



ZE WSPÓŁPRACY Z ZAGRANICĄ / INTERNATIONAL COOPERATION

Value Creation Reporting: Answering the Question „Value to Whom” according to the International Integrated Reporting Framework

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Abstract

The principal function of integrated reporting is the reporting of value and this phenomenon seems the most philosophical part of the International <IR> Framework. This paper discusses what the value concept refers to in the Framework: *Value to investors, value to society or value to present and future generations?* In this sense, we try to answer this question by highlighting the dynamics of capital formations according to interrelations between capitals and demonstrating the value creation process in the short, medium, and longer term. We show that (1) „profit” is the result of short term value creation, which indicates the „value to value chain stakeholders”, (2) „expected fair value of equity” represents the „value to investors” and (3) „longer term value” represents the „value to society” according to the International <IR> Framework. Additionally, we touch on the inadequacies of the current Framework and suggest future research opportunities within the scope of value creation reporting. To our knowledge, this study is the first to provide a detailed framework on the dynamics of capitals usage and it attempts to show the intersection of accounting and finance in terms of value creation reporting.

Keywords: Capital formation, integrated reporting, sustainability, value creation reporting.

Streszczenie

Raportowanie tworzenia wartości: Odpowiedź na pytanie: „wartość dla kogo?” według Międzynarodowych Ram Raportowania Zintegrowanego

Podstawowym zadaniem zintegrowanej sprawozdawczości jest raportowanie wartości, ale zjawisko to wydaje się być najbardziej filozoficzną częścią Międzynarodowych Ram Zintegrowanej Sprawozdawczości. W artykule omówiono, jak koncepcja wartości jest definiowana w tych Ramach: wartość dla inwestorów, wartość dla społeczeństwa, wartość obecna czy dla przyszłych pokoleń? W tym sensie, staramy się odpowiedzieć na to pytanie, podkreślając dynamikę formowania kapitałów według relacji między kapitałami i poprzez pokazanie procesu tworzenia wartości w perspektywie krótkoterminowej, średnioterminowej i długoterminowej. Wykażemy, że (1) „zysk” jest wynikiem tworzenia wartości krótkoterminowych, co wskazuje na „wartość dla uczestników łańcucha wartości”, (2) „oczekiwana wartość godziwa kapitału” oznacza „wartość dla inwestorów”, oraz że (3) „długoterminowa wartość” oznacza wartość dla społeczeństwa zgodnie z Międzynarodowymi <IR> Ramami Zintegrowanej Sprawozdawczości. Dodatkowo, wskazujemy na niedoskonałości obecnych Ram i proponujemy przyszłe badania w zakresie raportowania tworzenia wartości. Uważamy, że nasze badanie jest pierwszym, które kształtuje szczegółowe ramy dla dynamiki wykorzystania kapitałów i jest odważną próbą pokazania przecinania się rachunkowości i finansów w zakresie raportowania tworzenia wartości.

Słowa kluczowe: kształtowanie kapitału, zintegrowana sprawozdawczość, zrównoważenie, raportowanie tworzenia wartości.

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Introduction

The International Integrated Reporting Council (IIRC) was incorporated in August 2010 with its high-powered members¹. The press release² on the IIRC's foundation mentioned the new paradigm on the aim of accounting: *Saving the planet by creating a globally accepted framework for accounting for sustainability* (Flower, 2015, p. 2). With its significant ability to influence along with its new paradigm, the IIRC was ready to start a reform on corporate reporting.

In 2011, the IIRC published a discussion paper (IIRC, 2011) to propose a new methodology on demonstrating how an organization creates and sustains value by considering all financial and non-financial information. The proposal was based on two main findings: the inadequacies of traditional financial reporting and the disconnections between reports.

An accounting system is constructed on beneficial financial information according to a conceptual framework. That means traditional financial reports intensively include information expressed in monetary terms. However, the monetary unit assumption limits the capacity of information for users. In this sense, traditional financial reports have become inadequate for complete disclosure due to the lack of non-financial information. Therefore, different reports, such as management commentaries, governance and remuneration reports, and sustainability reports³, have started to be published by firms. In the meantime, the total volume of these reports has reached hundreds of pages without a satisfying interconnection. Although the aim of these reports is to provide the complete disclosure of an organization within the frame of sustainability, this kind of presentation creates gaps in terms of the cause-effect (result) relationship.

