Introduction

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Undoubtedly, intellectual property management ('IPM') is quickly becoming an important aspect of corporate strategies in a growing variety of markets. In fact, the term IPM has achieved almost buzzword status and is applied by groups as diverse as law firms to private-research organizations. Such indicators show that IPM is moving to the forefront of corporate interest, including in the biotechnology sphere. Of course, as a term becomes more broadly used, its meaning can be diluted. This part examines what IPM means in light of innovators' need effectively to manage intellectual property (IP). The following three chapters will look at aspects of IPM and attempt to offer a broad-view approach to the issues related to its adoption in IP intensive innovation systems. Jointly, these chapters provide us with indications about the state of the art in IPM, and draw important linkages between it and IP. A common theme that runs through the chapters is the fact that although IPM is a frequently used term, not everyone who utilizes it ascribes it an identical meaning. IPM is not accompanied by an authoritative definition, and is therefore open to interpretations that are context and user dependant. Although each author will discuss IPM individually, we accept as a general statement that IPM refers to a strategic application and ordering of intellectual property rights ('IPRs') within an organization. The management strategies used by organizations evolve to facilitate the utilization of IPRs to achieve a specific, defined goal set by an organization. As the nature of institutions applying IPM will differ greatly one to another, so will the goals set by each. This in turn means that the IPM strategy will also differ. The result is that IPM can have many faces, and for this reason it can be hard to give a consistent definition, or a consistent set of illustrations drawn from the practical uses of IPM in the organizations.

The first chapter is by Patrick Sullivan, a leader in IPM and one of the first people in the world to develop and implement IPM strategies. Sullivan provides us with a primer on IPM offering a consistent grounding in the issues that supports all subsequent discussion of the topic. As a starting point, Sullivan points out that IPRs are tools. Although the popular discourse often attributes certain outcomes to individual IPRs,

the reality is that how one exercises one's right of IPR ownership is the outward manifestation of the strategic interest held by the IP owner. In this respect, IPRs are tools for strategic management, rather than being ends in themselves. As Sullivan makes clear in his chapter, an important starting point for IPM is to understand that IPRs are not the foreground, but will instead be subsumed in broader interests that structure the organization's overall management strategy.

Sullivan also explains the ways that one can find IPRs implemented. He acknowledges the many values that may be attributed to IPRs and explains that the value which IPRs represent to a particular corporation will be directly influenced by the goals of the organization. For example, IP can be managed in a way that is an explicitly offensive strategy, or the converse can be true and the approach will be defensive. Organizations will test the waters with new IP to find its value within their strategic purposes, which is one way that organizations can gain a sense of the accountable value of the IP assets. This is a key concept of IPM. Each firm that engages in IPM will design its strategies to promote its internal goals. Varying goals necessitate varying applications of IPR tools, so that no two corporations are likely to apply identical IPM strategies. For this reason, IPR tools will have different values to different corporations. For example, the IP may have revenue value, it may have a role in cost-reduction or strategic positioning value. There can also be regional differences if, for example, one takes the North American context in which IP is sometimes treated as if it were a substitute for cash, whereas in the European Union IP is often characterized in a social networking vein. Thus, IPRs that are not particularly useful to the internal workings of corporation A may glean significant value for the organization if they are licensed out to corporation B, that has a great need of the IPR. Thus, IPM is not merely about remaining internally focused. External relationships between corporations can be vital.

These themes continue through the chapters that follow. Sharon Oriel, who has been involved in corporate IPM for many years, including 30 years at Dow Chemical, offers an example of the difficulty that is posed when an IPM term must be defined. She notes that confusion occurs even amongst IPM professionals, and yet in order for effective discourse to occur it is crucial that IPM terms be commonly understood. For the particular context in which she was anchoring her remarks – the biotechnology industry – this turns out to be very important because biotechnology firms tend to have a common profile, and that means the culture of a firm or the entire sector will have a significant influence on the IMP strategy that will be applied. Oriel characterizes biotechnology firms as being small, start-up organizations with a single product with no interest in diversification but

which are keenly aware of the need to establish competitive advantage. In biotechnology firms, science tends to be paramount, but the business aspects of the firm take a back seat.

