Journal of Knowledge Management Application and Practice
An International Journal

http://dx.doi.org/10.18576/jkmap/020305

The Role of Intangible Capital in Economic Growth: Organizational, Regional and Personal Dimensions

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Received: 1 Aug 2020, Revised: 28 Sep 2020, Accepted: 22 Oct. 2020.
Published online: 1 Dec 2020.

Abstract: In this paper we analyse from a conceptual view but also with relation to some empirical evidence, how Intangible Capital (IaC) may be useful for individuals, organizations and regions in order to contribute to Economic Growth (EG). It is, in our opinion a very important question in the scope of the economy of the 21st century because we sincerely believe that Intangibles are the driving force of today's economy. We therefore first make a conceptual study on the importance of intangibles in today's world and after underline these assumptions with some very illustrative examples. We conclude that Intangible Capital Science is in fact a sparse and diverse set of knowledge across different independent academic disciplines such as Human Resource Development (HRD), Intellectual Capital (IC) and Knowledge Management (KM) just to name the more recent, but it is also being debated in some more traditional fields such as Social Policy (SP), Economics (Ecs) and Traditional Management (TdM). Furthermore, all those scientific branches, even when they are somehow difficult to follow by practitioners, decisively indicate that IaC has in practice and potentially the capacity to have major and positive impacts on EG through the mediation of individuals, organizations and regions. For practitioners this fact should be very important because IaC should become THE major cause of concern as an asset, and investment, a market, a policy field because it is today's main source of prosperity. For scholars, the consequence is that IaC science should become a more unified field, and authors should try to merge from their specific starting area to achieve a more comprehensive and large understanding of IaC themselves. We also believe this is one of the first papers ever that tries to make science of IaC in using the various six perspectives mentioned above and also within the three dimensions – individual, organizational and regional. Finally we expect that, due to its scope, in the future IaC science will be as important as economics, management or engineering are in the world of today.
Keywords: Intangible Capital, Human Resource Development, Knowledge Management, Intellectual Capital, Regions. Organisations. Individuals.

1 Introduction

In 2020, the relevance of IaC is beyond debate. With the advent of the technologies of information (IT) in the last two decades the world entered an "Information Age" or a "Knowledge based and service led economy" (Tomé, 2011). In this context all the data available point of to the importance of IaC as a major factor of prosperity as we will see in fourth section of this paper. However the question of IaC requires in depth examination. Intangible Assets have become the centre of thousands of studies and analysis every year. Too much information has been issued. And some broad analysis is needed to make sense of the phenomenon.

The research questions that guide this paper therefore are the following: What is Intangible Capital? At what levels should be IaC be analysed? What can be said concerning the impact of IaC in economic growth at those previously defined levels?

Accordingly this paper will be divided in six sections. In the first section of this paper we make a literature review about the concepts of IaC and economic growth. We will find out that IaC is analysed by at least six perspectives that complement themselves and that should be used on three dimensions – organizations, regions and persons. Afterwards, in the second section we describe the man theories that relate IaC with economic growth from those six perspectives, with organizations, regions and individuals. In the third section we define scales and indicators that might be used to analyse empirically IaC from those six perspectives. In the fourth sections we expose statistical data and empirical

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studies about the use of IaC in relation to organizations, regions and individuals, and in the scope of the six perspectives we defined early. In the fifth section we discuss our findings, and also point of the limitations and implications of our study. Finally in the sixth and last section we present the paper's conclusions and suggest inroads to continue with some future research.

2 Literature Review

Concepts

The most important step in this paper is to define Intangible Capital. In our opinion IaC includes a series of variables that characterize people, organizations and nations. In this paper we consider IaC everything humans, organizations and nations, might have that is important to define the value and performance and that is "not touchable" and also "non-monetary" (following Tomé, 2012). More specifically IaC can be defined as education, training, learning, work experience, skills and competences, and talent or other non-observable attitudes and characteristics and in this case we are in the domain of HRD (Gibb, 2008, Hamlin and Stewart, 2011).