These findings were swiftly and widely accepted by practitioners and academicians and the concept of integrated reporting has come into our lives. According to the IIRC's basic thesis, in the frame of the business model the best way to integrate is to identify coherent relationships between resources as inputs and value creations as outputs. Thereby, the backbone of integrated reporting could be expressed as the relationship between resource allocations and value creations. In other words, this new reporting methodology tries to present the cause as behaviors to acquire resources, and the effect (result) as the level of value creation. On the other hand, this summarized aim of integrated reporting is insufficient when a simpler question comes to mind: as Flower

¹ Includes the heads of the IASB – The International Accounting Standards Board, the FASB – The Financial Accounting Standards Board, IFAC – The International Federation of Accountants, IOSCO – The International Organization of Securities Commissions, the CEOs of the „Big Four” (the largest private accountancy firms: Deloitte, Ernst & Young, KPMG and PwC), the heads of the major British professional accountancy bodies, and the CFOs of major multi-internationals, such as Nestle, Tata and HSBC.

² Jointly issued by The Prince's (Prince of Wales) Accounting for Sustainability Project (A4S) and Global Reporting Initiative (GRI).

³ These three reports are the ones that the IIRC specifically refers to.

(2015) asked, *value to whom?* Namely *value to investors, value to society or value to present and future generations etc.?*

In his study, Flower (2015) discussed the IIRC's failures and mentioned that the IIRC use the concept of value as *value to investors*. However, we don't completely agree with him, because integrated reporting framework needs further discussion with respect to value creation. Therefore, the study tries to answer the question *value to whom* again in a more comprehensive way. In other words, this paper aims to deepen the critical perspective for value creation reporting according to the International <IR> Framework to answer this question more clearly.

We assert that the concept of value used in the International <IR> Framework (IIRC, 2013b) means more than *value to investors*. Accordingly, in this paper, we try to highlight the dynamics of the value creation process in a methodological way in order to show the consistency of our view.

In the next section, we define theoretically the interrelations between capitals by analyzing the International <IR> Framework (IIRC, 2013b). In Section 3, the defined interrelations between capitals are presented in a more systematic way by constituting functions. These systematic demonstrations enable us to classify the value creation process into the short, medium and longer terms. Thus, value creation processes were described according to defined leverages in Section 4. The paper concludes by answering the question, touching on the inadequacies of the current Framework and suggesting future research opportunities within the scope of value creation reporting.

1. Interrelations between Capitals

Six forms of capital are mentioned in the discussion paper (IIRC, 2011, p.11): manufactured capital, natural capital, social capital, human capital, intellectual capital, and financial capital. These capitals are the inputs for business models of organizations. So, it is important to discuss the question of what a business model is before these capitals are described.

In the study of Schaltegger et al. (2016, p. 264-265), a business model is described in a comprehensive way as follows: *Academic research and corporate practice are increasingly addressing the business model as a unit of analysis offering a systemic perspective on how to do business, mainly with the aim of understanding how to improve the ability of companies to create financial value* (Chesbrough, 2010; Teece, 2010; Wirtz et al., 2016). *On the other hand, there is a growing body of literature on business models that provides a range of approaches to characterize their different roles for achieving corporate sustainability* (Hansen et al., 2009; Schaltegger et al., 2012; Boons and Lüdeke-Freund, 2013).

This comprehensive identification of a business model has a similarity with the business model definition mentioned in the International <IR> Framework (IIRC, 2013b, sec. 2.23): *At the core of the organization is its business model, which draws on various*

capitals as inputs and, through its business activities, converts them to outputs (products, services, by-products and waste). The organization's activities and its outputs lead to outcomes in terms of effects on the capitals. The capacity of the business model to adapt to changes (e.g., in the availability, quality and affordability of inputs) can affect the organization's longer term viability.

When these two definitions are handled together, it is clear that the aim of presenting the business model in an integrated report is to show how to create value by using capitals in the framework of sustainability. This perspective provides beneficial integrated information for users in terms of the legitimacy of an organization's activities: *Are they legal, eco(nature)-friendly, democratic, do they protect human rights, receive wide acceptance, and are they for the benefit of humanity etc.*

As discussed in Bushman and Smith's (2003) study, if there is no conflict of interest between stakeholders that emerged through information asymmetries, there will be no need for any legal regulation to provide transparency and accountability (Jensen and Meckling, 1976; Grossman and Hart, 1982; Jensen, 1986; Stulz, 1990; Hart, 1993; Hart and Moore, 1995; Johnson et al., 2000 etc.). This is why corporate governance has become one of the most important subjects in corporate reporting. It serves to minimize information asymmetries between stakeholders, especially for external ones (La Porta et al., 2000). Therefore, the International <IR> Framework makes presenting the business model necessary in order to eliminate the barriers between stakeholders. However, information on the legitimacy of an organization's activities could not be provided only by presenting the business model. For this reason, the activities of organizations have to be associated with how they use different forms of capitals according to the International <IR> Framework.

