

# Licensing Of New Products: Determinants Of Royalty Structure



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## 1.0 Introduction

“Royalty” is the compensation paid by users to owners of Intellectual Property Rights (IPR). Owners of IPR who have, in varying degrees, the “right to exclude” others from practicing the subject matter of those rights, be it patents, copyrights, trademarks or trade-secrets, forego that right in return for the royalty. Theoretically, the licensor may seem to have the unfettered right to dictate the royalty charged to the licensee.<sup>1</sup> If only this were true, it would reduce the innumerable hours spent by executives and attorneys at license negotiation tables. Judges required by law to determine “reasonable royalty”<sup>2</sup> would not “find it a difficult judicial chore, seeming often to involve more the talents of a conjurer.”<sup>3</sup> The proposition that the owner is unlikely to be able to exploit fully his invention all by himself and hence would seek to collaborate with others may seem to suggest that the contribution of the licensee is more decisive. Extended logically, the licensee should have the prerogative to decide the royalty. The fallacy is immediately apparent

– the need for licensee’s input in the commercialization process is only secondary to the invention. Said differently, the product<sup>4</sup> is the primary focus of every enterprise and the process by which it is put in the hands of the customer becomes a secondary focus, although both are needed for a commercial success. Moreover, since every licensee’s business does not stop with the product-under-focus alone, his quest in seeking maximized returns in his overall business would involve factors inconsequential to the success of the focal venture.

Our premise that the licensor or the licensee has the exclusive privilege of determining the royalty is faulty. Clearly, the answer lies in between these two extremes. The licensor and the licensee make valuable contributions in crafting the success of a venture and consequently have a hand in determining the royalty payable to the licensor. It is rather obvious that the licensor and licensee are both essential parties to the success of a venture and hence both should play an important role in defining the royalty. However, what is not obvious is how much effort should each put in to make the venture a success, which makes it difficult to decide on the royalty. Combine this with other issues in negotiation and we quickly end up having a licensing process involving the participation of professionals from various fields – management, marketing, finance and law. Hence, it is no wonder that in many licensing negotiations, royalty is the most debated and the least conceded – it could even be labeled the crucial component. After all, the licensor and licensee work for a piece of the pie, each vying for a lion’s share of it.

Royalty determination may not be a big issue in case of products that are already producing royalty revenue streams. Here, the licensor may be able to draw upon the existing licenses in order to license further as long as there are no pending disputes on this. Similarly, if the licensee is already licensing products similar to the focal product, he will be able to find precedents and determine royalty. In the case of new products, however, neither the licensor nor the licensee would have prior models to draw upon. Royalty determination would then become a very challenging issue in those cases. In this research, our focus is on the royalty determination for new products.

Why new products? Introducing new products is probably the best way to grow and to achieve market leadership for any company. In fact, it has been shown that only those companies that derive over 50% of their sales from the new products introduced in the past five years are very successful. Smart companies find it prudent to invest lots of money in new products in spite of potential cannibalization of their existing products because the competition is so severe that if they don’t, somebody else will. Further, without new products in place, the companies will resort to price wars leading to profit erosion, thus letting customers enjoy all of the surplus. In short, new product introduction

1. A patent empowers the owner to exact royalties as high as he can negotiate with the leverage of the monopoly. *Brulotte v. Thys Co.*, 379 U.S. 29, 33 (1964)

2. Patent Act states that the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer. 35 U.S.C. § 284.

3. *Fromson V. Western Litho Plate & Supply Co.*, 853 F.2d 1568; 7 U.S.P.Q.2d 1606 (1988).

4. We use the word in its most generic sense – it encompasses everything that carries IP protection and is offered for public consumption.

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is probably the best way to grow volume and profits, and hence it is here to stay. On the other hand, markets for many products have become so complex and so saturated that the consumers do not feel any natural need for any new product.<sup>5</sup> This in turn implies that in the case of many new products that bombard the market every year “the world does not (any longer) beat a path to the doorway of the inventor.”<sup>6</sup> Hence, to market a new product successfully, participation of various other entities in the economy is needed. But, as explained before, in licensing new products the royalty determination becomes a very tricky and thorny issue because of the need for a strong marketing push.

One way to structure the problem of royalty determination is to look at the objectives of the whole process. There are two broad objectives in general. The main objective in a royalty negotiation is to make the licensor and the licensee perceive the resulting royalty to be a fair allocation of the profit of the proposed enterprise, thereby motivating each to work towards success of the venture. The other objective in royalty negotiation is to make as far as possible the royalty more a function of rational issues than a function of “irrational” forces such as the raw market power or legal power of the parties in negotiation. These two objectives can be achieved if and only if both the licensor and the licensee clearly understand what it takes to make the product a commercial success and how much each needs to contribute towards it. This is because the success is not

achieved in one step, nor guaranteed upfront<sup>7</sup>. In fact, if one analyzes the various new product ventures, it can be observed that while some of the failures can be attributed to low demand per se for the products, many of them can be attributed to poor marketing strategies deployed by the firms offering those products. In other words, the success of a new product is not as much a function of inherent need for the product as it is of how the company understands or develops that need, devises an appropriate marketing plan (i.e., a well-laid out set of appropriate marketing strategies) to reach the consumers, educates and convinces the customers about how the product fulfills that need.<sup>8</sup> Hence, to tackle the problem of royalty determination one must first identify as many of those various underlying marketing strategic factors as possible, quantify them and relate them to the eventual market success. Once these factors are identified, then by ascertaining the contribution of the licensor and the licensee to each of those factors, he can devise a scheme that uses this information and apportions the profits from the venture to the licensor and the licensee.

A framework to help one determine royalty in such a systematic and scientific manner is necessary for another reason also. In litigation, once infringement has been proved, the courts are called upon to ascertain damages payable by the infringer to the owner of the IP rights. In patent law, the damages can be lost profits or an amount not less than the reasonable royalty. Courts struggle with the task of ascertaining “reasonable royalty,” which is the minimum that should be awarded to the patentee. The courts concur that they had to use the judge-created methodology described as “hypo-

thetical negotiations between willing licensor and willing licensee.”<sup>9</sup> Although the courts have devised numerous methodologies to ascertain the “reasonable royalty,”<sup>10</sup> a close examination shows that they are not very helpful in the case of new products. Thus, we find that a rationalistic model that would facilitate royalty determination is required from both business and legal points of view.

Thus, our main objective in this research is to develop a framework that can facilitate the determination of royalty structure in the case of new products, where the licensor provides the product and the licensee provides everything else that is needed to bring the product to the marketplace<sup>11</sup>. As mentioned before, this requires identification of the various factors involved with successfully marketing the new product. The first step to uncovering those factors is to understand what type of novelty the new product brings to the market. This is discussed in Section 2. Specifically, we explain how to define novelty in a new product and its implications for marketing strategy. We next explain in Section 3 how the novelty factor affects the consumer adoption process, which in turn determines the market potential and the sales growth dynamics of the new product. We also describe a process with the help of which one can make a connection between the marketing efforts and the resulting sales growth. In Section 4, we describe how the various marketing strategic factors described in the previous sections can prove vital in address-

5. In contrast, in the early part of the 20th century, the products were so sparse that consumers gobbled up whatever came to the market, which tendency prompted Ford to declare, “I can give you car of any color as long as it is black.” Put simply, we have, as a society, evolved from a seller market to a buyer market.

6. *Miller v. Daybrook*, 291 F. Supp. 896 (W.D. Ohio 1968).

7. The success rate of new products is around 20% only, on an average across many industries.

8. It should be noted that although an excellent marketing plan by itself cannot make a success out of a “bad” product, absence of a sound marketing plan will surely make even a “good” product fail.

9. *Fromson*, 853 F.2d 1568, 1569; 7 U.S.P.Q.2d 1606, 1608 (1988)

10. One court has provided a list of factors that need to be considered in arriving at the reasonable royalty amount. *Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F. Supp. 1116 (S.D.N.Y. 1970)

11. We do realize that many other factors such as finance, raw material, research and development are needed to commercialize a product idea. However, we focus only on one aspect, namely marketing, in our research, since this is the most critical and least understood, in our opinion, of all the commercialization factors involved with new product introduction. We also believe that the other factors are easily quantifiable.

ing the legal considerations involved in royalty negotiations and arrangements. In Section 5, we conclude the paper giving directions for future research.

## 2.0 New Product and Novelty in a New Product

Before taking up royalty negotiation for a new product, it is very important to understand what efforts are needed to market the product. The first step in understanding those marketing efforts is to explore the type of new product we are dealing with. This is the subject of this section.

Consumer's adoption or rejection of a new product basically depends on the type of novelty the consumer sees in the product, and the marketing efforts expended in projecting it to him. The word "novelty" should not be construed as referring to new physical feature in the product nor in the sense it is commonly understood in patent law. It pertains to the novelty in the utility the consumer will achieve from consuming the new product.<sup>12</sup> A careful analysis of the various new products will indicate that there are basically two types of new products: breakthrough products and brand line extensions. Breakthrough products typically challenge an existing usage behavior and bring about a permanent change in how consumers derive utility from the activity concerned, while brand line extensions tend to fit into the existing consumption pattern without necessitating any major change in the lifestyle or consumption behavior. We call the former type "eagles" and the brand line extensions "birds." We will now describe these in detail.

### 2.1 Eagles (Break-Through Products)

Breakthrough products include dishwashers and washing machines in the 1950s and 1960s, camcorders, personal computers and cellular phones in the 1980s, and DVD players, robotic home appliances and portable digital assistants in the 1990s. These eagles dramatically changed the lifestyles (at home or work) and/or the consumption be-

havior of the consumers – Walkman can be considered a good example. Initially people ridiculed the idea of listening to music with the speakers inside their ears! Companies in the U.S. refused to distribute or license this product from Japan. Later, over a period of time, consumers discovered that Walkman could add tremendous utilities – provide entertainment during their jogging and walks, make their travel (train, bus and air) less monotonous, make their music listening experience more private, make listening to music less intrusive to others, and allow them to listen to their music whenever and wherever they wanted. Once the consumers started realizing these additional utilities for the surrounding activities, the sales of the Walkman took off in an unprecedented fashion. It is important to note that this breakthrough product changed not only the consumption behavior and utility of the focal process (i.e., listening) but also those of many other processes (ex: the exercising and jogging process) it impacted. The overall utility for the consumer increased so substantially because of the adoption of the Walkman that it eventually made consumers exclaim, "How did I ever live without this product?"<sup>13</sup>

Eagles create a need (and thus a new market) and over time elevate it to a necessity. The need intensi-

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12. For example, many consumers do not know how a cell phone works to appreciate the technical marvels in it, but they do like the new convenience it offers in terms of 'staying in touch' any time, any place.