However if we consider IaC has been related to Knowledge we are in the field of Knowledge Management (KM), with all the models related to the knowledge cycle (Nonaka and Takeuchi, 1995), the creation of knowledge (Kianto, 2008) and the knowledge audit (Reinhardt, 2003); also emotional knowledge and spiritual knowledge are major issues (Bratianu, 2015). In the case of KM we consider IaC to be something fluid, and very much process related, KM having been famously described has having three phases – technology, human capital and processes (Edwards, 2011).

Finally Knowledge can be unlearnt (Cegarra Navarro, 2005). Furthermore if we think that IaC deals with the strategy of organizations and with the difference between their market value and the book value we arrive to the notion of Intellectual Capital (IC) (Edvinsson and Malone, 2007). The definition of IC is very diverse, but it relates to a stock and to something more stable than KM. The most common one considers human capital, structural capital and relational capital, that is, competences routines and brands (Edvinsson and Malone, 2007).). A new formulation of the concept (Kianto, 2016) considers seven types of constituents namely Human capital (employees skills, motivation, expertise), Structural capital (organization's information systems, tools, facilities, databases, documents), Internal relational capital (collaboration and mutual understanding within the organization) external relational capital (collaboration and mutual understanding with key external parties) Renewal capital(organizational creativity, learning and possession of up-to-date knowledge) trust capital (the climate of trust existing in intra-and inter-organizational relationships), and finally entrepreneurial capital (risk-taking, initiative and identification of new opportunities by the organization). IC can be seen as having to faces (the asset and its impact) and can also reported (Bornermann, and Lehner, 2002).

Also if we consider that the attributes mentioned in the three perspectives (KM, IC and HRD) can be purchased, demanded, supplied, funded and provided, this means that IaC has something like a market even if it is a diverse and complex one; and in this context we are analyzing IaC within an economic perspective; therefore in this fourth case we want to analyze the supply, the demand, the price, the quantity and the equilibrium and also the investment and the stock of IaC. This approach is based in Becker 1992 and Ashton and Green 1996. See Tomé and Goyal 2015 for an explanation of this methodology with an application.

A fifth formulation of the IaC concept lies on policies, laws, national programs, and organizational programs that may be used to foster and implement IaC; this formulation has lots to do with Social Policy (Smith and al, 2008) and with the Welfare States (Esping Andersen 1994); indeed one can defend that the hidden face of IaC are Welfare States following (Tomé 2008). Also and quite remarkably Garavan Mc Cahrty and Morley 2016 recently developed a very interesting methodology relating HRD in a national context to these issues. Finally, last but not the least the most basic, elementary and fundamental way of analyzing IaC is going back to traditional management and inquiring about the value for money – and in this case return on investment and return on equity are the most important indicators (Fitz-ezn, 2000. Bontis and Fitz-ezn, 2002).

Table 1 below summarizes this sub-section:

Table 1: The Concept of Intangible Capital according to six major perspectives of analysis.

Perspective	Basic Concept	Authors
HRD	Work related skills, competences, near Organizational Development (OD) and Coaching.	Hamlin and Stewart, 2011
KM	Knowledge as a cycle, something created, or audited, with emotional	Nonaka and Takeuchi 1995,

	as rational side, that has been evolving and can be unlearnt	Kianto, 2008, Bratianu, 2015 Edwards, 2011
IC	Determinants of difference between market value and book value of companies. Human capital, Internal relational capital external relational capital, renewal capital, trust capital, entrepreneurial capital	Edvinsson and Malone 1997 Kianto 2016 Bornermann, and Lehner, 2002).
Economics	Supply Demand Equilibrium Price Quantity Investment Stocks Market forces	Becker, 1992, Ashton and Green 1995, Tomé and Goyal, 2015
Social Policy	Welfare States, Welfare Societies, Laws, political regimes, actors, public programs, private programs	Esping Andersen, 1994. Tomé 2008 Garavan, McCharty Morley 2016
Management	Value for money, return on investment, return on equity	Fitz-zen, 2000, Bontis and Fitz.ezn, 2004