Manufactured Capital

In the International <IR> Framework (IIRC, 2013b, sec. 2.15), capitals are defined, and manufactured capital is mentioned as: *Manufactured physical objects (as distinct from natural physical objects) that are available to an organization for use in the production of goods or the provision of services, including: buildings, equipment, infrastructure (such as roads, ports, bridges, and waste and water treatment plants). Manufactured capital is often created by other organizations, but includes assets manufactured by the reporting organization for sale or when they are retained for its own use.* This definition reveals that the term 'manufactured capital' refers to the manmade capital which, according to classical economics, is one of the three elements of capital stocks. In this sense, manufactured capital is consistently renewed to maintain the sustainability of activities. Therefore, manufactured capital is one of the most important subjects that determine the capacity of an organization.

Natural Capital

Natural capital is defined as (IIRC, 2013b, sec. 2.15): *All renewable and nonrenewable environmental resources and processes that provide goods or services that support the*

past, current or future prosperity of an organization. It includes: air, water, land, minerals and forests, biodiversity and eco-system health. According to this description, a connection between manufactured capital and natural capital can be established.

Natural capital is the input of manufactured capital according to the neoclassical approach, which indicates that an attempt is made to optimize the quality of life through the acceptance of the scarcity of natural resources. In this sense, nature is defined as the source for raw materials and storage for waste materials. However, ecological economists don't agree on defining nature in such a narrow frame. They consider nature to be the producer of natural resources, and nature supplies resources by renewing them continuously (Wackernagel and Rees, 1997; Rennings, 2000). Therefore, natural resources and manufactured capital should be taken into account together in the optimization of the quality of life, because while natural capital is the set of unpriced environmental goods and services on which economic processes and human and nonhuman life depends (Paavola and Adger, 2005, p. 363), manufactured capital is the set of priced ones.

This viewpoint is also the reason to classify natural resources as renewable and non-renewable. Undoubtedly, there are not any nonrenewable natural resources in the environment; however, renewing some kinds of resources takes an aeon. That means they cannot be renewed by nature at a sufficient rate for sustainable economic extraction in meaningful human time-frames. Accordingly, these kinds of natural resources are characterized as nonrenewable⁴.

Ecological economists argue that the way in which natural resources are consumed in producing manufactured capital should not negatively affect the ecological system, because the existence of nature as the producer of renewables is fundamental for the sustainability for humanity (Paavola and Adger, 2005). This view explains why the International <IR> Framework describes manufactured and natural capitals separately: *Identifying how these capitals are acquired is closely related to the legitimacy of the activities, and this phenomenon concerns all people in terms of quality of life.*

Social Capital

Social capital is defined as (IIRC, 2013b, sec. 2.15): *The institutions and the relationships within and between communities, groups of stakeholders and other networks, and the ability to share information to enhance individual and collective well-being. Social and relationship capital includes: shared norms, and common values and behaviors, key stakeholder relationships, and the trust and willingness to engage that an organization has developed and strives to build and protect with external stakeholders, intangibles associated with the brand and reputation that an organization has developed, an organization's social license to operate.*

⁴ As the main examples of nonrenewable, natural resources such as coal, petroleum (crude oil) and natural gas take thousands of years to form naturally and cannot be replaced as fast as they are being consumed.

The term ‘social capital’ was becoming widely used in the late 1990s. Sociologists James Coleman, Barry Wellman and Scot Wortley are the masterminds that used this term to explain the role of the community for economic development. In this sense, social capital refers to a set of common actions performed by social networks to acquire common goods and services. In other words, social capital includes joint behaviors to provide benefits for the community rather than for individuals. Therefore, the core concepts of social capital consist of civic engagement, which refers to the extent to which citizens involve themselves in their communities and the levels of mutual trust among community members (Putnam, 1993 and 1995).

Organizations can increase their economic efficiency by creating a synergy effect, which is the result of acquiring social capital. However, measuring this synergy effect is a very complex issue. Ostrom (2000, p. 188) argues that social capital, though useful, is not as easy to find, see and measure as physical capital is. Also, the concept of social capital extends institutional analysis to the relationships between culture, beliefs, and behavior on the one hand, and the institutional, economic, and environmental outcomes on the other (Ruttan, 1998 and 2001).

Social capital needs to be discussed under two dimensions to understand what the International <IR> Framework expects. The first dimension includes the relationship between the activities of an organization and the reactions of the community. If the activities do not match the judgments of the community, social networks show oppositional behaviors as a response against the organization. In other words, political and social pressures occur (Neu, 1992; Williams, 1999; Skaerbaek and Melander, 2004; Gomes et al., 2008). Undoubtedly, this kind of reciprocity between organization and community weakens sustainability. Therefore, organizations make expenditures to minimize or eliminate the possibility of facing oppositional behaviors, and this kind of behavior is how social capital is acquired. As mentioned in Portes’ (1998) study, it requires deliberate investment of social and cultural resources. Donating a new medical machine to a hospital, making a donation for care of the elderly, or having classrooms painted in the regions where the organization carries out its activities are examples of these kinds of expenditures. Accordingly, the International <IR> Framework expects a report that provides information on investments to acquire social capital.