13. There have been quite a few products that have evoked similar consumer response. Notable products are - Dish Washers (freed up time and energy for housewives and made things less messy), B&W Televisions (self-explanatory), Cellular telephones (made communication time and location free, and made it portable), Microwave ovens (enabled part of the cooking and reheating easier and quicker), Cameras (record precious moments in personal and public life), Instant cameras by Polaroid (self-explanatory), Digital cameras, Over-night courier service started by FedEx (enabled mail delivery a lot quicker, safer and anytime), Copiers (self-explanatory), and Camcorders (self-explanatory).

fies as consumers find utility not just from its obvious immediate use but from the increased utilities they derive from some of the surrounding activities as well, and this changes the overall consumption behavior of the consumers. Many a time, as we noted in the case of Walkman, it may be a while before the additional utilities of the eagles are recognized for their worth. Hence, the adoption of some of these eagles among customers will be gradual rather than spectacular. Thus, some eagles will have spectacular immediate growth while others will have delayed growth. We will call those with spectacular adoption as "swoop eagles" and those with gradual adoption as "circling eagles."

Clearly, eagles don't emerge very often since they require confluence of many factors – technological breakthrough, a strong vision of the investor and the company investing in it, and huge investment of resources – for their development. Further, it is not unusual to find huge investments made to move the product from drawing board to production plant and perfect the commercial production of the prototype. To ensure maximum return for their high and risky investment in eagles, companies adopt two methods. First, since these products generally possess strong IPR, companies seek patents for them. They would have one or more patents covering them (at the very least, patents would be pending approval before a host of countries) – product, process or de-

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14. There is abundant dissemination of information relating to IP protection and almost all companies and individuals are alive to the risk of not seeking proper form of protection for their "product" (we use this word in its generic form as referring to all varieties of things ranging from patentable things to copyrightable works to know-how worthy of trade secret protection). We do not anticipate a situation where a product is launched without any form of IP protection process in place. In the case of patents, there are certain statutory "bars" which the licensor has to be aware of. There is an inviolable time line that he has to strictly adhere to, failing which the invention will be held non-patentable.

sign.<sup>14</sup> Second, it has become common these days for companies to maintain the know-how and other sensitive details as trade secrets. This is because companies are not confident that certain proprietary information command patent protection. Hence, rather than risking disclosure in patent applications and later having those claims denied by the Patent Examiners, companies prefer to keep them confidential and rely on the protection afforded by the trade secret laws. If some claims are rejected but yet the patent is granted, the entire application is published and the contents of the rejected claims also become public. It is only necessary to take all reasonable steps to ensure that the proprietary information is kept secret to continue to enjoy the protection afforded by trade secrets laws. It should be kept in mind that whether a new product will be an eagle or not depends not on what the company desires or expects it to be but on what the consumer derives from it.

In the case of products that command copyright (e.g., movies, computer software, music, etc.), as soon as the “ideas are fixed in a tangible medium,” protection is afforded. There are some creations like computer software that can be subject of both a patent and a copyright. The decision to elect for either or both forms of protection is again a matter for legal advice, and deliberation.

## 2.2 Birds (Brand-Line Extensions)

Birds do not produce sweeping changes in the existing consumer behavior. They simply bring in an incremental utility, perhaps to a particular segment of the consumers, in their consumption process. They have a minimal effect on the utilities derived from other activities of the consumer. Examples of brand line extensions are yogurt with coffee flavor, liquid detergent, off-beat movies such as Home Alone and Titanic, HDTV, a new TV with a bigger screen, a new cell phone with two additional features, lemon fla-

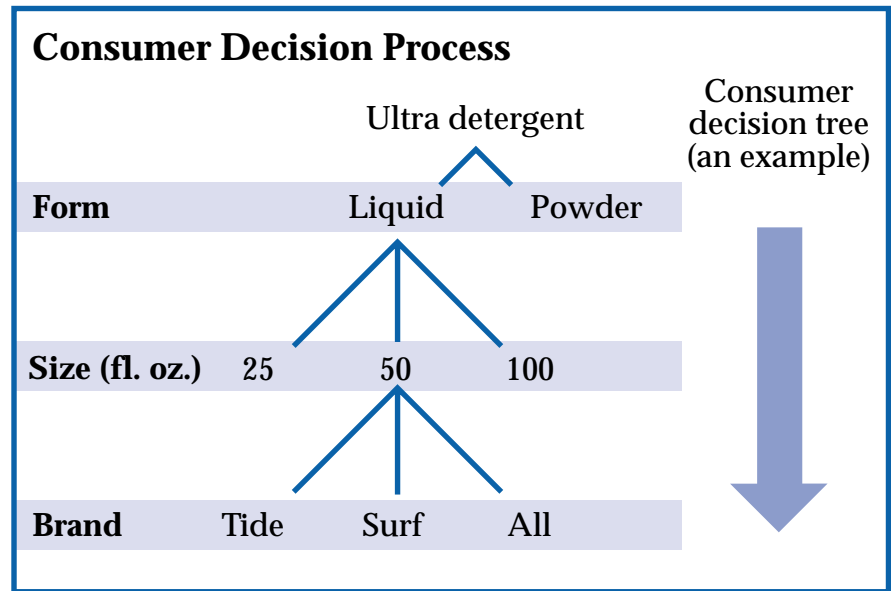


Figure 1.

vored potato chips, a new perfume, another game show on the TV, etc.

Unlike eagles, which create and thereby dominate a new huge market that survives for a long time, birds capture a small fraction of the existing market they target. However, some birds hit a jackpot. Consider the baking soda toothpaste introduced by Arm & Hammer, a new entrant in the toothpaste market. The incumbents (P&G, Colgate-Palmolive, and others) didn't pay attention to this bird, but within a year, A&H baking soda toothpaste captured such a sizable market share that all the players hurriedly introduced their own baking soda versions. It will be hard to believe that any expert would have predicted such an outcome.<sup>15</sup> Thus, among the bird type of new products, some birds produce eagle-like effects, raking in huge returns that are often unexpected, even by the companies introducing them. We will distinguish the two categories, calling them “birds” and “dom-

birds” (Dominating Birds).

It is important to realize that while eagles create a new market, these dom-birds do not create any new market but by meeting an existing need (or a latent need)<sup>16</sup> more effectively or efficiently<sup>17</sup> they wrest a huge market share away from almost every existing brand in the category. They do not enlarge the overall market but redistribute the existing market share points.<sup>18</sup> The dom-birds upset the market structure and come to occupy the first branch of decision-making in many consumers' minds (see Figure 1). If we define the market structure (or consumer choice structure) in a category, we will find that dom-birds create a new branch somewhere near the top of the tree while other

15. Similar are the stories of Tide (liquid detergent introduced by P&G), Sanex (dermo-protectant liquid soap introduced by Sara-Lee in Europe), Sensor (razor introduced by Gillette), “Who wants to be a Millionaire” (game show by ABC) and Minivan (introduced by Chrysler with its brands Dodge Caravan and Plymouth Voyager).

16. Baking soda toothpaste and dermo-protectant liquid soap are examples of this type.

17. Efficiency can be achieved with respect to any resource base including time, money and effort. Microwave-safe foods are examples of time-based efficiency, Lexus, being an almost Mercedes class (at a far less price), is an example of money-based efficiency, and walk-behind lawnmower with power push is an example of effort-based efficiency.

18. Minivans are a case on point. The minivan took away share from subcompact, compacts and other station wagons.

birds simply fit in to one of the lower branches (see Figure 2 for example of such a structure).

Although we could successfully differentiate a bird from a dom-bird,<sup>19</sup> it is very difficult to predict whether a brand-line extension would turn out to be a bird or a dom-bird. We can only probabilistically say whether a bird would be a bird or a dom-bird in the market, the rest is mostly happenstance.

While it is easier to develop a bird, it is possible that some birds may require more resources than others.<sup>20</sup> Further, it may not be very evident whether minor alterations in product features or changes in composition are patentable. It could be a very cost intensive effort to find out whether or not the “result” is patentable. Even if it is found to be patentable and a patent is obtained, the claims may be very narrow. The criteria for grant of copyright are however less rigorously structured and hence copyright protection may be available.<sup>21</sup> Hence, the companies cannot expect to use patent protection to recoup their investment, if any. They typically resort to two avenues. First, they market the product so quickly and so intensively that the other companies take time to catch up. Second, major market players use their existing trademarks to offer some sort of protection for the birds. If companies carry marks that would ordinarily be considered merely descriptive and unworthy of trademark protection,

19. When the Minivan was introduced, Lee Iacocca, the CEO of Chrysler Corp, observed that it was a big gamble because the company’s fate was tied to the success of the minivan. Although the gamble paid off handsomely, his statement at the time of or just before launch, exemplifies the difficulties in predicting success potential of birds. Other examples are the baking soda toothpaste and the liquid soap (Sanex) introduced in Europe.

20. For example, the development of the liquid detergent by P&G might have consumed more resources than the development of, say a new yogurt with a different fruit or flavor or texture.

21. Copyright protects the “expression” and not the “idea.” Even if the underlying ideas are the same, if the form of expression is shown to be different, copyright will be granted.

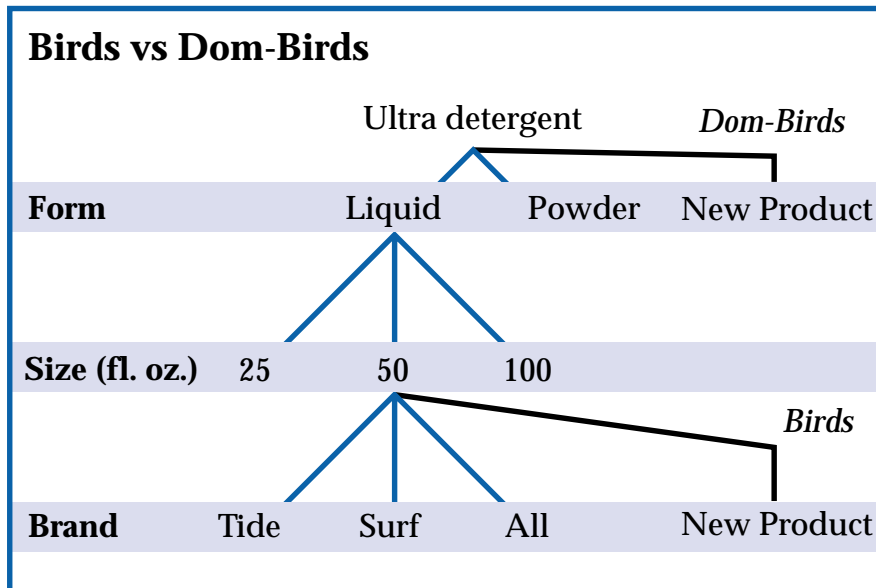


Figure 2.

they can sometimes acquire a “secondary meaning,” which connects them to particular goods or services.<sup>22</sup> Even new entrants can acquire trademark registration based on intent to use the mark if it is later actually used in commerce within six months (extendible for an additional period of six months).<sup>23</sup> Avoiding or preventing customer confusion is a priority in trademark law and hence the launchers would be able to use the tools of trademark law to protect the birds. In our coffee flavored yogurt example, the first entrant would register not only its name (e.g., Yoffee) but also its color combination and picture in the product packaging (coffee seeds floating in waves of yogurt).