Source – Own work based on authors indicated in the third column

Economic growth

In economic theory economic growth is defined as the growth of the gross domestic product (GDP). Its opposite is recession, in the short run or depression in the long run. The sum of economic growth originates economic development which is measured by the GDP per head, economies being rated by the World Bank as low income, middle income or high income (World Bank, 2015). Other alternative measures of development relate to Human Development, analysed by the PNUD which includes also educational and health data in the scale (PNUD 2015). More recently the World Bank issued a Knowledge Economy Indicator (World Bank 2012) and finally much concern has been given to sustainable development following the Bruitland Report (WECD, 1987). The Economy of Economic Growth is one of the oldest branches in Economic theory, its analysis beginning at least with Adam Smith, whose masterpiece was "Wealth of Nations" (Smith, 2008). In the next section the relations that are known to exist between IaC and the GDP mediated by individuals, organizations and regions. This mediation should achieve sustained (long run) and sustainable (economic, social and environmental) development.

Levels of analysis

In the literature related to IaC organizations have been the focus of much research, namely in the fields of KM, of IC and of HRD. In these fields the research has been done essentially regarding companies, beginning with large companies (Garavan, 1991, Nonaka and Takeuchi, 1994, Sveiby, 1997) and then it was extended to public organizations (Cinca and al, 2003), SMEs (Steenkamp, 2010) and finally to regions (Dettori and al, 2012). In fact National HRD (Garavan, Morley and McCharty, 2016), Knowledge Economy Indicators (World Bank, 2012) and IC regional based studies (Bonfour and Edvinson, 2005) become more and more important issues even in this time of increased globalization and may be because of that – countries have to answer to globalization pressures and therefore the research focus becomes more national and with this concerns over culture and indigenous research also become more important. Having said that the first studies about IaC in the economy were done relating individual success to Human Resources, in the field of economics (Mincer 1958). And nowadays in the field of Social Policy poverty (Olssen and Peters, 2005, King and Schultz, 2009) and social exclusion (Brown and al, 2003, Stiglitz, 2012) are still decisive problems. Furthermore in the last years billionaires have become a major cause of economic debate (Darling 2014, Piketty, 2014) and important authors expressed concerns about the consequences of the unbalances to society (Stiglitz 2012, Piketty 2014). Therefore, and as a consequence we believe the analysis of the relation between IaC and economic growth has to be done analysing at least organisations, regions and individuals, which act as decisive mediators of that relation.

Theories on the relation between IaC and economic growth

Organizations

IaC is considered to have a very positive impact in organizations. Indeed, the major scientific approaches about IaC began to exist because companies and organizations were concerned about how to manage new assets – namely persons for HRD, knowledge for KM, and the mix between persons, routines and brands for IC. All the literature, in theory and in practice, about HRD, KM and IC is in fact about the best ways that may exist in order to use persons, knowledge, routines and brands to achieve organizational, personnel and societal objectives. Even if Taylorism in considered to be old fashioned and organizations to be living in a post-tayloristic way, some concerns about best practices which are reminiscent of Taylor's one-best-way remain current. Furthermore most of empirical cases seek to find first best practices or at least second best options for companies and organizations (Frost, 2015, Lervik, 2005); indeed, failure is much less analysed than success (Weber, 2007).

Generically IaCs should be sought by organizations because they originate better performance from those organizations. That performance is measured in outputs, value added, sales, employment, quality, exports, wages, profits even if some of the afore mentioned indicators may be conflicting (like employment and wages), and ultimately, in economic growth. The economic theories about IaC in organizations are based upon the Human Capital Theory paradigm (Becker 1993) and of course they tend more than any other theories to relate IaC in any form as defined in Table 1 to economic growth. In fact that posture has been criticized by its "economicism" and reductionism (See Discussion).

Traditional management theories analyse IaC in organizations from the basic perspective of ROI, ROE and short term profit, which in the long run and if it happened is a sustained way, would also generate economic growth. We must bear in mind that this one is a simplistic view but it is also very important for practitioners.

All the complexity just described just leads us to note that the biggest problem with IaC research in companies is that sometimes it is not easy to understand, and when it is easy to understand it has many caveats that make it impossible to replicate successfully (See Discussion).