What impact on IPM do these traits of biotechnology firms have? First, because of their small size and relative newness, biotechnology firms are often principally concerned with cost management issues. The result is that biotech IPM often emphasizes small-scale IPRs (for example, national patents rather than global patent portfolios achieved through PCT patent filings). Players within this sector are also often engaged in heated disagreements about issues of ownership and ethics relating to IPM strategies and thus, although IPMs applied in this sector are all likely to be small in scale, they will be diverse as regards the level of enforcement and retention of IPRs.

A further consideration for the average biotechnology company involves considerations of value. As Oriel states, a biotech firm is responsible for delivering value to its stakeholders. This is another instance where clear definitions are crucial. The shift in terminology away from 'shareholder' is deliberate. It is indicative of Oriel's view that many companies see themselves as having not only obligations to shareholders, but also obligations to a broader community of interests. In this respect, there is an expansion beyond the narrow group of parties who hold shares in a company to the wider group of parties who have an interest in the company's ability to achieve success. In a limit case, one can perhaps imagine groups such as CAMBIA, or some other kind of open source organization, explicitly inverting the order from stakeholders to shareholders.

In the final chapter in this part, Karen Durell and Richard Gold move away from the specifics of particular IPM strategies that may be adopted, which is the main focus of Sullivan and Oriel. Instead, Durell and Gold focus on the scope of the strategies themselves. The authors identify three different general IPM strategies – firm-centric, firm-networked and non-firm. Durell and Gold offer examples of the present application of firm-centric and firm-networked IPM, which are common. They argue that IPM is poised to expand to include a non-firm approach, an option that is not bound to function within either a firm internally, or inter-firm relationships.

A non-firm approach has the potential to shift the foundation of IPM goals to a wider sphere of organizations, those that participate in a common market or sphere of innovation, which in turn has the potential to spur innovative uses of intangibles. Actions undertaken within a system of innovation, rather than a single firm, cause the organizations within the system to set a common goal and to create relationships that will aid in the attainment of that goal. An implication of moving IPM beyond the

boundaries of the traditional firm may be that the pool of decision-makers would expand to include policy-makers at the industry and government levels. This change could widen the range of IPM tools available, so as to encompass public policies, industry practices, international treaties and the regulatory environment. The goal of dynamic IPM may be stated as competition through cooperation. Moreover, non-firm IPM can alter the value of IPRs, as their use and potential for bundling are augmented in a wider sphere of management. Durell and Gold provide several examples, from the biotechnology sphere as well as other sectors, of firm-centric and firm-networked approaches. These are used to compare and contrast existing IPM approaches with the potential represented by non-firm IPM.

In summary, these chapters provide an overview of IPM in biotechnology and a suggestion of the future progression of strategies in this field. As a relatively new corporate tool IPM has much room for growth and the authors attempt to point out how it may flourish in the biotechnology sector. As a final comment on the part, it is worth noting that several common themes ran through all of the chapters. Foremost amongst these is the observation that the category of intangible assets includes more than just intellectual property. For this reason it is crucial that an IPM strategy identify which intangibles it will address – for example tradeable IP, or non-tradeable business practices and culture. All of the speakers also agreed that firm culture has a significant impact upon IPM and will shape the strategies as it influences the goal of an entity. Linked to this issue is the fact that IPM should remain open to new methods and not become static. Open source initiatives may be an example of a progression which can be integrated into IPM and may therefore merit further consideration in firms previously not inclined to take open source seriously as an option. Particularly as non-firm entities become more important players, it will be important for firms to consider the full range of options they have available for valuing and managing their intellectual property assets.