The second dimension includes the relationship between social capital and human capital. The interaction of these capitals is a fundamental reason why these capitals should be presented separately, and it is described in detail below.

Human Capital

Human capital is defined as (IIRC, 2013b, sec. 2.15): *People’s competencies, capabilities and experience, and their motivations to innovate, including their: alignment with and support for an organization’s governance framework, risk management approach, and ethical values, ability to understand, develop and implement an organization’s strategy, loyalties and motivations for improving processes, goods and services, including their ability to lead, manage and collaborate.*

Mincer (1958) and Schultz (1961) pioneered studies in which human capital investment was discussed in a hypothetical dimension. They made the most important and most original development in the economics of education by asserting the idea that the concept of physical capital, as embodied in tools, machines, and other production equipment, can be extended to include human capital as well. Becker's (1962) study popularized the human capital concept in the literature by discussing the results of different types of human capital investment in terms of observed earnings. Later on, Becker and Tomes (1986) mentioned that investment in human capital is an important variable which positively effects economic growth and development. Coleman's (1988) study played an important role in determining the interaction and relationship between social and human capitals. He reveals that both social capital in the family and social capital in the community play roles in the creation of human capital in the rising generation. This conclusion specifies the fine line between the investments of these capitals and points out why the International <IR> Framework demands separate presentation of investments in social and human capitals.

Off-the-job education and training for the next generation, such as formal or higher education, family training, community related cultural training etc. are issues that need to be evaluated under social capital. In this sense, these kinds of expenditures that are made by organizations to ensure the formation of human capital formation for the next generation should take part within social capital investments. On the other hand, the expenditures made by organizations for on-the-job training, off-the-job education for employees, such as graduate degrees, or providing benefits to generate organizational culture etc. should be reported under human capital investments.

Intellectual Capital

Intellectual capital is defined as (IIRC, 2013b, sec. 2.15): *‘Organizational, knowledge-based intangibles, including: intellectual property, such as patents, copyrights, software, rights and licenses, “organizational capital” such as tacit knowledge, systems, procedures and protocols...*

Edvinsson and Sullivan (1996) provide an overview of intellectual capital, where it fits into the knowledge organization, what the component elements of it are, and what might be done to manage them. They mentioned that knowledge organizations recognize that intellectual capital is a major source of value while human capital is the one of the most important major sources of value for knowledge firms. Comparing this comprehensive approach with the IIRC's definition enables us to make two main inferences on intellectual capital.

Firstly, organizations cannot own human capital. They can only rent it for a time. Also, human capital is a non-representational issue in terms of value. Hence, intellectual capital refers to the output of human capital where it can be owned by organizations and can be expressed in terms of money. In other words, intellectual capital is the owned and priced version of human capital.

Secondly, intellectual capital can be used as part of the manufactured capital or it can be used single-handedly. In other words, intellectual capital can be a necessity for production or it can solely generate the aim of activities. This differentiation determines the finish point of valuation. If intellectual capital constitutes a part of the product, expressing the value becomes easier because the price of the manufactured capital is determined according to market conditions. On the other hand, if it is used single-handedly, the value of intellectual capital can be more subjective.

Financial Capital

Financial capital is defined as (IIRC, 2013b, sec. 2.15): *The pool of funds that is: available to an organization for use in the production of goods or the provision of services, obtained through financing, such as debt, equity or grants, or generated through operations or investments.*

It is very clear that financial capital refers to the available funds to acquire other forms of capital. In addition to this, since financial capital can be completely disclosed in terms of money, it completely fits with the concept of financial information. Therefore, while financial capital can be classified as the only form of capital that includes only financial information, other forms include both financial and non-financial information.

2. Capital Formation Functions

In this part of the paper, we try to present the interrelations between capitals in a systematic way by functions of capital formations. The main aim of constituting functions is to construct a detailed frame in order to highlight the dynamics of value creation. Accordingly, we defined and used different kinds of expenditures as determinants of functions which symbolize how to invest different forms of capital. In other words, answering the question of how organizations make expenditures to create value becomes clearer by demonstrating capital formations as functions of expenditures.

Since there is no consensus in the literature on how to measure and monetize the environmental and social impacts, and our main aim is to show the interrelations between capitals, we avoid creating a link between determinants and accounting measures. These functions also represent the intersection of accounting and finance in terms of value creation reporting and, to our knowledge, the present study is the first to provide a detailed framework on dynamics of capitals usage.