Regions

The regional dimension of IaCs debates the links that exist between the main regional stakeholders in the flield of IaC (Bonfour and Edvinson, 2005). Those stakeholders are the Government, the regional authorities, the companies and other employers, the employees, the Educational and training sector, the families, the third sector, the civil society and also all external bodies that may have an impact in the region (Ashton and Green 1996). It is a very dense and complex set of relations that may be addressed as a market, set of laws, a culture, a system, an ecosystem, a cluster or an equilibrium, depending on the perspective we use. Fundamentally, each one of those stakeholders has it own IaC, and has needs about IaC, and wants to invest and to have some return from that investment. Therefore it is possible to make coalitions about IaC, which generate positive returns to scale (Schebesch, Tomé 2014). Those positive coalitions are similar to regional clusters that have been widely studied and analysed (Poyhonen and Smedlund, 2004; Artis and al, 2012).

Also the general level of IaC of stake-holders is important because different levels (low, medium, high) exist in societies (Ashton and Green, 1996, adapted). Namely there are societies with low levels of IaC in which the investment is low and the return is not easy; in these cases a vicious cycle regarding the investment in IaC exist. Before globalization and the internet that was the case of the developing world. Nowadays with IT capabilities it is possible to work for an organization based in a developed country and to live in a developing world but by and large those low equilibria still are a feature of poor countries and developing societies. Crucially, in emerging countries the vicious cycle of investment was broken and people began to invest because companies began to seek for them, and vice versa. This is the case for instance of Brazil, and China, two major potencies that are investing hard and creating a middle class of knowledge workers. Finally, in the developed world, so the 20 percent richest countries in the world, a virtuous cycle about IaC exist. People and organizations invest in their skills, and knowledge, they make businesses based on knowledge and they create strong clusters and groups based on IaC because they have IaC and they expect the society and their partners to have IaC. In fact in these leading regions and nations the problem is not to so much to have IaC but to upgrade and to be up-to-date; the situation is not easy because these societies are extremely dynamic and IaC are dynamic assets not static ones. Therefore, concluding, as a whole, IaC define the level of income, the jobs, the exports, and of course, the economic growth of each region.

Persons

The relation between IaC and persons is not so well studied, or at least not so well exposed in the literature (Tomé and al, 2014). However, the various forms in which IaC may be divided or addressed have all much relevance for the economic situation of individuals, and in consequence they influence economic growth. IaC has big social and economic implications for those individuals, being linked with wellbeing, poverty and also with extreme wealth, and in consequence being big determinants of economic growth. Indeed, individuals may be differentiated by their Human Capital, in which case the analysis belongs to the HRD spectrum.

It is well known that on average HC is positively related with bigger wages (Becker, 1962; Sahn, Alderman, 1988), better jobs (Heckman, 2000), and less unemployment (Lundvist and Sargent, 1998).

With the advent of the 21st century, Knowledge replaced HR in many analysis and the importance of individuals was not measured anymore in terms of competences (Bergenhenegouwen, 1996), but also in terms of knowledge (Grant, 1996), and the research went from how do you behave and what do you do well to what do you know and what do you do with your knowledge; also in terms of dynamics the idea of losing competences was replaced by losing knowledge (explicit and above all, tacit). Therefore individuals began to be value not only by what they were able to do but for what they know and for their contribution to the knowledge cycle and to the dynamics of knowledge (Nonaka and Takeuchi 1995, Kianto 2008).

The two analysis (HRD and KM) are of course parallel but the models and the fundamental concepts are different; and the consequence for this paper is more or less the same, meaning that the more competences and Knowledge an individual possesses the more likely he/she may contribute to economic growth. Furthermore, individuals also are valued by their strategic value for companies, and also they benefit by their strategic position within companies and societies for their own profit – therefore the IC that an individual possess in its multiple forms may accrue to organizations and regions, it may also add to the individuals themselves (Mura and Longo. 2012, Naidenova and al, 2015) and to economic growth. Summing up, the individual IC, HRD and KM has an impact in the situation of the individual himself, but also given that he/she works in an organization and lives in a region, also in that organization and that region. Therefore the possessors of IaC contribute to economic growth like no other individuals.