Thus, we can say that new products can be classified as belonging to one of the four types: swoop eagles, circling eagles, dom-birds, and birds. This takes us to the next question - How can this classification help us in understanding the consumer adoption dynamics of a new product? This is the topic of the next section.

22. Secondary meaning is present when, a descriptive mark has “become distinctive of the ... goods [or services] in commerce. [15 U.S.C. § 1052(f)].

23. 15 U.S.C. § 1051 (b).

### 3.0 Novelty in a New Product (Consumer Adoption Dynamics and Market Level Sales Growth) Marketing Efforts Effectiveness

As stated earlier, success of a new product can be said to be determined by two main factors, namely, the product per se (product novelty, quality, design, reliability, whether it meets a need, etc.) and the marketing efforts.<sup>24</sup> In the previous section, we focused on the novelty of the new product. Now, we will look into the marketing efforts in detail. Typically, a licensee draws a marketing plan, which is a blue print that analyzes the efforts needed, the levels required, and the time line over which the efforts need to be put in. Since the end objective of expending these efforts is to enable consumers’ acceptance of the product, the best way to determine the constituents of the marketing plan is to “reverse engineer” the whole process - start with the consumer and explore what would make him

24. Marketing efforts include various factors such as knowledge of the market, identification of proper target markets, type of distribution support offered, communication message and media used, price charged, resources and commitment expended in executing the marketing plan, and types of strategies employed to tackle competition.

adopt the product. Sections 3.1 and 3.2 are devoted for this.

There is another reason why it is important to understand the consumer adoption dynamics for a new product and its implications for marketing strategy. Companies that handle all the activities from product manufacturing to marketing, such as P&G, generally have the infrastructure to provide many of these marketing efforts and also have the competence to identify the optimum mix of these factors for a given new product. When such companies develop and market a new product, they will tune their existing resources to suit the new product and there is no need to identify the relative contribution of the novelty and the marketing efforts in the eventual success or failure achieved. However, in case of licensing, where the licensor and licensees are two different entities seeking their own profit maximization objectives, the licensor is at a disadvantage because he cannot actually observe the marketing efforts that might be deployed by the licensee. There is a possibility of moral hazard, i.e., the licensee has an incentive to put in the marketing efforts in such a way and measure that the outcome would be more beneficial to him than to the licensor. A product licensor would have two major concerns – whether the licensee expends the required marketing efforts and whether the efforts so expended produce the desired results. The consumer adoption analysis will identify a set of basic marketing effort requirements which can then be used by the licen-

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25. There are many marketing research tools available that can be used to test and measure the impact of various marketing efforts. For example, impact of advertising can be tested through measuring, in a sample customer base, how many of them remember the advertisement and the product.

26. The fact that the various marketing efforts are inter-dependent and that they assume different levels of importance for different new products make it difficult, if not impossible, to draw out a complete marketing strategic plan for introducing a given new product. Hence an ongoing discussion on this issue is critical.

sor to cross check the extent and effectiveness of the licensee's marketing efforts.<sup>25</sup> In fact, such a set of basic requirements can also be used as a common ground by both licensor and licensee to start their negotiation process.<sup>26</sup>

Currently, licensing Agreements usually incorporate either a "best efforts" clause or a "minimum performance" guarantee. The former is used in situations where there has been a course of dealing between the parties and mutual trust has developed or when the parties are not able to decide upon a definite mix and probable extent of efforts. The latter is adopted in situations where the licensor has a fair grasp of the threshold efforts needed and looks to the licensee to exceed or at least put in the bare minimum. Parties should be cautious not to use either of these clauses as a substitute for details in a licensing agreement but as a residuary clause that will serve as a fallback in case of omissions. A prudent approach would be to specify, as far as practicable, the various efforts expected from the licen-

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27. A discussion of the interpretation of the "best efforts" clauses in many cases can be found in David Bressman et al., *Available Remedies for Dispute Resolution in International and U.S. Trademark Licenses*, in *The New Role of Intellectual Property in Commercial Transactions* 377, 380-81 (Melvin Simensky & Lanning G. Bryer eds., 1994)

28. A concerned licensor would typically ask 'how experienced is the marketing department of the company to handle a new product?, how comfortable the company is with the target customer?' For our research purposes, we assume that the companies involved in licensing have a good marketing department that is experienced enough in both the areas in the sense that major marketing blunders are less likely to happen. A simple example of such blunders is stocking a product in Foley's when the intended target customer is a WalMart shopper.

29. We also assume that the new product concerned here has IP protection and hence to that extent the competitive factors do not play any major role. We are conscious of factors like the scope of the claims covering the new products, the ease or difficulty with which claims can be designed around, and the validity of the patent claims have a definite bearing on the royalty. The success or otherwise of a product is dependent on these factors and our classification of products into four categories is based on the showing in the market by the product.

ensee. In litigation for breach of "best efforts" or "minimum performance" clause, courts are likely to first look to objective criteria contained in the license.<sup>27</sup>

Before we proceed further, it has to be noted that for expositional ease we are abstracting away from other issues such as the marketing competency of the company concerned,<sup>28</sup> competitive factors<sup>29</sup> and network externalities.<sup>30</sup> Thus, we restrict our focus to only those stand alone new products that do not have any competition in the market now and in the near future, and we also assume that the potential licensing companies have sufficient marketing savvy.

### 3.1 Adoption Decision Process

Consumer decision process in adopting a new product has multiple stages that we call AKCUD. They are:

Awareness stage – consumer comes to know about the product's existence;

General Knowledge stage – the consumer develops an initial interest in the product;

Conviction stage – the consumer seeks, collects and analyzes specific relevant information and gets convinced about the product's utility;

Uncertainty reduction stage – the consumer gets over his misgivings about a product's performance and possible side effects; and

Adoption stage (makes a decision to adopt).

We will now discuss each of the five stages in detail. The AKCUD<sup>31</sup> discussion will bring out the need for different types of marketing ef-

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30. The utility of products such as telephones, fax machines and application software programs to an individual depends to a large extent on how many others have adopted the product. For some products such as TV, the utility increases as more channels and programs are offered. These effects are called network externalities.

31. A similar "chain" concept one can find in any marketing textbook is AIDA, which indicates Awareness, Intention, Decision and Adoption stages. However, the AKCUD chain we propose here is more suitable for our purposes.

forts for the different types of new products we discussed in Section 2.

### Stage 1. Awareness

A swoop eagle or a circling eagle is more likely to be quickly spotted and noticed by the consumers than a bird or a dom-bird. Consumers will become immediately aware of an eagle when they get exposed to it, while they may not actively register the existence of a bird or a dom-bird unless they are exposed to it in a persistent fashion.<sup>32</sup> In the case of a swoop eagle or a circling eagle, the product's novelty will be enough to create awareness, and sometime even excitement, if a minimum level of advertisement is done to make that exposure. Swoop-eagles generate free PR and word of mouth that will further reduce the need for a full-blown advertising campaign. Apparently, the novelty factor plays a big role in catching and retaining the consumer attention. The lower

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32. When introducing their new product, Robotic lawnmower, a company based in Irvine, Texas, spent minimum efforts in advertisement. Houston had this product on a couple of bill-boards and for a short time on radio. Four other cities had this product on TV (just one channel) for a month. In other cities, it was in magazines for a longer duration but many people became quickly aware of the product's existence though not sufficiently enough to buy it. A similar thing cannot be expected to happen with, say, a walk-behind lawnmower with a new cutting blade.

33. An automobile company will be more interested in improvements made in a steering box or suspension design than in improvements made in bolts and nuts. If a bolt manufacturer is interested in getting the attention of the car manufacturers towards a new bolt, the changes brought forth in the new bolt should be exceptionally great. On the other hand, even not-so-major improvements made in suspension or tires will immediately grab the attention of the car manufacturers. Rohm and Haas, the chemical giant, tried to sell a new cleaning agent for small workshop machines, but couldn't succeed in informing, educating and convincing the potential customers since the cleaning agent is a very low priority item in their purchase decision process. Similarly, a small company came up with a new shock-pad for the construction industry, but couldn't make the product a success because it lacked resources to market this low priority item (i.e. from consumer point of view). This is true for household items as well.

the novelty (as in a bird or a dom-bird scenario), the greater are the marketing efforts (advertising, display in retail stores, promotions, PR efforts etc.) needed, especially in generating awareness. Note, however, that in the case of a circling-eagle, since it takes time for consumers to appreciate the overall utility increase the product brings to them, certain additional level of marketing efforts (i.e., than those for swoop-eagles) are needed at this awareness stage so that they keep it registered in their minds although they are less likely to actively move to the next stage. It is important to note that in all the four cases, the awareness level needs to be measured frequently through marketing research tools to keep track of the product diffusion process and the effectiveness of marketing campaign.

There is another dimension in this awareness creation stage. Sometimes, even a new swoop eagle or circling eagle may go totally unnoticed if it addresses a non-mainstream activity of target customers.<sup>33</sup> Although it is safer to make a case by case determination it can be generally stated that consumers are also less likely to notice novelty in low-cost products of common use and more likely in the case of durable goods.<sup>34</sup> The obvious reason for this divergence in consumer behavior is that there is considerably more involvement in the purchasing process in the case of durables than in the case of non-durable consumer goods.