2.1. Social and Human Capital Formations

Social capital (SC) is the function of expenditures of organization to minimize or eradicate the possibility of facing oppositional behaviors by the community (E_C). On the other hand, the total amount of social capital investments (I_{SC}) also includes the

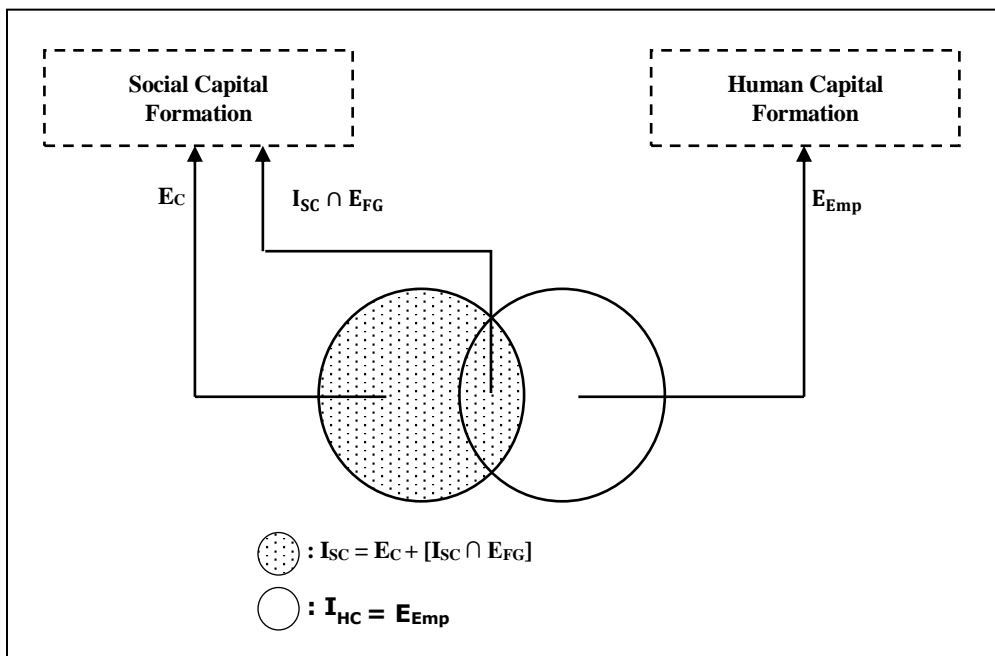
educational and training expenditures of an organization to ensure human capital formation for future generations (E_{FG}). In this sense, to categorize whether some expenses are I_{SC} or E_{FG} can be very difficult. For example, a donation by organization to have classrooms painted serves the aims of both social and human capitals. Therefore, this kind of expenditure creates an intersection between I_{SC} and E_{FG} , while E_C refers to the remaining part of I_{SC} . Consequently, SC becomes the function (E1) of E_C and $I_{SC} \cap E_{FG}$.

$$SC = f(E_C, (I_{SC} \cap E_{FG})) \quad (E1)$$

The total amount of human capital investments includes E_{FG} and the educational and training expenditures of an organization for its employees (E_{Emp}). Therefore, E_{Emp} is equal to the remaining part of I_{HC} after deducting $I_{SC} \cap E_{FG}$. It directly refers to the organization's contribution to internal human capital formation, which should be reported under human capital investment (I_{HC}). In this sense, human capital (HC) becomes the function (E2) of E_{Emp} . The dynamics of forming SC and HC are shown in Figure 1.

$$HC = f(E_{Emp}) \quad (E2)$$

Figure 1. Dynamics of Social and Human Capital Formation



Source: authors' own elaboration.

2.2. Intellectual and Manufactured Capital Formations

The definition of manufactured capital written in the International <IR> Framework (IIRC, 2013b, sec. 2.15) is not clear in terms of classification in order to show systematic value creation. Therefore, before constituting functions, we need to categorize the versions of the manufactured capital. This classification also can be considered one of the main suggestions of this paper.

Manufactured capital can refer to goods which are currently ready-to-use for an organization. These can also be categorized under two dimensions: external or internal to the organization. Public roads, electric distribution networks, sewage systems etc. are external ones which are also used by the community. Henceforth, we call them external ready-to-use manufactured capital (EMC). Investment amount of EMC (I_{EMC}) includes taxes which are the expenditures to benefit from them (E_{EMC}). On the other hand, some of them can be internal to the organization, such as factories, machines etc., which are used in operations. Henceforth, we call them internal ready-to-use manufactured capital (IMC) and sum of expenditures to own them (E_{IMC}) generate the total amount of investment to IMC (I_{IMC}).