Finally, every individual should be concerned about what happens in the labor market regarding his or her IaC mix (Economic perspective, Becker, 1993; Ashton and Green 1996; Heckman, Smith and Lalonde, 1999) and also should be attentive to the policy programs and settings that may help him (Social policy perspective, Smith and al, 2008, and EC, 2010). And, in the end of the day, every individual will see his or her effort on IaC rewarding if the returns compensate the investment (basic management perspective Fitz-ezn, 2000). Markets, social policies and ROI can also influence positively economic growth.

Figure 1 describes the model we use and summarizes the last two sections on Concepts and relations between them:

Fig.1: Summary of the Model.

3 Methodologies

Considering the six perspectives mentioned in the previous sections, a summary of appraisal methodologies on IaC is presented in Table 2. To summarize, each perspective (column 1) is defined by a user (column 2), who has a problem (column 3). This problem is solved by looking at variables (column 4), using specific assessment methods (column 5), which have themselves been performed by the authors listed in the last column 6.

Table 2: Methods of Assessment of IaC.

Perspective	**User**	**Problem**	**Variables**	**Assessment Methods**	**Main authors**
Social Policy	Public administrator	Public good	Expenses, number of supported persons	Progress reports	EC (2010).
HR Economics	Human Resource Economist (Micro or Macro)	Market or Asset. Impacts on individuals,	Supply demand price quantity. Wages, employment, productivity. exports.	Micro: Control Group Macro: Supply and demand	Becker, 1993; Heckman, Smith and Lalonde, 1999.

		organizations or in the society	Income	methods. Input Output	
Management / Accountability	Private Manager Traditional Accountant	Impact on the organization	Profits	Return on investment (ROI) or ROE	Fits-zen, 2000
HRD science	HRD expert	Impact for the agents involved	Reaction Competences/learning behaviour, company outcomes.	Interviews, Questionnaire, Participant – Observer	Kirkpatrick, 1959
Intellectual Capital	New Accountants	Impacts on the organization	Asset Return of the asset: Market value minus book value Strategic value	Balanced Scorecard; Skandia Navigator; Tobin Q; Pulic VAIC.	Kaplan and Norton, 1994 Edvinsson and Malone, 1993 Tobin, 1969 Pulic, 1995
Knowledge Management	Knowledge Manager	Impacts on the organization	Knowledge, and the Knowledge Cycle	Knowledge sharing, transfer, creation, renewal dynamics, learning and unlearning	Nonaka and Takeuchi, 1995 Kianto, 2007 Cegarra Navarro and Moya, 2009 Edwards, 2011

Source: Author's work, and Tomé 2011, based on the references listed in the last column.

This diversity of methodologies of assessments corresponds to and defines the complexity of IaC and corresponds to the theoretical complexity of the concept as defined in Table 1.

Social Policy is of most interest to program administrators, who should seek the public good; the most basic form of evaluation is done through accounting expenses or people involved using progress reports; the EU but also other national agencies worldwide to these reports as a way of supporting various forms of Welfare State (Esping Andersen, 1990).

The SP perspective should be complemented by HR Economics, whose problem is to define micro and macro impact of policies using market analysis, or individual, organizational or societal perspectives- Methods are well known as Input – Output or Control Groups.

An even more traditional perspective used by traditional managers or accountants resides in defining the profits derived by IaC and the ROI and ROE. HRD specialists use quantitative or qualitative methodologies to define the impact of workplace related interventions in the agents involved. The most famous methodology of assessment having been defined by Kirkpatrick. "New accountants" are more interested in the consequences of intangible investments, as defined by the book value minus the book value of companies. Methodologies have been increasing on this topic. Finally Knowledge Managers deal with the knowledge cycle and the knowledge creation, and its impact mainly in organizations.

