Proposal for further Thought

‘Study into the interplay of patents and business models’

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Key Take Away

AI systems label a specific model of innovation that benefits from a wide range of contributors; be they inside or outside the firm. The role of an adequate patent strategy as an organizational principle of this type of ‘networked innovation’ remains yet to be adequately understood. In AI, business thrives because of the interconnected framework in which it is embedded in.

The technological transformations enabled by AI have triggered drastic modifications of the nature of economic exchange. These have made novel ways of doing business possible; not necessarily by owning devices protected by patents, but by owning access to a multitude of devices and facilitating easy interaction and exchange between them. Hence, the classical value proposition, whereby a single invention is protected through a patent and by consequence its owner has the right to exclude third parties from accessing it, may insufficiently capture the

many business opportunities provided by patents. It will hence be necessary to study at greater length the peculiar business models that AI offers and what role patents can play in these.

The new economic context of AI asks for a differentiated governance structure that assures in particular the functioning interplay between patents and the type of business models that are afforded by AI. Against this background, this proposal suggests that the interplay between IP and the business model needs to be further studied, so to enhance the competitiveness of British industry.

The Novel Business Framework Provided by Artificial Intelligence

AI is still at its early stage and the opportunities it can offer have not even been seized yet to its full extent. At present, we do not even know the many different creative ways in which entrepreneurs will take AI forward. Entrepreneurs are experimenting with leveraging the AI in areas as vast as fashion or primary healthcare. Which businesses will ultimately prove to be viable remains still to be seen. AI is also big business. Investors expect growth rates as high as 20%.

In AI it is not the single device that creates value, but the ability to connect a sheer infinite number of devices with each other. The worth relies in the continuous expansion of the connection. It is the interconnectivity that creates value, not just the simple ownership of a single device.

At present, most connected devices or telecom networks are controlled by humans. However, a key feature of the AI is that devices will be controlled by other devices (the controllers). These again can be classified in various ways, so to reflect the specific features of the controller. In the networked architecture of the AI various devices are at the same time receivers and suppliers of information; making it increasingly difficult to untangle the net of who provides and who receives proprietary technology and who adds value to the technology.

As such, Artificial Intelligence is a prototypical technology space, where Small and Medium Sized Enterprises (SMEs), universities and their spin-outs as well as big corporations alike could constitute a fruitful innovation ecosystem. All these players could thrive in the spirit of collaborative exchange, so to collectively re-invent the future of society, provided that adequate foundations are set for the role of patent strategy within the context of AI.

The Role of the Business Model

At its simplest form, a business model consists of generating value for somebody else. In return one receives some sort of compensation that allows to keep oneself going. How much one adds value to someone else's undertaking and how much one can request in return for this service or product offering, differentiates a strong business model from a weak one.

This understanding of a business model is commensurate with the findings put forward in the academic literature, which argue that the main elements of the business model are the creation of value and the implementation of strategy to capture revenue from the established value. As such, the business model can be seen as a mediating structure between a host of different input factors and various economic outputs. The success of the business model relies on its adequate appraisal of the market environment.

The internal dynamics of a business model rely on two key elements: value creation and value appropriation. The business model establishes the organizational, procedural and operational means by which a firm creates and appropriates value in its target market.

Value creation involves *all* of the resources and processes deployed towards the achievement of a given strategy. In that respect intellectual property can be a key internal resource a company can rely on. Value appropriation again describes the revenue logic of the firm's operations. In all of these aspects, IP can play an important role.

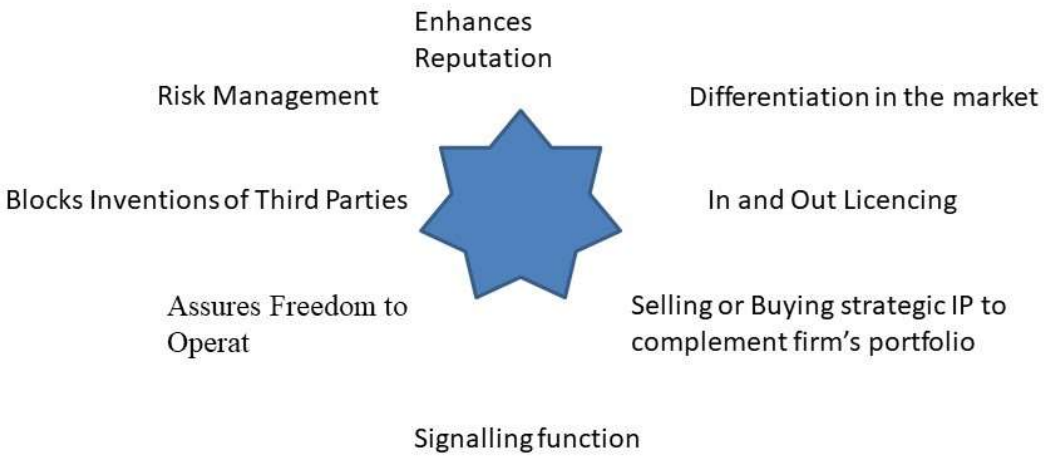
While these insights are generally established in the field of management, they have so far found insufficient application in the area of patent law. This is somewhat astonishing, as business model innovations have been at the core of the very technological revolutions that intellectual property is supposed to protect.

Applying a Business Model to IP

The existing body of IP management suggests that patents can be used to block other market participants from entering the market, but they can also serve to enhance the firm's reputation. Patent attorney often emphasise on the strategic function of patents to assure a firm the freedom to operate.

Other than the important signalling function that IP can offer, it can also be an instrument of revenue generation. Often, this is achieved through the licensing and sales of IP.

The Business Function of Intellectual Property



Source: OxFirst research

From the lens of the business model, the way patents can be instrumentalized can be categorized into three broad areas.

1) Competition management

2) Marketing Function of Patents (together with other forms of IP)

3) Generating Income from IP (together with other forms of IP)

While in the first two approaches the IP serves primarily to protect and enable a business model based on the delivery of products or services, it is the third approach that allows to most closely associate patents with a business model.

If the patents are being used for keeping competitors at bay or for enhancing a firm's perception, then the patents are not directly used to drive business. Rather, it assumes a support function. *It is only when the patents become subject of the business activity in itself, that one can speak of an IP business model.*

In these instances, the business model centres around the patent itself and allows to establish a corporate function for patents that can be detached from the trading activities of the company per se. Trading on the grounds of patents assets can have several advantages. For one, it is much less costly and complicated to ship intangible assets around the planet. For two, the trade in the underlying rights to a technology can enable a firm to enter into joint ventures, collaborative exchange or other forms of open exchange, while foregoing the many hassles associated with a full fletched merger or acquisition.

Why one cannot ignore the IP business dimension

Developing strategic relations on the grounds of patents (jointly with other forms of IP) can be much easier to achieve than on the basis of tangible items. This is explained by the nature of patent rights. With the further differentiation of business models afforded by AI, I tend to believe that companies will be forced to consider more thoroughly what type of business goals they would like to achieve through their patents.

This requires a more systematic investigation into the business proposition of patents within the context of AI. At present, there is too much intellectual property gathering dust. In the current crisis, firms simply can't afford to continue doing so.

Against this background, it is suggested to study the following issues further:

1) Valuation of IP for business strategy purposes
2) Further research into the business models of AI and how they relate to patents
3) Establishment of a typology of business models made possible through patents.
4) Preparing further guidelines for IP driven business models in the context of AI (in particular for UK SMEs, which know not an awful lot about IP)