In summary, how important a new product is from the consumer's perspective determines how far the consumer will be ready to pay attention to it or to the marketing efforts supporting it. Since birds, to

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34. A toothbrush is least likely to get the attention of the customers unless it really involves, for example, a stunning new design or very high life expectancy. The "life expectancy wars" fought by the battery manufacturers is another example. On the other hand, a new type of mattress introduced by, say Sealy's, will get the attention from those shopping for a mattress.

begin with, do not have much to offer they are least likely to gain any ground if the product is in a low priority category. By the same token, the success of eagles also cannot be assured in such a category. Both the licensor and the licensee should have a clear sense of how important the particular activity is, which the new product addresses, in the global picture, i.e., in the overall life or work style of the customer. If it is a very low priority activity for the consumer, more and perhaps different marketing efforts (repeated advertising, direct mail campaigns, direct sales force, booths in conferences, etc.) need to be employed to create a good level of awareness in the market.

### Stage 2. General Knowledge

In the post-awareness stage, consumers will immediately be able to make out how "birds" and "dom-birds" work and what they do. It is because those products fit in with the existing life style (ex: liquid detergent or HDTV or teeth-whitening tooth-paste) and they seem to provide a higher or a slightly different type of utility to an existing activity (i.e., to washing or watching TV or teeth brushing). Consumers can, on their own, gain a high level of general knowledge about the product, without the licensee investing any efforts in creating it. The product, perhaps with an apt name or a smart packaging or both, will speak for itself. Usually, birds and dom-birds are often a result of market feedback from consumers, retailers and distributors and hence, marketing efforts do not play any major role in conveying to the consumers any

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35. Take the digital camera - potential consumers quickly become aware of its existence, but what the product can do vis-à-vis a regular camera and how it works (internally and from the consumer usage point of view as well) are not generally well known.

36. This is the reason why market research for eagles and late-soaring eagles will be misleading in many cases. Consumers will find it difficult (and perhaps will be unwilling) to assess the new utility it provides and hence any response from them will be highly misleading.

general information about how the product works.

In the case of swoop eagles, consumers will be highly aware of the product's existence but will generally lack knowledge on its predicted capabilities. Often, the utility to be gained is new, un-researched (in the market) and not immediately relatable to anything that the consumer is well accustomed to.<sup>35</sup> This is because the consumers tend to visualize or perceive eagles within an existing framework that has largely been built on the prevailing mindset, life-style and societal infrastructure which the new breakthrough product seeks to differ from or challenge and change (recall Walkman example).<sup>36</sup> If lack of such a general knowledge is wide spread and deep, the eagle will become a circling eagle. In the case of swoop eagle and circling eagle, the marketing efforts should be effectively deployed to build a high level of knowledge about the product's use and usage in the target market. Without such focused efforts, consumers will be left with only interest and curiosity about the product and will lack the "push" and enthusiasm to move further in the AKCUD chain. The product's complexity (ex: multi-functionality) or user-friendliness will also be a factor in this marketing effort.<sup>37</sup> Marketing efforts for knowledge diffusion can take many forms, depending upon the product type and the target market. They include sales force directly contacting professionals (doctors, lawyers and plumbers), company reps meeting B2B clients through teleconferenc-

ing and industry wide conferences, retailers employing workshops and kiosks, web sites providing all details, clever TV and print advertising, to name a few.<sup>38</sup>

In the case of late-soaring eagles, the initial interest will be very low and so the marketing efforts have to be carefully planned taking into account the evolution of the needs. One suggestion is the use of the chasm model proposed by Moore (1995).<sup>39</sup> However, both the licensor and the licensee have to practice patience and carefully keep track of the developments; otherwise, the product will never soar at all.

### Stage 3. Conviction

After gaining a general knowledge about the new product, a potential consumer is likely to ask questions such as "What does it do for me?" "What is the utility I gain from using the product?" "Can I get an idea about the \$ value of that utility to me?" This is where the marketing efforts need to be really smart since they can make the biggest impact. Basically, the licensee should be able to create a lasting impression in a consumer's mind - how exactly the consumer should perceive the new product and its functions, value its utility and compare it with a like-product, etc. This positioning campaign is the best marketing tool that the licensee has to "manipulate" the consumer in order to make him think about the new product in the way he and the licensor want him to think. If this is done successfully, the consumer will get convinced about the utility he could derive

from the product and move on to adopt it.

This is difficult to achieve in a bird, which is just a brand line extension. This is because the consumers have a good general knowledge about what the product does and hence the licensee has to concentrate upon the increase in the utility that his product can bring about. This increase could be expressed in terms of effectiveness, efficiency or both (ex: less color fading in case of a new color-guard detergent, more movie like experience in case of a new big screen TV). The unknowns are the degree to which the consumer wants to get accustomed and start believing in the additional attribute and the amount of value he may attach to the extra utility. The goal of the positioning exercise will be to make consumers believe that the new product would really provide a sizable incremental utility in the activity (think of whitening toothpaste) and that the incremental utility will be beneficial to him.<sup>40</sup> The licensee should be creative in coining and communicating the positioning theme to the target consumers in a credible manner.<sup>41</sup>

The positioning exercise is equally important for swoop eagles and cir-

37. Multifunctionality refers to inclusion of many features in the product. User-friendliness refers to the ability of the product to make a potential adopter understand its essential features on his own.

38. Since the attention span of consumers to TV ad is very limited, it may be sometimes counter productive to indulge in any knowledge enrichment exercise through this media.

39. The book *Crossing the Chasm* by Geoffrey Moore (published by HarperCollins Publishers, 1999) makes some interesting suggestions on this.

40. Authentic claims (Crest toothpaste's tartar control property approved by FDA, Oats reduces risk of heart attack) or importance of the utility to a sizable number of consumers (viagra, liquid form of detergent) can make a bird into a dom-bird. It is possible for a bird in a consumer durable category (Lexus, HDTV) or an industrial durable (forklift truck or a new copier machine meant for small business units) to use what is called a price-performance criterion, which basically helps the consumer quantify in monetary terms the utility of the new product with reference to the product being replaced. We will discuss more on this later infra note 50.

41. The positioning point has to be finely defined for a bird. Otherwise the new product will not get differentiated from the existing products and this will make the consumer wonder "Why do I care about another shampoo?" The important thing to note is that the consumers will hardly make any attempt on their own to notice and appreciate the difference. Since birds are not likely to be noticed or taken seriously in one attempt, a frequent and consistent communication of the positioning is needed.

42. One can harp on the positive factors (ex: very fast download through DSL) or negative factors (ex: how a slow download would hurt).

43. A quick reading of the book *Breakthroughs* by P. Ranganath Nayak and John M. Ketteringham of Arthur D. Little (published by Mercury Business Books, 1993) will illustrate this point. Provides is not just overnight delivery but freedom from planning 3 days-ahead for some mailing and an additional 3 days for the activity concerned! This "convenience" makes consumers allocate their time to the various activities much more effectively and efficiently.

cling eagles but the challenge here is different. The consumers should be educated on everything the product can do for him. The licensee has to come up with creative content<sup>42</sup> and an apt way to deliver it in order to convince the consumer about the product. It is vital to bring the consumer to a different level of thinking and convince him on the new type of utility the product brings to him, both for the immediately recognizable activity and other related activities (ex: camcorder, Walkman).<sup>43</sup> Since a considerable change in behavior (with respect to consumption of the relevant activities) is required of the consumer in order to appreciate and assign some value to the new product's utility, the potential consumer has to be convinced with respect to those activities in a changed surrounding. Once informed, the consumers will get the message quickly and repeated communication is not required, and the resources can be allocated elsewhere. Further, with eagles, the word of mouth is likely to play a much greater role in convincing the consumer about the new utility it brings forth. In essence, what the licensee needs to do in case of eagles is light a carefully selected splinter and the fire will hopefully rage on.

In case of a late-soaring eagle, this expected change in behavior is harder to convey<sup>44</sup> and hence it may be that the consumers themselves

will discover those changes over time.<sup>45</sup> Quite often, not much can be done by anybody in the case of late-soaring eagles. The licensee has to be patient and should keep reminding the potential consumers about the new product with the positioning messages till it takes off.

Whether it is a bird, a dom-bird, a swoop eagle or a circling eagle, a very interesting aspect of this conviction stage is that consumers are very likely to be different from one another in their need, willingness and ability to get convinced. There is an inherent heterogeneity in the market with respect to this stage. There will be some who will get convinced immediately, some a little later, some a long time after and some probably never.<sup>46</sup> In other words, there will be segments in the potential consumer pool, ranging from the gullible to the skeptical, with respect to how tough it is to convince them on the usefulness of the new product. A major marketing challenge is to identify those different segments, understand the requirements of each segment clearly (i.e., with respect to what would convince them), and finally come up with some novel techniques to design and deploy strategies appropriate for each segment. Marketing research techniques such as factor analysis, discriminant analysis, multidimensional scaling, etc. can be used for identifying the segments. It is not unusual to find that the segments will be so different from one another that the company cannot afford to go after all the segments because the amount of time, money and effort needed to target all the segments would be overwhelming. Sometimes, it will be logical to go after certain segments initially and the other segments later. Tools such as SWOT<sup>47</sup> analysis will be very helpful at this juncture. While the primary re-

sponsibility of picking and targeting the right segments is that of the licensee, the role of licensor will be very useful at this stage since he knows more about the product, its functionalities, limitations and future developments in its design. Moreover, both the licensor and the licensee should be aware that this segmentation-based approach needs a systematic monitoring and a periodic updating.

#### Stage 4. Uncertainty Reduction

Even after getting convinced about a new product's utility and benefits, the consumers may still not adopt the product. This is because of the uncertainty (both real and perceived) surrounding the new product per se. This is especially true with eagles.

A major but natural uncertainty that consumers have regarding a swoop eagle or a circling eagle and, to some extent, a dom-bird is with respect to its performance (or non-performance and unknown side effects) such as whether it would work, what will happen if it doesn't work, what to do if it fails suddenly, whether the price charged is right, etc.<sup>48</sup> Further, barring a few, consumers may not have any immediate urgency to adopt the new product. They can afford to wait till it is proven in the market. This uncertainty makes the potential consumers more risk averse, especially if they don't have any urgent need for the product. Or, as mentioned elsewhere, consumers may simply fail to see the overall increase in utility the product promises to his lifestyle. Then, the consumers will simply postpone adopting the product until after receiving a good word of mouth feedback from those who had already adopted it or from reports such as consumer reports and articles in trade journals. These bits of information basically go to reduce

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44. It is widely believed that consumers thought of the refrigerator as just a big ice-box. To cite another example, consider FedEx. Except those who were desperately looking for an over-night service, many would have found it to be a high-end luxury product, only to be appreciated but never to be used.