Additionally, manufactured capital can be the products of the organization, namely, the result of its activities. In this sense, it refers to the outputs achieved by using all forms of capitals in the framework of the business model. Henceforth, we call them the organization's produced manufactured capital (PMC). On that note, the PMC for producer organizations becomes the EMC or IMC for other organizations at the same time. Accordingly, sum of expenditures to produce (E_{PMC}) generate the total amount of investment to PMC (I_{PMC}). A summarized presentation of classifications is shown in Table 1.

Table 1. Manufactured Capital Classification

Investment amount	of ...	equals...	refers to...
I_{EMC}	EMC: Ready-to-use external manufactured capitals	E_{EMC}	Taxes
I_{IMC}	IMC: Ready-to-use internal manufactured capitals	E_{IMC}	Expenditures to own them
I_{PMC}	PMC: Produced manufactured capitals by organization	E_{PMC}	Sum of all expenditures

Source: authors' own elaboration.

The formation of manufactured and intellectual capitals needs natural resources. Organizations should consume or use natural resources without creating a negative effect on the ecological system in order to ensure the legitimacy of their activities. In this

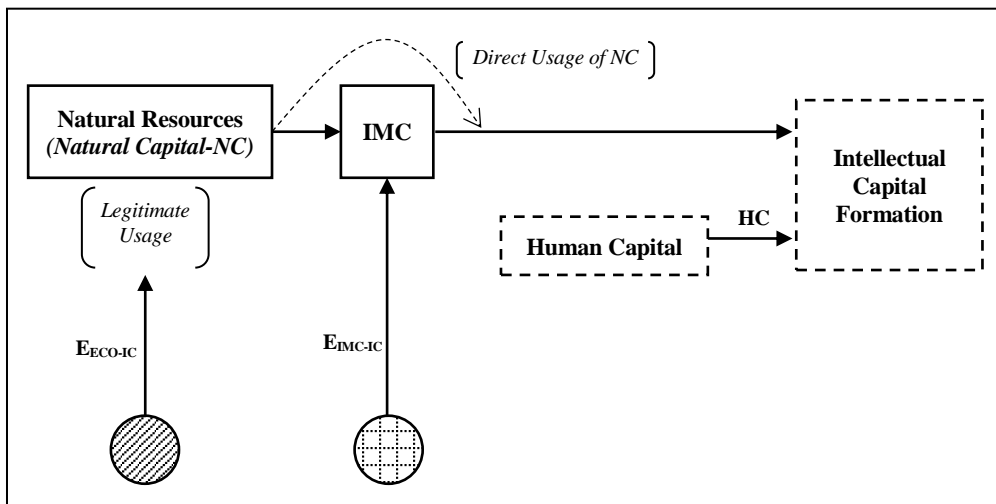
sense, recycling applications, the construction of treatment units etc. refer to expenditures or contributions of organization (E_{ECO}) related to ecological economics.

In light of these remarks, we can establish the following functions.

HC is the major input of intellectual capital (IC) formation, but not the only one. R&D activities which are fundamental to creating intangible assets might need to use natural resources and/or internal ready-to-use manufactured capitals, in addition to HC. In this sense, we need to add E_{ECO-IC} and E_{IMC-IC} , which reflects the expenditures for IC formation as determinant of IC function (E3). The dynamics of the formation for IC are shown in Figure 2.

