



Assessing the performance of open innovation practices: A case study of a community of innovation



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ABSTRACT

The field of Open Innovation (OI) has been explored in many studies concerning several aspects of its fundamental characteristics. Research has mainly focused on the capability of companies of integrating and reconfiguring external and internal knowledge to create value. Increasingly, academic investigation efforts and practical needs of many companies have converged in a common purpose: to find out those proper Intellectual Capital (IC) elements capable of acting as key drivers of OI practices.

The purpose of this paper is to develop and implement an innovative managerial methodology, by means of a case study carried out in a Community of Innovation of the Italian leading group operating in the Aero-Space & Defence industry. The proposed methodology aims at assessing the performance of OI practices conducted by a Community of Innovation and at advising the proper allocation of IC resources within the value creation process. The described case study has made it possible to verify the capability of the methodology of pointing out areas of advantage and disadvantage in the value creation process and of singling out those particular activities to be leveraged in order to increase the performance of OI initiatives.

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1. Introduction

The notion of Open Innovation (OI) has been illustrated in a well-known book, published almost a decade ago, where the author explained the limitation of the usual closed innovation processes adopted by firms to generate profit [21]. In the light of the radically changing business environment [21], suggested firms to commercialize external and internal ideas by deploying outside and inside pathways to the market. From then on, the field of OI has been explored in many studies concerning the notion itself, business models, organization design and boundaries of

the firms, leadership and culture, tools and technology, intellectual property, and industrial dynamics and manufacturing [10,20,38,56,115].

Another vein of investigation has been grown since the first results of research about knowledge creation and its organization and development within firms [85,86]. Competences, skill, intellect, and brainpower activity, which make use of knowledge to create value, have been first proposed as Intellectual Capital (IC) components by Ref. [44], who affirmed that a company could create differentiated advantages by means of IC. Currently, the importance of IC has been widely acknowledged by scholars and corporations and has been recognized as one of the fundamental contributions to the firm value [4,76,99]. In addition, the concept of “perceptual synthesis” of knowledge [52] has shortly opened the way to knowledge external networks, through which knowledge may be

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communicated or conveyed, and reinforced the role of internal networks, through which knowledge may be distributed within the organization [22,49,53]. As a consequence of this change of mind about the potentiality of knowledge, companies have been requested to develop dynamic capabilities of integrating and reconfiguring external and internal knowledge stocks and flows in a process of new knowledge creation leading to OI [13,16,43,104,117].

Different ways of dealing with OI as for level of integration, organization and types of governance have been carried out [105,107]. In particular, business management studies have suggested that hierarchical organizations based on the command-and-control managerial mindset have to be replaced with networked, specialized, non-linear, emergent and self-organizing groups [19,59]. Many communities have originated directly from the access to information and communication through social networks of the Information Age, gradually progressing from individual perspectives to creative groups [114]. Soon, Communities of Practice and Communities of Innovation (Cols) have become the major real building blocks significantly important to creating, transferring, and applying organizational knowledge and to reconfiguring their flow of knowledge assets in co-evolution with competitors, customers, and suppliers. In recent times, many companies have considered the competition based on knowledge and innovation as an effective strategy to be successful in the global market and have promoted knowledge management initiatives to increase the value of their performance [58]. Cols have demonstrated to have all the characteristics of becoming resourceful organizational structures to support the developing of open innovation [113]. More recently, research works and practical needs of many companies have converged in a common purpose: to find out those proper IC elements – obviously varying according to the fields of activity – capable of acting as key drivers of OI processes. Also, it seemed to be important for companies to have the possibility of assessing and testing Cols' OI effectiveness at different points of the implementation process.

The purpose of this paper is to develop, through a case study implemented in a Col-based organization of the Italian leading group operating in the Aero-Space & Defence industry, an innovative managerial methodology able to support firms' Cols to assess and sustain the value creation during the OI implementation process. The aim of the presented methodology is to verify the capability of a Col of improving the value creation process by means of OI initiatives based on IC resources.

This paper is structured as follows. In Section 2 the literary review is presented. The research methodology is illustrated in Section 3. In Section 4 the case study is developed and discussed. Finally, Section 5 concludes and discusses the implications and limitations of the paper.

2. Literature review

The theoretical base of the methodology developed and applied to the analysed case study refers to three relevant research fields, usually considered as separate veins of investigation: IC, OI and Cols. There should be no need in

the following of the paper to provide a comprehensive treatment of the above cited subjects, yet it seems appropriate to give a brief account of their study advancement as they are strictly correlated in the present work. Innovation, as many authors affirm, should not be thought of as the product of dramatic discoveries or the moment of an accidental inspiration, rather, as the result of a prolonged experimentation, a logical extension of the use and refinement of an existing technology or else a response to changes in surrounding environment [1,9,91]. Therefore, it seems possible to say that innovation originates from the capacity of combining ideas and people to create “objects” [54], as that of the primary cultural processes that produced invention. Both innovation and invention can be made by fortuity or by intentional research, they are adopted by others if they are useful, and, more importantly, they spread rapidly.

In the light of the above considerations and moving to our research fields of interest, it is possible to consider ideas as knowledge resources (in literature also referred to as IC, intangible assets, or intangibles), and people as human resources, the two of them joined to develop innovation, in some cases by the support of particular groups of people, called Cols.

2.1. Intellectual Capital

The transition towards a knowledge-based economy has caused the business model undergo a major change. Knowledge base for innovation process has become broader and more complex by considering intangible assets as competitive resources. Intellectual property rights, trademarks, certain information technologies, networks with external stakeholders, and “skills” in terms of capabilities, employee competencies, routines and culture, they all are counted among intangible assets. Following the almost unanimously shared classification defined by some authors [37,89,102,103], the intangibles assets have been named Intellectual Capital. IC can be described as the economic value of three categories of intangible assets: the human capital, which represents the skills and competences, generated and owned by individuals; the structural capital, which includes the available capabilities and the acquired knowledge mastered by the organizational structure itself; and the relational capital, which relates to all the external relationships with stakeholders [30,48].

Since the first results of research about knowledge creation, organization and development [47,85,86] it has been clear that IC would have given fundamental contributions to the firm value chain at every level [4,76,99].

Some peculiar elements of organizational IC have been characterized and intensely analysed by several articles and studies for their quality of essential value drivers, [29,35,50,65,81]. Also, many efforts have been done in the attempt of at least assessing, if not measuring, the factual components of IC in the organization performance, in consequence of the fact that for their intrinsic nature, intangibles cannot be represented on the balance sheet [12]. These IC elements are likely to increase the future value of the company in general, and its innovation capacity in particular [17,36,79,96,100]. Therefore, firms need to

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