45. For example, in the FedEx case discussed in the previous footnote, consumers would have gradually found that what FedEx provides is not just over-night delivery but freedom from planning 3 days-ahead for some mailing and an additional 3 days for the activity concerned! This "convenience" makes consumers allocate their time to the various activities much more effectively and efficiently.

46. Note that this heterogeneity exists in the first two stages also, but their impact on the process is minimal.

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47. SWOT stands for Strength and Weakness (of the company with respect to what it can do in a given segment), and Opportunity and Threat (of the dynamics of the segment under focus with respect to the attractiveness of the segment now and in the near future).

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48. This does not mean that the consumers do not have problems with any of their existing products. However, with existing products, the problems are rather well known and the consumers know how to handle them.

the uncertainty associated with the new product's performance or bring out the overall increase in the utility one can potentially realize with the product or both. Since a considerable part of such uncertainty can be attributed to the inherent nature of a consumer, the decision of whether and when to adopt can be expected to vary across consumers widely, just like the conviction factor we discussed in the previous stage. In the case of a circling eagle, this uncertainty may exist in many consumers and for a long time with the result that the sales in the initial years will be close to zero.

Between birds and dom-birds, there is divergence in the adoption pattern between durable and non-durable goods. If the bird is in a consumer non-durable category, the adoption dynamics will basically follow "let's try it" behavior of the consumer because the trial procedure is almost with zero risk, and uncertainty is unlikely to be a major factor. However, with some non-durable consumer goods, such as OTC drugs, detergents and baby items where the potential side effects can be disastrous even with a

single consumption process, the adoption pattern may sometimes follow that of an eagle. The slow growth of generic drugs in place of patented drugs after the patent expired is a clear example.<sup>49</sup> In general, word of mouth is least likely to play any major role (except when the product turns out to be "bad") since consumers can afford to make decision on their own.

Let us consider a bird in a consumer durable such as a car (ex: Lexus) or TV or an industrial durable such as a forklift truck or a new copier machine meant for small business units. There will be some uncertainty with respect to its performance, but in general the adoption decision will be affected more by price-performance criterion<sup>50</sup> and need for replacement of the existing product. In the case of industrial non-durable goods (called consumables), this uncertainty may play a more important role because it may have a serious impact on the final product.<sup>51</sup>

The licensee can try to evaluate the extent of uncertainty in the consumer's mind and address it through various marketing efforts like clear positioning (preferably tuned to different segments), money-back guarantees schemes (this will reduce the perceived risk of product failure), product demonstrations in various places, guaranteeing service delivery within a certain time, endorsement from established spokespersons/leaders in the market, establishing chat pages and group discussions to facilitate word of mouth generation and spread<sup>52</sup>, etc. However, whatever you do, some degree of uncertainty will subsist in the minds of the potential consumers that only passage of time will cure.<sup>53</sup> All these efforts

have only a limited effect, and this is a function of the product characteristics and the target market's economic and social characteristics.

### Stage 5. Adoption

The preceding four stages help us understand the process a consumer is likely to go through and is likely to be led by a smart marketer, before making a decision to adopt a new product. The first two stages (Awareness, General Knowledge) take him near the product while the last two stages (Conviction and Uncertainty reduction) make it worthwhile for him to adopt it. We saw, however, that the consumers are very heterogeneous with respect to their readiness, ability and need to get convinced and with respect to uncertainty and how it is reduced. This implies that whatever the licensee does in terms of marketing efforts, there will always exist a sizable fraction of the market who will still be meandering along in the 3rd and 4th stages. As more and more consumers adopt the product, the conviction and uncertainty reduction will happen gradually and automatically and more and more consumers will move on to the adoption stage. In other words, there is a natural time bound "delay" in the adoption process in a given market, some adopting immediately (i.e., early adopters) and some postponing the adoption (i.e., late adopters). Usually, the transition from early adopters' actual adoption decision timing to that of late adopters is smooth. This dynamic process is very true with swoop eagles, circling eagles and, to a lesser extent, birds and dom-birds. Note that, as explained elsewhere, in case of circling eagles, the transition from early adopters to late adopters will not be smooth, especially if the characteristics of these two are vastly different, and this may result in a sharp time gap between the early adopters and the later adopters. This gap, also called chasm, can be mistaken for failure of the new product.

### 3.2 Market Level Sales Growth Pattern

So far we have been discussing the

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49. Note that slow growth need not be attributed to slow adoption alone. A poor distribution (by design or ignorance) would also result in a slow growth. An example of a potential risk associated with a new consumer non-durable good is the recent debacle of Unilever's new detergent in Europe, where certain ingredients in the product damaged the fabric instead of attacking the dirt.

50. Consider for example the micro-processor category. When a new chip comes into the market, the consumers (both OEM and the end-consumers) would do a mental calculation on how the new enhanced chip performs with respect to the current chip and at what cost. For this comparison purposes, consumers tend to pick a dominant attribute (processing speed in this case) for performance evaluation, although the product (i.e., the chip) has to be, strictly speaking, judged on more than one attribute. Once established in the consumer's mind and in the market, it is very difficult to replace that dominant attribute. The recent attempt by AMD, the second leading chip manufacturer, is a case in point.

51. The recent tire controversy in Ford Explorer shows that a poorly designed or manufactured tire may eventually lead to a major product failure.

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52. It is believed that the movie *Titanic's* spectacular growth was mainly fuelled by the word of mouth spread among the teen-aged girls (the principal target market) through the chat pages maintained by the movie studio.

53. However, understanding this time-bound process is critical. This is explained in Stage 5 next and in Section 3.2 further.

adoption of a new product at individual consumer level. Although it is very important to understand the types of marketing efforts needed to be expended at every stage of the adoption process for different products, both the licensee and the licensor will be equally, if not more, interested in understanding how the sales grow at the market level. This is because the market level sales growth is what will bring them the anticipated revenue and profits, and a licensee would like to eventually influence this through his understanding of the adoption process and the impact that marketing instruments have on it. The main question now is how to use the AKCUD process and explain what is happening at the market level. This is the focus of this section.

The various individual level factors underlying the AKCUD framework can be summarized in three market-level sets of variables:

1. Social and economic variables of the target market as applicable to the focal product: These include factors such as whether the market is risk averse, how many need this product desperately, whether the decision making is purely rational or affected by emotional factors, how strong the word of mouth effect is, etc.

2. Product related variables: These include factors such as type of novelty, potential risk of side effects, whether the functionalities claimed are easily verifiable or not,<sup>54</sup> extent of estimated overall utility with respect to immediate utility, etc.

3. Marketing efforts expended by the licensee: These include advertising, positioning, pricing, promotions, sponsoring internet chat pages to facilitate word of mouth spread, financing, warranty provisions, distribution reach, retail support, sales force efforts, etc.

Several points are worth noting here. First, while the third set (i.e., the marketing efforts) is under the

54. The tougher it is to verify easily, the more the dependence on the word of mouth.

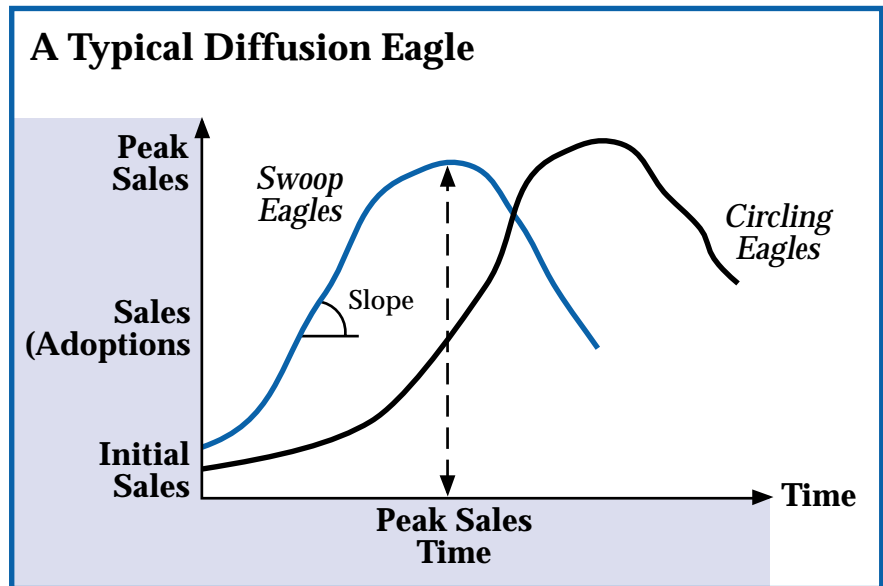


Figure 3.

control of the licensee and the second set (i.e., the product related issues) owes its presence to the licensor, the first set is not under the control of either. Second, how the licensee crafts the marketing efforts, which are necessarily a function of the first two sets of variables, decides the final outcome, i.e., the market level sales growth. Third, the eagles are likely to be dominated by the first set of variables while the birds are likely to be dominated by the second set of variables. Hence, eagles and birds will have different patterns of market level sales growth.

3.2.1 Eagles: Although the complex interactions among the three sets of variables make one wonder about the resulting sales growth of the product, it is interesting to note that the sales growth always exhibits an inverted-U shape (see Figure 3) for an eagle. This is called a diffusion curve, the exact shape of which differs from one product to another. The differences can occur in the starting sales (impact from predominantly the first two stages of AKCUD), rate of growth (impact from predominantly the last two stages of AKCUD), peak sales (impact from predominantly the third stage of AKCUD) and peak sales timing (impact from all stages of AKCUD). Although differences may exist, it is really interesting to note that the sales growth will al-

ways have an approximate inverted-U shape pattern. This partially implies that the first two sets of variables (also called exogenous variables) have a profound impact on the adoption process. Thus the main role of marketing efforts is to kick start this diffusion process and control it in such a way that certain objective, which is jointly set by the licensee and the licensor, is achieved. This objective could be maximization of profits from the sales over, say the first five years or maximizing market penetration in, say two years, or some combination thereof, etc.