Empirical data

Organizations

The impact of organizations in the economic growth through IaC may seen in terms of location i) and in terms of growth generation ii).

i) Location: In today's world the best performative organizations in the world (like Google, Microsoft, Apple, etc) are those that use more intensively IaC and those that generate more profits and employment, therefore contributing to economic growth (KM World 2016). Those companies are multinationals, located all over the world, but with a higher share of business in the more developed countries and owned by persons from those countries. The role of those companies generating growth is twofold – not only they create profits by being there, also they tend to install themselves in regions in which they believe that IaC is available, and therefore they promote IaC investment, which will create growth further.

ii) Engines of growth: Also, by being in the region the organization also invests in IaC. The fact that organizations rich in IaC may locate themselves in a region is also a stimulus for people within the region to invest themselves on IaC or for people from other regions to come to that regions. In a sense, organizations are really the "engine of growth" because they create business, they induce business and they induce education and up-skilling. This explains that when a country emerges and becomes developed (like South Korea) its trade mark companies are knowledge based (like Samsung) and it also explains that the growth of China has been made both by profiting of extraordinary economies of scale in traditional sectors like textile, but also by trying to develop knowledge megacities like Xangai. Also the development of India has been done by trying to use IT students and relate them to the best companies and universities in the West, while living in India. It is also known that some multinationals engage in exploitation of labour and child labour in developing countries but this is not a IaC based practice, quite the opposite.

Regions

The regional influence of IaC can be detected in terms of economic development i), economic growth ii) and the Welfare States iii):

i) *Economic development*: Firstly (World Bank, 2012), the countries and regions with the highest value of Knowledge Economy Indicator (KEI) are also the countries with the highest GDP per head; furthermore, the countries with the lowest values of KEI are also the ones with lower GDP per head. Therefore, and given that the GDP per head defines sustained economic development, IaC is positively related with long run economic growth.

ii) *Economic growth:* Secondly (OECD, 2011), the countries and regions with a higher rate of current investment in IaC, or the more develop IaC market or the higher stock of IaC tend to have the highest values of current economic growth.

iii) *Welfare States*: Thirdly (Tomé 2008), the countries and regions with more developed Welfare State, in any form, (Conservative, Liberal, Social Democratic, Socialist, or other) are the ones that achieve higher economic growth, and the WSs are in fact massive organizations that promote IaC

Persons

The individual relations between IaC and growth may be detected at three levels: as engine of growth i), the Welfare State ii) and the phenomena of unbalances namely poverty and billionaires:

i) *Engine of growth* - An educated, skilled, knowledgeable labour force is the core of any advances economy in 2016 (World Bank, 2015, PNUD 2014);. Those high levels of IaCs are registered in the countries with higher GDP per capita and also with higher GDP growth (World Bank, 2015, PNUD 2014). This means the individually speaking IaC is the best way there is to contribute to economic growth.

ii) *Welfare State* - Sometimes a higher investment in personal IaC also originates a higher economic growth. As it happens with regions, the support of Social Policies is also very helpful because people can't fund all the investment in IaC by themselves – indeed the Social Democratic Welfare State, with much more public presence, has traditionally higher IaC levels and less poverty than the Liberal form of WS, which relies much more of the private presence (Esping Andersen 1994 and PNUD 2014).

iii) *Poverty and billionaires* - Furthermore, high developed countries with high GDP levels and high rates of growth are those with lower poverty rates (World Bank 2015) and also those with higher levels of millionaires and billionaires (Forbes 2015). Given that IaC is a factor of preventing poverty and social exclusion, and also that high ranked professionals, artists, CEOs, and other types of millionaires and billionaires rely on IaC for their wealth, IaC is by a personal way, a factor of economic growth. Poor people are a problem for economic growth as a much as rich people are a bonus, and IaC is a way if not the way of eliminating the first and creating the second. Indeed, generically, IaC is the best and surest way of transforming a poor (person, organization, region) in a rich one.

4 Discussions

Concerning organizations, the view used in this paper is very performative, and ought to be complemented with more critical views or by a radical views about the organization in line with has been discussed in AHRD America Conference 2015. This would require putting together not only quantitative (as we mainly did in this paper) but also qualitative and critical studies (Mc Guire, 2014). This in turn would make the relation between IaC and economic growth from an organizational point of view more complex, but also more realistic.

