Chapter 2
Intellectual Capital of the European Universities

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ABSTRACT

Universities and churches are among the oldest institutions of the world. Their longevity is a direct result of their impressive intellectual capital, mostly the spiritual and emotional intellectual capital for churches and cognitive intellectual capital for universities. The purpose of this chapter is to present the main issues of defining and evaluating the intellectual capital of the European universities, and what are the challenges for university leadership to transform this intellectual capital into a competitive advantage on the European and global arena. The authors present the most significant intellectual capital models developed so far and the way some of them have been applied to universities. Finally, they present the entropic intellectual capital model as being the newest and the most powerful one. This model is based on a multilayer structure and on the multi-field organizational knowledge concept. The model is based on the theory of integrators that are powerful fields of forces acting upon the organization members in order to create synergy and performance.

INTRODUCTION

It is interesting to remark the fact that *Churches* and *Universities* are the oldest institutions of society. Even if they changed themselves during their long history, they prove to have some special characteristics that no other organizations may have. These characteristics come from their impressive intellectual capital. Churches have especially a huge spiritual intellectual capital, while universities have a huge cognitive and intellectual capital. Although there are no computations made

so far, we may safely say that universities contain the highest density of cognitive intellectual capital among any other organizations at a given historical time. Unfortunately, most of this intellectual capital is found as a potential, and only a fraction of it transforms into operational intellectual capital as a result of the work of integrators (Bratianu, 2011a; Bratianu, 2013; Bratianu & Orzea, 2012; Bratianu & Orzea, 2013; Habersam et al., 2013; Lu, 2012; Sanchez et al., 2007).

The University of Bologna, probably the oldest European university, began to shape its community

of students and professors in 1088. The fame of the university has been growing continuously due to the great thinkers and scholars who came to learn and teach here, like Pico della Mirandola, Leon Batista Alberti, Paracelso, Albrecht Dűrer, Torquato Tasso, Luigi Galvani, Alessandro Volta, Benjamin Franklin and Henry Cavendish. In June 1999, Bologna University became the center of gravity of the European Higher Education due to the famous event of launching the *Bologna process*, aiming at the creation of the European Higher Education Area. Among the oldest European universities we have to mention also the University of Paris, often referred as the Sorbonne University, University of Oxford, University of Cambridge, University of Montpelier, University of Padua, University of Salamanca, and University of Coimbra. For many of them the exact date of birth is rather unclear, but their existence in those medieval times has been attested by many documents. They were communities of professors and students who decided to create a learning framework based on knowledge transfer from those with a higher level of knowledge and understanding to those with a lower one. Their common characteristic is given by a high level of cognitive intellectual capital resulted from the integration of all individual knowledge, intelligences and cultural values of all the professors and students who enrolled in these new social institutions.

The concept of *intellectual capital* is a semantic extension of the well-known economic concept of *capital*. Due to its tangible (i.e. capital), and intangible (i.e. intellectual) semantic roots, its semantic dynamics, its metaphorical interpretations, and from the large spectrum of meanings attached to this concept in different organizational contexts, the concept of intellectual capital is fuzzy (Andriessen, 2004; Andriessen, 2006; Bratianu, 2009a; Bratianu & Orzea, 2013; Edvinsson & Malone, 1997; Stewart, 1997; Sveiby, 1997; Sullivan, 1998).

Among the pioneers of the intellectual capital research, the names of Chamberlain, Robinson, and Penrose come frequently in the literature (Roos & Pike, 2007). However, the momentum for its significant development came with the publication of the seminal books by Brooking (1996), Edvinsson & Malone (1997), Roos et al. (1997), Stewart (1997), and Sveiby (1997). The "Intangible Asset Monitor" (Sveiby, 1997), and "Skandia Intellectual capital Navigator" (Edvinsson & Malone, 1997) became the driving intellectual capital models, reflecting primarily a static, deterministic and linear thinking patterns (Bratianu, 2007a). In these pioneering models, intellectual capital is conceived as a *stock* based on the metaphor of tangible assets, and having as a source domain the economic concept of *capital*. The deterministic characteristic comes from the operational management where decision making is based on existing tangible resources, low entropy, and well defined organizational processes. The linearity dimension comes also from the tangible world, where the original concept of *capital* has been defined. As demonstrated by Bratianu (2009), the defining rules of a linear mathematical space cannot be satisfied by the semantic domain of the *knowledge* concept, which means that the knowledge field and the intellectual capital field are strongly nonlinear.

A step forward has been done by considering knowledge and the intellectual capital as *flows*, or as *stocks and flows* (Alcaniz et al., 2011; Andriessen, 2004; Edvinsson, 2002; Nissen, 2006). According to Andriessen (2004, p. 68),

The concept of intellectual capital stocks and flows creates an interesting new perspective on organizations. We can describe organizations as a dynamic system of financial, tangible, and intangible stocks and flows.

Among many attempts of developing new perspectives on the intellectual capital models, we

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