In order to effectively utilize marketing variables to control the diffusion, one needs to know first how these variables affect the diffusion process and then derive the optimal way of utilizing it. Regarding the how step, although one can conjecture that the impact of an individual marketing effort will have a typical S shape pattern (i.e., the impact rising slowly initially, rapidly later and plateaus out in the end – see Figure 4), its impact on the diffusion pattern will not be that easy to decipher because the diffusion takes place over time and there are powerful exogenous forces at play. What this

55. Bass, Frank M., Trichy V. Krishnan and Dipak C. Jain (1994), "Why the Bass Model Fits without Decision Variables," *Marketing Science*, 1994, Vol. 13, Number 3.

means is that the impact of marketing efforts and the exogenous forces are so intertwined at every point of time that it needs special efforts to understand how marketing efforts affect the diffusion pattern. Although it is a big challenge to factor all the individual elements in the three sets of variables and finally come up with a market level sales growth process, marketing researchers have been successful in carving out models by focussing on the key elements. For example, Bass, Krishnan and Jain<sup>56</sup> have developed a diffusion model that captures the impact of price and advertising (the key elements of the third set of variables) and the key elements of the first set of variables on the sales growth of a new product. The interesting property of this model is its flexibility to include other marketing variables also. Now, consider the second step of optimization. Having understood how the marketing variables impact the diffusion process, one can use mathematical techniques to find out the optimal marketing efforts. In this line, a recent article by Krishnan, Bass and Jain (1999)<sup>56</sup> establishes the optimal pricing policy to be adopted for a new product introduction.

**3.2.2 Birds:** The market-level sales growth of a bird, on the other hand, does not in general exhibit any particular pattern. Given the nature of birds and dom-birds, it will be prudent to focus more on the market share growth of the bird in the category it is a part of. To relate the market share growth to the marketing strategies one can use well developed marketing models such as trial-repeat purchase models, conjoint analysis and choice models in combination with the diffusion models discussed earlier.

In this section, we provided a framework that describes how the adoption of a new product by a con-

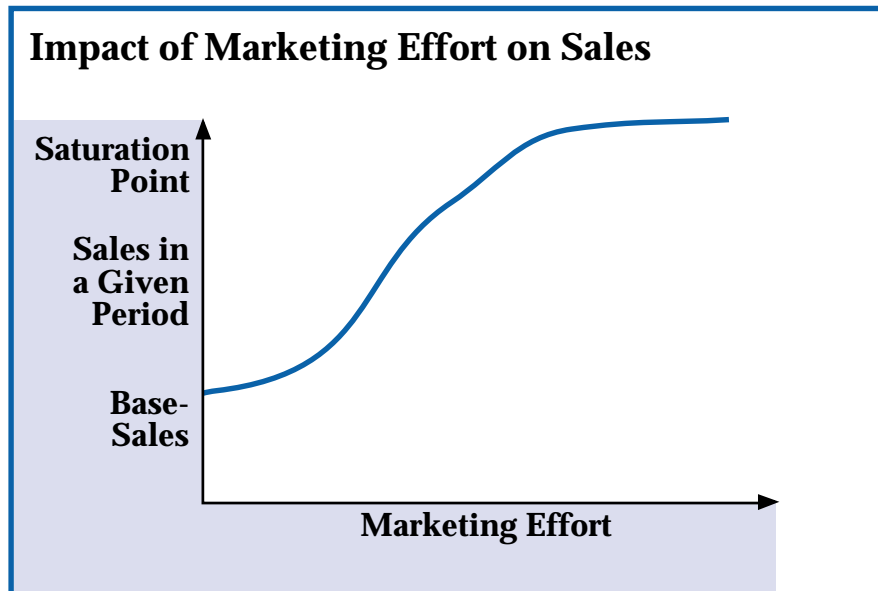


Figure 4.

sumer takes place, what factors are involved therein, and how the individual level process translates to a market level sales growth and how a licensee can use marketing variables such as price and advertising to control that sales growth to his advantage. Next, we will see how this framework can be used to facilitate the royalty determination in a licensing context.

#### 4.0 Diffusion Process (Legal Considerations in Royalty Determination and Arrangements)

As we saw at the beginning of this article, there are two possible situations where royalty may have to be determined. The first is where licensors and licensees voluntarily come together to decide on the royalty for the use of the IPR. We can call it the "Negotiated Royalty Situation." The second is where no license is involved but there has been an infringement<sup>57</sup> of the IPR and the owner has taken recourse to legal action for redress. Here, the courts determine the damages to be paid by the infringer to the owner and we

will call this the "Reasonable Royalty Situation."

The licensor and licensee may each hold IPR that is valuable to other and may settle for mere cross licenses without any money exchanging hands. Such a situation, though not impossible, is uncommon. Even in cross licensing situations, if the parties can determine the monetary value of the licenses granted to the other, it can be very useful in determining the additional or incremental value that one received over and above what the other received. Once the monetary value of the licensed-out rights and the licensed-in rights are calculated and the parties are satisfied that they are equivalent, it may help the decision makers to justify their actions to the general body of shareholders, in case it is necessary to do so.

In Section 4.1, we focus on a few Negotiated Royalty cases and in Section 4.2 we focus on a few Reasonable Royalty cases.

#### 4.1 Negotiated Royalty

There are basically two variables that play a vital role in a royalty agreement: dollar payment and term of payment. The dollar payment can be either a lump sum royalty or a running royalty or a combination of both. The running part can be either an ascending type (for products that involve high fixed costs to help re-

56. Krishnan, Trichy V., Frank M. Bass and Dipak C. Jain (1999), "Optimal Pricing Policy for New Products," *Management Science*, Vol. 45, 12.

57. The term "infringement" is used for infraction of patent, copyright and trademark rights, whereas the term "misappropriation" is commonly used in the case of trade secrets. In this paper, we use the term infringement to refer to infraction of rights of the owner.

duce burden on licensee) or a descending type (fixing royalty rates inversely proportional to sales volume as incentive to licensees to try and whip up sales). Whether it is lump sum royalty or running royalty, the term over which such payments are to be made is the second important criterion. Although this two-variable royalty structure has been in use for a long time, it is rather unfortunate that the royalty determination process is far from being satisfactory. Even today, it is wrought with lot of problems, both legal and commercial. We will analyze a few of those problems in detail and show how our proposed framework can be used to address those issues.

#### 4.1.1 Issue 1 (Most Favored Licensee)

It is common for licensees to insist on grant of Most Favored Licensee status by including a clause to that effect in the License Agreement.<sup>58</sup> The grant of such a status to a licensee puts the licensor at a definite disadvantage since he may have to disclose details of other deals to this licensee, which the li-

ensor may otherwise not wish to do. What is the royalty payable as a Most Favored Licensee has come up before the courts for determination in the past. In *Hazeltine Corp. v. Zenith Radio Corp.*,<sup>59</sup> Zenith had a license to pay either a specific percentage of the computed selling price of the apparatus or a lump sum payment in lieu of the percentage royalties, to be elected in advance and paid quarterly in advance under specified conditions. Zenith went to court, contending that a licensee who opted to pay the lump sum royalty provision may obtain, because of the volume of its sales, a lower rate of royalty.<sup>60</sup> The court rejected this argument and held that “a rate of royalty which is a fixed amount per period of time, is not in substance the same as a rate of percent of selling price royalty.”<sup>61</sup>

Problems associated with licensing to different licensees in different areas can be handled more amicably and systematically if the licensor can break down the efforts needed to be put in by the licensees in their respective areas, and then decide on the royalty terms based on those efforts. The proposed framework can help in such breaking down of the whole licensing transaction into quantifiable components so that the licensor will be able to categorize licensees in terms of

the components that they contribute. The licensor will also be able to determine more accurately the terms of license to various licensees since it is highly unlikely for two licensees to make identical contribution to the venture. Thus, the proposed framework will protect the licensor to a large extent in such cases, even if he were to grant the Most Favored Licensee status.

#### 4.1.2 Issue 2 (Patent Abuse)

Another commonly occurring issue in negotiated royalty involves a licensor being charged for Misuse<sup>62</sup> and Antitrust<sup>63</sup> violation. Misuse can be termed a lesser form of anti-trust violation. In a 1950 decision, the United States Supreme Court held that “payment of royalties according to an agreed percentage of the licensee's sales is unreasonable. Sound business judgment could indicate that such payment represents the most convenient method of fixing the business value of the privileges granted by the licensing agreement.”<sup>64</sup> In a later decision, the Supreme Court decided “that conditioning the grant of a patent license upon payment of royalties on products which do not use the teaching of the patent does amount to patent misuse.”<sup>65</sup> The Court having said that, went on to provide an escape route for total-sales royalty

58. The most favored licensee clause will address the following: (a) how and when the transferor will notify the licensee of the details of the other licence; (b) a territory or field of use in which the favorable terms apply; (c) the duration of the most favorable terms; (d) the method of valuing non-cash consideration (for examples, cross-licences or equity); (e) whether the adjustment will be retroactive; (f) how to deal with prior licences; and (g) how the licensee will elect to accept the most favored licensee clause, if the adjustment is not made automatically. John T. Ramsay, *Technology Transfers and Licensing*, 129-130 (1996).

59. 100 F. 2d 10 (7th Cir. 1938)

60. The rationale of the argument is this: One licensee having agreed to pay the lump sum royalty produces and sells x quantity of apparatus using licensed patents. Another licensee also agrees to pay the lump sum royalty but produces (x+y) quantity of apparatus using the licensed patents. When the lump sum royalty is converted in to a percentage of the computed selling price of the apparatus, the latter licensee pays less than the former. Zenith claimed that the lump sum into actual rate conversion has to be done and it has to be provided the lowest of such converted rate.

61. *Hazeltine*, 100 F. 2d at 11

62. The concept of Misuse was first recognized in *Morton Salt Co. v. G.S. Suppiger Co.*, 314 U.S. 488, 62 S. Ct. 402, 86 L. Ed. 363 (1942). It was held that “[a] patent operates to create and grant to the patentee an exclusive right to make, use and vend the particular device described and claimed in the patent. But a patent affords no immunity for a monopoly not within the grant and the use of it to suppress competition in the sale of an unpatented article may deprive the patentee of the aid of a court of equity to restrain an alleged infringement by one who is a competitor.” (citation omitted)

63. The antitrust laws promote innovation and consumer welfare by prohibiting certain actions that may harm competition with respect to either existing or new ways of serving consumers. Antitrust Guidelines for the Licensing of Intellectual Property issued by the U.S. Department of Justice and the Federal Trade Commission, 1995.

64. *Automatic Radio Mfg. Co. v. Hazeltine Research, Inc.*, 339 U.S. 827, 835 (1950)

65. *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 89 S. Ct. 1562, L. Ed. 2d. 129 (1969).

66. *Id.*, at 139.