$$IC = f(E_{ECO-IC}, E_{IMC-IC}, HC) \quad (E3)$$

Figure 2. Dynamics of Intellectual Capital Formation

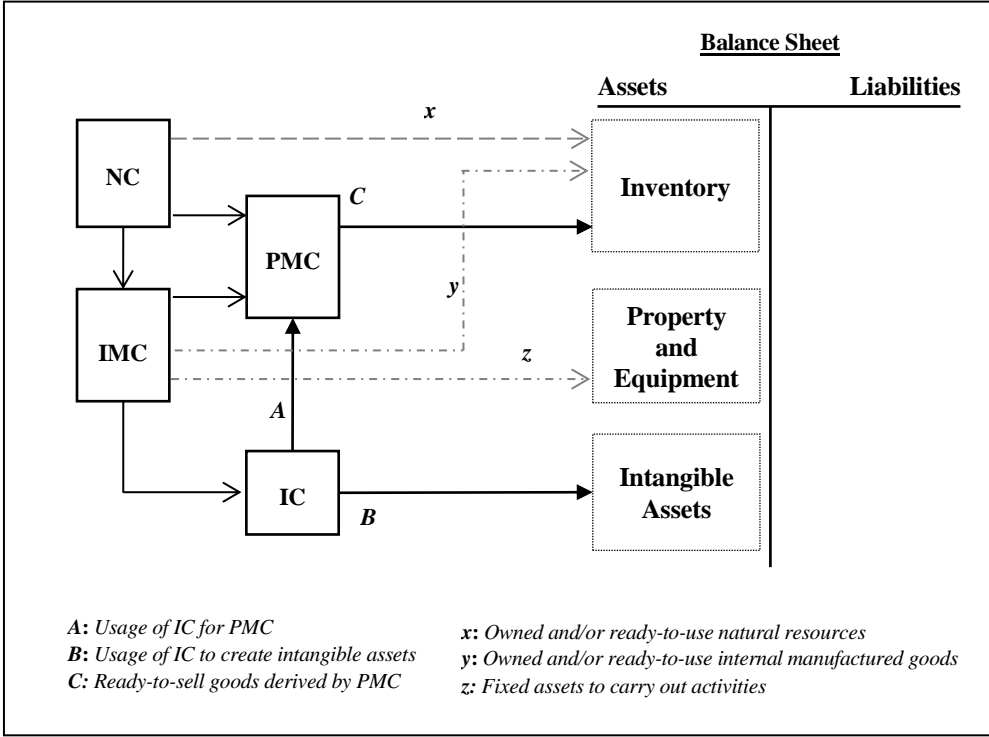


Source: authors' own elaboration.

PMC includes all other forms of capitals because it is the MC-type result of all activities defined in the business model of the organization. In this sense, all types of capital usage need to be added into PMC function (E4). Accordingly, PMC formation needs IC usage in addition to PMC-based expenditures, namely $E_{ECO-PMC}$, E_{EMC} and $E_{IMC-PMC}$.

$$PMC = f(E_{ECO-PMC}, E_{EMC}, E_{IMC-PMC}, IC) \quad (E4)$$

When equations 3 and 4 are evaluated together, as can be seen, there are duplications of E_{ECO-IC} and E_{IMC-IC} . Therefore, the functions need corrections. In order to make readjustments, firstly as shown in Figure 3, we need to present the reflection of IC and PMC in the balance sheet of the organization.

Figure 3. Asset Formations by IC and PMC

Source: authors' own elaboration.

It clearly appears that only some part of IC is used to create PMC. That means some proportion of intellectual capital expenditures are made just to own intangible assets (Low, 2000). If we denote this proportion as W_{IA} , IC for intangible assets ($IC_{intangible}$) becomes the function (E5) of the weighted part of the determinants.

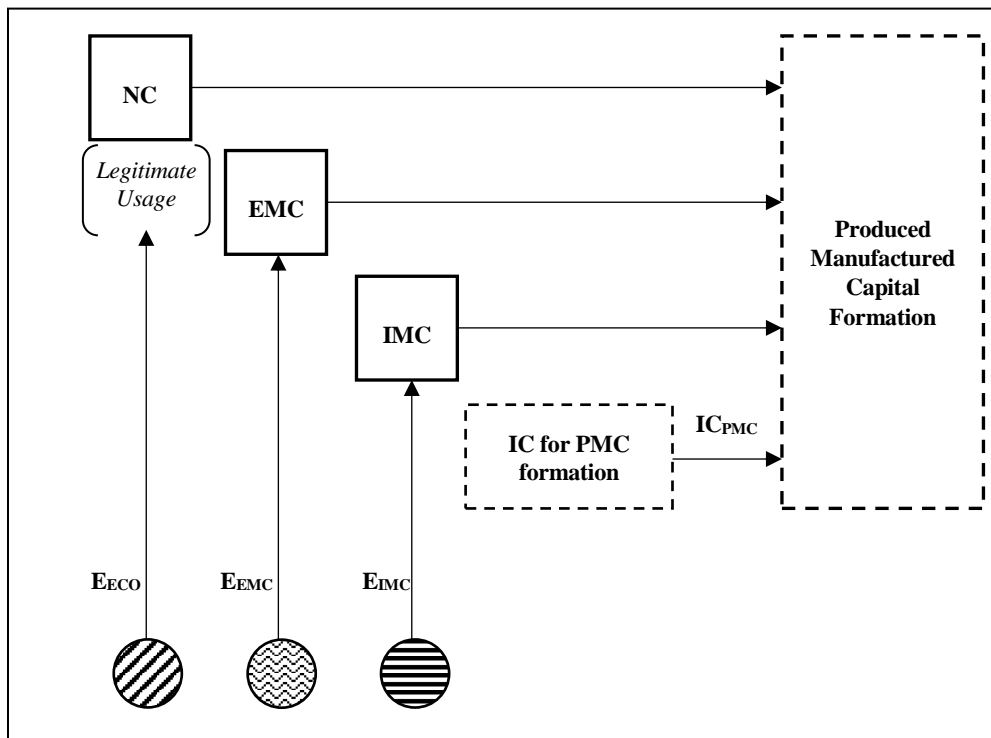
$$IC_{intangible} = f([W_{IA} (E_{ECO-IC}, E_{IMC-IC})], HC) \quad (E5)$$

