: none"> ● The traditional and typical PLC is divided into five stages ● This research intends to emphasize not PLC itself, but the “flexibility” of PLC <p>2. Product Life Cycle & Intellectual Property Strategy</p> <ul style="list-style-type: none"> ● For a practitioner, it is very important to see IPRs in an overall perspective, not merely focus on one particular type of IPR ● See Table 3.2 Product Life Cycle & Intellectual Property Strategy