67. See *Kearney & Trecker v. Giddings & Lewis, Inc.*, 7 U.S.P.Q. 650 (7th Cir. 1971), cert. denied, 405 U.S. 1066 (1972)

68. See *Mobil Oil Corp. v. W.R. Grace & Co.*, 180 U.S.P.Q. 418 (D. Conn. 1973) The court detailed over three years of negotiation and concluded that there was no coercion.

69. *Brulotte v. Thys Co.*, 379 U.S. 29, 13 L. Ed. 2d 99, 85 S. Ct. 176 (1964).

70. *Laitram Corp. v. King Crab, Inc.*, 244 F. Supp. 9, modified 245 F. Supp. 1019 (D. Alaska 1965) The case turned not on the evils of price discrimination but the effect of the price discrimination on the competition in the shrimp peeling industry. The court concluded that the price discrimination affected the ability of Pacific Northwest industry to compete with the Gulf Coast industry.

71. *Bela Seating Co. v. Poloron Prods. Inc.*, 438 F. 2d 733, 738 (7th Cir. 1971)

provision when it said that “if convenience of the parties rather than patent power dictates total-sales royalty provision, there are no misuse of the patents and no forbidden conditions attached to the license.”<sup>66</sup> In licensing situations where the total-sales royalty provision is being used, the licensor has to ensure that it is “convenience of the parties” that made them to choose this option.<sup>67</sup> The licensor should also develop the necessary paper trail that would disprove any charges of coercion.<sup>68</sup> The licensor is also forbidden from requiring the licensee to pay royalties for patented products beyond the expiration of the patent.<sup>69</sup> Antitrust violation was found where the patentee of a process for machine peeling of shrimps leased the machines at twice the price to Pacific Northwest shrimp processors as to Gulf Coast processors.<sup>70</sup> Licensors can take heart from the decision of the Seventh Circuit when it said “there is no antitrust prohibition against a

patent owner’s using price discrimination to maximize his income from the patent.”<sup>71</sup> In non-exclusive licensing arrangements,<sup>72</sup> the licensor may be tempted to fix the price of the licensed product to ensure that the price charged by a licensee is comparable to the price charged by himself or other licensees. The licensor may also be interested in doing so to ensure that one segment of the market is not affected because of the pricing policy of the licensee. It should be remembered that price maintenance rings alarm bells loud and clear since it spells antitrust violation to the U.S. Department of Justice.<sup>73</sup>

Clearly, pricing is a key issue in these antitrust and patent misuse allegations cases. Interestingly, pricing is very important from a marketing point of view as well because it affects not just the profit margin for the licensee but also the sales growth of the new product and the eventual market penetration. The proposed framework can, as ex-

plained in detail in Section 3.2, be used to address many aspects of this issue.

### 4.1.3 Issue 3 (Abuse of Royalty Term)

We have seen that the period over which royalty is payable is also a variable that needs to be determined in transactions involving running royalty. A patentee’s use of a royalty agreement that projects beyond the expiration date of the patent is unlawful per se.<sup>74</sup> This preclusion applies even if the license is granted prior to application or issuance of anticipated but subsequently issued patents.<sup>75</sup> But, in the case of products incorporating more than one patent, the life of the agreement and consequently royalty payment can be extended until the last patent expires.<sup>76</sup> Therefore, licensors should be aware of the duration of the grant of each right and should ensure that the royalty payment is not projected beyond the expiry of such grant. Trade secrets can remain secret forever and so there is no time limit for which trade secrets can be licensed. The only limitation is that at the time of license, it has to be unknown to the licensee. Even if the secret enters public domain immediately after it is licensed, the licensee cannot escape his liability to pay royalty for the duration of the license.<sup>77</sup>

From a commercial point, a main reason why the life of a licensing contract can really be a thorny issue in royalty negotiation is the uneven distribution of sales happening before and after the expiry of the contract-term. Further, this distribution

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72. Exclusive license precludes the licensor and his successors from the rights to the licensed rights. If the licensor reserves the right to the patent for its own use the license is a “sole license.” A non-exclusive license is one where the licensor may practice the patented invention and license others. It is nothing more than a waiver of the licensor’s right to sue for infringement.

73. In *United States v. General Electric Company et al.*, 272 U.S. 476, 47 S. Ct. 192, 71 L. Ed. 362 (1926) it was held that where the patentee licenses the selling of a product, he may limit the method of sale and the price, provided the conditions of sale are normally and reasonably adapted to secure pecuniary reward for the patentee’s monopoly. In *Lucasarts Entertainment Co. v. Humongous Entertainment Co.*, 870 F. Supp. 285 (N.D. Cal. 1993) the license stated that Humongous may not sell its games which utilize the SCUMM program to any third party distributor other than LucasArts for less than a certain price and that Humongous must verify its compliance with the licensing agreement at LucasArts’ request. The court upheld the clause. Although the two decisions mentioned above may seem to indicate that the licensor may consider price maintenance clause, it will be highly imprudent. The farthest the licensor can go is suggest a retail price as long as there is no coercion. This suggestion of retail prices by licensor has been upheld in *American Indus. Fasteners Corp. v. Flushing Ent. Inc.*, 179 U.S.P.Q. 722 (N.D. Ohio 1973).

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74. *Brulotte v. Thys*, 379 U.S. 29, 85 S. Ct. 176, 13 L. Ed. 2d 99, (1964)

75. *Robert Boggild & anr. v. Kenner Prods.*, 776 F. 2d 1315, 228 U.S.P.Q. 130 (6th Cir. 1985). In this case the license was granted in 1963 stipulating payment of royalty for a minimum of twenty-five years, whether or not the anticipated patents were issued. Subsequently applications were filed and patents were granted. The design patent had an 1979 expiry date and the mechanical patent had a 1983 expiry date.

76. *Lula Belle Hull v. Brunswick Corp.*, 704 F. 2d 1195, 218 U.S.P.Q. 24 (10th Cir. 1983).

77. *Warner-Lambert Pharmaceutical Co. v. John J. Reynolds, Inc.*, 178 F. Supp. 655 (S.D.N.Y. 1959) aff’d 280 F.2d 197 (2nd Cir. 1960). In this case, usually referred to as Listerine case, J.W. Lambert agreed to pay Dr. J. J. Lawrence a sum of \$20 per gross of Listerine manufactured and sold by him. For about 75 years payments were made but in 1956, Warner-Lambert sued to terminate royalty payments since the formula was made public by publication in the *Journal of the American Medical Association* as early as 1931. The court ruled against Warner-Lambert holding the formula not being a trade secret was not a bar for paying license fees. One who acquires a secret formula or a trade secret through a valid and binding contract cannot escape from an obligation he bound himself to simply because the secret is discovered by a third party or by the general public.

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78. In the United States, federal law governs Patents, Copyright and Trademark. Under the Constitution, Congress has been granted the powers to regulate grant and governance of patents and hence state law is wholly pre-empted. The federal Copyright Act is traceable to the power granted to Congress under Article I, Section 8 of the Constitution. In view of the express pre-emption contained in 17 U.S.C. § 301, it can be said that the state law is almost pre-empted. The federal law relating to Trademarks can be found in the Lanham Act, enacted under the Commerce Clause. State statutory law and common law also govern Trademarks, subject to the principle of federal pre-emption.

can be influenced by the marketing variables, which are under the control of the licensee and not the licensor. This implies, for example, the licensee can price and advertise in such a way that a major part of the sales happen after the expiry of the contract. Our proposed framework is clearly very helpful in this scenario.

So far we have been discussing some of the issues surrounding the negotiated royalty determination case and how these can be addressed using our proposed framework. Next, we will see how it can be used in patent infringement cases as well.

## 4.2 Royalty and Infringement

We have already seen that the IPR involved in a product can be patents, copyright, trademark or trade secrets. These rights are collectively called Intellectual Property Rights and although all these rights are similar in the sense that they tend to “exclude” persons other than the owners from practicing them, the reach of such exclusionary rights varies greatly. In the United States, patents, copyright and trademarks are statutory rights.<sup>78</sup> Trade secrets law is partly statutory and partly common law.<sup>79</sup> The statute governing each right also stipulates the manner in which the damages for violation of each right are to be determined. A consideration of the law relating to damages in respect of each of these rights is necessary to appreciate how necessary it is to understand the method of calculating reasonable royalty.

### 4.2.1 Patent Infringement

In patent infringement actions, the courts are required by law to award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the inventions by the infringer, together with interest and costs as fixed by the court. When the damages are not found by a jury, the court shall assess them. In either event the court may increase the damages up to three times the amount found or assessed. The court may receive expert testimony as an aid to the determination of damages or of what royalty would be reasonable under the circumstances.<sup>80</sup> The statute merely stipulates the floor beneath which the damages shall not fall. The statute contemplates that when a patentee is unable to prove entitlement to lost profits or an established royalty rate, it is entitled to “reasonable royalty” damages based upon a hypothetical negotiation between the patentee and the infringer when the infringement began.<sup>81</sup> The patent owner bears the burden of proof on damages.

In cases where the owner is able to establish the lost profits, he can very well get damages that would compensate his loss. To obtain as damages the profits on sales he would have made absent the infringement, i.e., the sales made by the infringer, a patent owner must prove: (1) demand for the patented product, (2) absence of acceptable noninfringing substitutes, (3) his manufacturing and marketing capability to exploit the demand,

and (4) the amount of net profit he would have made.<sup>82</sup> The Federal Circuit has also laid down how the owner’s burden of proof of lost profits is discharged and shifted to the infringer.<sup>83</sup> Where the owner is unable to prove lost profits or actual damages, the onerous task of ascertaining “reasonable royalty” is left to the courts. The courts are authorized to seek expert testimony, if needed. Historically, the methodology has been problematic as a mechanism for doing justice to individual, non-manufacturing patentees.<sup>84</sup> In *Fromson*, while remanding the case to the trial court for recalculation of a reasonable royalty, the Federal Circuit held that royalty may be measured as a percentage of gross or net profit dollars, or as a set amount per infringing article sold, or as a percentage of the gross or net price received for each infringing article. One court<sup>85</sup> has proposed a laundry list of factors that courts should consider in figuring out reasonable royalty. They are:

The royalties received by the patentee for the licensing of the patent in suit, proving or tending to prove an established royalty;

The rates paid by the licensee for the use of other patents comparable to the patent in suit;

The nature and scope of the license, as exclusive or non-exclusive; or as restricted or non-restricted in terms of territory or with respect to whom the manufactured product may be sold;

The licensor’s established policy and marketing program to maintain his patent monopoly by not licensing others to use the invention or by granting licenses under special conditions designed to preserve that monopoly;

The commercial relationship between the licensor and the licensee, such as, whether they are competitors in the same territory in the same line of business; or whether they are inventor and promoter;

The effect of selling the patented specialty in promoting sales of other products of the licensee; the existing value of the invention to the li-

79. With the passing of Economic Espionage Act of 1996, federal trade secrets rights have been created. It provides for criminal penalties but no private cause of action. Apart from the Economic Espionage Act, the trade secrets law is otherwise controlled by state law.