Diversity, power, and cultural issues disrupt and humanize the somewhat straightforward view of organization based in Human Capital theories and which generated the results shown in this paper. Firstly, individuals have characteristics that make them different and which originate positive and negative bias and discrimination from the powers in organizations and companies (Mc Guire, 2014). Secondly power, and the way is it practiced and organized is also a major issue – organizations are not essentially democratic, power struggle exists, despite the ideology of cooperation, and the concerns over corporate responsibility (Fenwick and Bierema, 2008). In this context IaC possessors, like knowledge workers ought to be powerful, and an organization with much IaC should be more powerful socially (Tomé 2005). Finally, following Hofstede, not only organizations have different cultures but also they are located and originated in countries with different cultures, and therefore indigenous research is a major topic over the role of IaCs in organizations, and this makes the relation between IaC and economic growth decisively more complex.

About regions, it is interesting to note that even if the world became more globalized in the last two decades, it was precisely at that time that more studies and more national policies were developed about IaC (Mc Lean 2004, Garavan and al, 2016). This happened precisely because IaC must be fostered and implemented at a national level and because the simple use of market forces is not enough to ensure the success of HRD or IaC in countries (Tomé, 2008).

In what relates to individuals it is very interesting to note until ten years ago, the analysis dealt with inequality, poverty and social exclusion, Anthony Atkinson being the best known author in the field. (Atkinson, 1983); It was established that those very worrying phenomena, that in fact resulted mainly due to a lack of IaC (and for a start to a lack of HR) hindered economic growth. Therefore for ages the promotion of IaC via HRD to eliminate poverty was seen as a way to promote economic growth. And indeed one of the good things about the appearance of Knowledge and Intellectual Capital as scientific objects was that suddenly it began to be thought that both by promoting knowledge, or by using the Intellectual Property (for instance by selling music of African people), it would be possible to alleviate poverty and promote sustained growth.

However in the last ten years, with the emergence of globalization, extreme rich people (millionaires and above all millionaires) became to be talked about and sometimes focus of analysis in respected publications (like the Forbes Magazine) or by scholars (Piketty, 2013, Darling, 2014). And the relation between these people and IaC and economic growth is two-fold. In first place these people owe their massive health because they are perceived as unique (in the case of millionaires) or because they use the IaC of millions of people (in the case of billionaires who own multinationals) (Tomé, 2012b). But secondly, that wealth contributes to economic growth, even it generates much discussion about increasing inequality and unfairness; in this context and specifically the wealth of billionaires and CEOs and other stars are said to be socially controversial and politically problematic – when we see billionaires contesting elections we may have doubts about the impact of extreme wealth in economic growth (Tomé 2016): Piketty 2013 discusses the raise of “super-cadres” and their impact in inequality and in growth.

Finally, last but not the least, concerning all the cases, researchers have the problem of transmitting the information to practitioners. This problem requires much consideration. Anyway it should never eliminate the general idea that by and large IaC are nowadays the main cause of economic growth in the world.

5 Conclusions

As a general rule, the science on IaC is diverse - the concept is very complex, the indicators that may express it are many, and the ways IaC influences society and in the case of this paper, economic growth, are also many. But in short, there is no doubt that IaC influences economic growth decisively and positively. More precisely and specifically, Intangible Capital (IaC) is a complex notion that can be defined using elements from Knowledge Management, Intellectual Capital and Human Resource Development. Also, regarding IaC, policies and laws, markets, and managerial perspectives should be taken into account. Moreover, the analysis of the relation between IaC and economic growth should be done with the mediation of organizations, regions and persons. There is a very strong theoretical base to assume IaC has major influence in economic growth nowadays and that idea is reinforced if we use the six perspectives (KM, IC, HRD, Social Policy and Traditional Management) and the 3 mediators (organizations, regions, people) we used in this paper. Those theories are sustained by data, from basic statistics and empirical study that make clear that IaC is nowadays THE major factor of economic growth. The limits and nuances about this rule are enormous but its importance and significance is beyond doubt. In the future IaC science will be a major focus of research in the world and a major branch of science. Future work may include a book on the IaC concept, the six perspectives and the three mediators – so eighteen chapters to start with, quite a lot.

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