80. 35 U.S.C. § 284.

81. *Hanson v. Alpine Valley Ski Area Inc.*, 718 F. 2d 1075, 1078, 219 U.S.P.Q. 679, 682 (Fed. Cir. 1983). See also, *Unisplay, S.A. v. American Electronic Sign Co. Inc.*, 69 F. 3d 512, 36 U.S.P.Q.2d 1540 (Fed. Cir. 1995).

82. *Panduit Corp. v. Stahl Bros. Fibre Works, Inc.*, 575 F.2d 1152, 197 USPQ 726 (6th Cir. 1978)

83. *Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538, 1577-78, 35 USPQ2d 1065, 1069 (Fed. Cir. 1995) (in banc), cert. denied, 516 U.S. 867 (1995)

84. *Fromson v. Western Litho Plate & Supply Co.*, 853 F.2d 1568; 7 U.S.P.Q.2d 1606 (1988)

85. *Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970)

ensor as a generator of sales of his non-patented items; and the extent of such derivative or conveyed sales;

The duration of the patent and the term of the license;

The established profitability of the product made under the patent; its commercial success; and its current popularity;

The utility and advantages of the patent property over the old modes or devices, if any, that had been used for working out similar results;

The nature of the patented invention; the character of the commercial embodiment of it as owned and produced by the licensor; and the benefits to those who have used the invention;

The extent to which the infringer has made use of the invention; and any evidence probative of the value of that use;

The portion of the profit or of the selling price that may be customary in the particular business or in comparable businesses to allow for the use of the invention or analogous inventions;

The portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer;

The opinion testimony of qualified experts;

The amount that a licensor (such as the patentee) and a licensee (such as the infringer) would have agreed upon (at the time the infringement began) if both had been reasonably and voluntarily trying to reach an agreement; that is, the amount which a prudent licensee - who desired, as a business proposition, to obtain a license to manufacture and sell a particular article embodying the patented invention would have been willing to pay as a royalty and yet be able to make a reasonable profit and which amount would have been acceptable by a prudent patentee who was willing to grant a license.

Most of the factors cannot be as-

certained, especially in a new product scenario. Moreover, close parallels or yardsticks may not be available that can be used to rationally assess the probable performance of the new product. Evaluating the damages to a patent holder in a patent infringement is a very challenging case. This is because the profits accruing to the infringer from the product is a result of both the product and the infringer's marketing efforts. From this view point, our proposed framework can be used to ascertain this. Another interesting case of infringement involves two competing brands, both of which are more or less similar versions of the same new product idea, but one of which holds a proper license and the other is an infringer. The challenge here is to use the actual sales growth of the two brands happening in parallel and evaluate the sales growth that would have happened for the proper licensee in the absence of the infringer. For this, the proposed framework can be used in conjunction with the diffusion models such as Krishnan, Bass and Kumar (2000).<sup>86</sup>

#### 4.2.2 Copyright Law

In copyright law, an infringer of a copyright is liable for either the copyright owner's actual damages and any additional profits of the infringer or statutory damages.<sup>87</sup> The section describes in detail how "additional profits of the infringer" are to be ascertained and also the manner in which the copyright owner can discharge his burden of proof. The section also provides for increased statutory damages for willful infringement and the circumstances

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86. Krishnan, Trichy V., F.M. Bass and V. Kumar (2000), "Impact of a Late Entrant on the Diffusion of a New Product / Service," *Journal of Marketing Research*, Vol. 52.

87. 17 U.S.C. § 504

88. 17 U.S.C. § 504(c)(2)

89. 17 U.S.C. § 114

90. 17 U.S.C. § 115

91. 17 U.S.C. § 116

92. 17 U.S.C. § 118

93. 17 U.S.C. § 801

under which statutory damages may be remitted.<sup>88</sup> The Copyright Act also contains provisions for statutory licenses of sound recordings,<sup>89</sup> compulsory licensing of nondramatic musical works,<sup>90</sup> and negotiated licenses for public performances by means of coin-operated phonorecord players.<sup>91</sup> The Act also provides a limited exception to antitrust laws in respect of noncommercial broadcasting of certain works<sup>92</sup> and facilitates collective negotiation by copyright owners. The Librarian of Congress is also authorized to appoint and convene arbitration royalty panels to make determinations concerning the adjustment of reasonable copyright royalty rates and guidelines have been provided to such a panel.<sup>93</sup> In establishing a Panel, the Act seeks to achieve the following objectives:

- afford the copyright owner a fair return for his creative work and the copyright user a fair income under existing economic conditions; and

- reflect the relative roles of the copyright owner and the copyright user in the product made available to the public with respect to relative creative contribution, technological contribution, capital investment, cost, risk, and contribution to the opening of new markets for creative expression and media for their communication.<sup>94</sup>

The model that we suggest here, with necessary modifications, can be utilized to arrive at a royalty that achieves the objectives listed in the Copyright Act.

#### 4.2.3 Trademark Law

The Lanham Act provides that for violation of any right of registrant of a mark, he can recover the infringer's profits or any damages sustained by the registrant. The registrant need prove only the sales of the infringer after which, the burden shifts to the

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94. 17 U.S.C. § 801(b)

95. 15 U.S.C.A. § 1117

96. The six states are New Jersey, New York, Pennsylvania, Tennessee, Texas and Wyoming.

97. Section 3 of Uniform Trade Secrets Act

infringer to prove all elements of cost or deduction claimed.<sup>95</sup>

#### 4.2.4. Trade Secret Law

It is mostly state law that governs trade secrets. Forty-one states have enacted laws based on the Uniform Trade Secrets Act (UTSA), model legislation drafted by the National Conference of Commissioners on Uniform State Laws. Alabama and Massachusetts have laws not modeled after UTSA. Six states protect trade secret rights under common law.<sup>96</sup> Under the UTSA damages can include both the actual loss caused by misappropriation and the unjust enrichment caused by misappropriation that is not taken into account in computing actual loss. In lieu of damages measured by any other methods, the damages caused by misappropriation may be measured by imposition of liability for a reasonable royalty for a misappropriator's unauthorized disclosure or use of a trade secret. In their Comment, the Commissioners observe that "as an alternative to all other methods of measuring damages caused by a misappropriator's past conduct, a complainant can request that damages be based upon a demonstrably reasonable royalty for a misappropriator's unauthorized disclosure or use of a trade secret."<sup>97</sup> In order to justify this alternative measure of damages, there must be competent evidence of the amount of a reasonable royalty.<sup>98</sup>

#### 4.2.5. Reasonable Royalty Determination

We find that determination of reasonable royalty is required in patent infringement cases, trade secret misappropriation cases and compulsory licenses under Copyright Act. The laudable objective is to compensate the owner for the loss occasioned by the improper use by the infringer. Expert evidence is permitted to help the court determine reasonable royalty. It is natural for competing sides to adduce expert testimony that would bolster its side

leaving to courts the unenviable task to electing to accept the testimony of one set of experts over the other or collating pieces of testimony from the gamut of experts to support the court's decision. Our framework, on the other hand, breaks down the entire process into verifiable and quantifiable elements making it easy for the courts to merely identify the contribution of contending parties and apportioning the profits proportionately.

#### 5.0 Conclusions and Directions for Future Research

Introducing new products is the major effort many companies undertake in order to win new customers and establish new markets and thereby improve shareholders' wealth. However, ideas for new products and the new products themselves are mostly licensed from outside parties such as individual inventors and other companies. Thus licensing of new products has come to occupy an important place in the current commercial world. While licensing laws in general have evolved over years to address many issues a licensor and a licensee may face in the post licensing stage, the prospective licensors and licensees have very few precedents to turn to.

In this paper, we first described why licensing of new products can become a thorny issue in discussions. We basically argued that the success of any new product is a result of the product's intrinsic value to the target customer and how the licensee effectively makes the customer get to know, understand and appreciate that value. Thus, we showed that, it is the combination of the product's utility and the marketing efforts that should determine the outcome, and hence the royalty determination should be based on these two. Next, we proposed a modeling framework where we classify the new products into four fundamental types and use that classification to describe the different types of marketing efforts that are needed for the different stages of the consumer adoption process. This framework enables us to break

down the marketing efforts into different elements, explain the role of licensor and licensee for each of those elements and bring out the overall importance of each element in the final outcome. We further extended this framework to show how one could derive the impact of marketing efforts on the market level sales growth of the new product. This breaking-down of the required marketing efforts is the key to solve many of the problems arising in royalty negotiation. To stress this unique contribution of the framework, we next described in detail a few licensing issues typically encountered in royalty determination discussions and patent infringement cases, and showed how our proposed framework can be used to address those issues.

We strongly believe that the framework proposed in the paper will go a long way in addressing many of the issues companies typically face in royalty negotiation. This framework can also be used as a benchmark by the licensor and the licensee to structure the marketing aspects of the licensing contract and to determine the royalty. The framework can also be utilized by courts of law while determining 'reasonable royalty' in infringement actions. Since the framework is based on the necessary ingredients required to maximize commercialization of a product, its use to craft royalty will enable licensors and licensees to avoid many of the pitfalls that usually result in wasteful litigation. We should however caution against a blind application of the framework without fine tuning the various elements described at various places in the paper.

It should be noted that our proposed framework does not make any distinction between the various types of IPR involved, namely, copyrights, trade secret, trademarks and patents. One suggested direction for future research is to focus on each of these IPR types and develop a modified version of the framework for each. A second direction for future research will be to identify the conditions that are unique to vari-

98. Comment to Section 3 of Uniform Trade Secrets Act.

ous industries, namely, chemical, electronics, automobiles, etc. and modify the proposed framework accordingly for each field. Licensing is a discipline that requires collaboration among professionals from various fields like engineering, medicine, finance, accounting, marketing, and law, depending on the subject matter of licensing. Inputs from professionals on their respective fields are essential to achieve an optimum final outcome. Our framework focussed on the inputs to a licensing situation from a marketing and legal viewpoint. A possible third direction could be for research papers advocating frameworks that accommodate viewpoints of professionals from other fields.

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