On the other hand, PMC formation includes the rest of the expenditures for IC. If W_{PMC} ($W_{IA} + W_{PMC} = 1$) indicates the used IC for PMC formation (IC_{PMC}), the function becomes as mentioned below (E6).

$$IC_{PMC} = f([W_{PMC} (E_{ECO-IC}, E_{IMC-IC})], HC) \quad (E6)$$

On that note, the PMC function mentioned in equation 4 is adjusted as mentioned below (E7) and the dynamics of the formation for PMC are shown in Figure 4.

$$PMC = f(E_{ECO-PMC}, E_{EMC}, E_{IMC-PMC}, IC_{PMC}) \quad (E7)$$

Figure 4. Dynamics of Produced Manufactured Capital Formation

Source: authors' own elaboration.

3. Value Creation

Defining capital formations creates a beneficial framework to understand the value creation process. Accordingly, value is the consequence of all activities that include identified expenditures. In this sense, while expenditures are the indicators of behaviors, the term value refers to the sum of these expenditures and '*something*' which shows the spread between the value and the expenditures.

Since the term leverage includes all abilities to influence the business model as a system, or an environment, in a way that multiplies the outcome of the organization's efforts – *in other words, by creating advantageous conditions of having relatively high level of returns by way of consuming resources* – the '*something*' can be defined as the '*leverage of related capital*' in general. Thus, value creation means a systematic way of presenting the leverage effects of capitals; for instance, as can be seen from the functions, IC includes the leverage of HC, while PMC includes the leverage of IC_{PMC} . The leverages that have an effect on value creation processes are categorized by benefit from capital formation functions, and are shown in Table 2.

Table 2. Capital Formation Effects on Value Creation

.... formation	Requires...	expected to affect ...
SC	$E_C + E_{FG}$	all other forms of capitals positively
HC	E_{Emp}	IC positively
IC _{intangible}	$W_{IA}(E_{ECO} - IC + E_{IMC})$	Intangible assets' value and NC positively
IC _{PMC}	$W_{PMC}(E_{ECO} - IC + E_{IMC})$	PMC and NC positively
PMC	$E_{ECO} - PMC + E_{EMC} + E_{IMC} - PMC$	products' price and NC positively
		Value Creation Factors → value to whom?
		<ul style="list-style-type: none"> • Lev-Operational • Lev-Financial • Lev-SC • Lev-HC • Lev-IC • Lev-PMC

Source: authors' own elaboration.

One of the fundamental aims of integrated reporting is mentioned in the International <IR> Framework (IIRC, 2013b, sec. 3.3): *An integrated report should provide insight into the organization's strategy, and how it relates to the organization's ability to create value in the short, medium and long term and to its use of and effects on the capitals.* Also, section 4.11 mentions that *'An organization's business model is its system of transforming inputs, through its business activities, into outputs and outcomes that aims to fulfil the organization's strategic purposes and create value over the short, medium and long term.* Thereby, we need to discuss value creation processes separately under the captions of short term, medium term and longer term.

3.1. Short term Value Creation

Financial capital (FC) is a must to acquire other capitals. That means it is a necessity to make expenditures. Also, FC refers to generated funds which are the result of activities in the short term. On that note, the short-term result of activities is profit as a performance disclosure and it refers the internal generated ready-to-use FC to acquire additional capitals in the future. Evidence of this view can be obtained from statements written in the International <IR> Framework (IIRC, 2013b, sec. 2.9 and 2.11) respectively as follows:

- Section 2.9: *...for example, the maximization of financial capital (e.g., profit) at the expense of human capital (e.g., through inappropriate human resource policies and practices) is unlikely to maximize value for the organization in the longer term.*

- Section 2.11: *The capitals are stocks of value that are increased, decreased or transformed through the activities and outputs of the organization. For example, an organization's financial capital is increased when it makes a profit, and the quality of its human capital is improved when employees become better trained.*

Since the profit refers to the result of activities in the short term, it is not fully able to reflect all the leverage effects of strategical decisions. For example, the leverage effects of HC or IC don't arise in the short term. On that note, operational leverage ($Lev_{\text{operational}}$) becomes the main value creation factor in the short term. For instance, higher non-debt tax shield (NDTS) provides higher $Lev_{\text{operational}}$. As discussed in DeAngelo and Masulis (1980), tax deductions for depreciation and investment tax credits are substitutes for the tax benefits of debt financing. So, firms with a high level of fixed assets gain more benefit from NDTS advantages (Titman and Wessels, 1988; Rajan and Zingales, 1995; MacKay and Phillips, 2005; Faulkender and Petersen, 2006; Wald and Long, 2007, Kale and Shahrur, 2007). In this sense, the short-term leverage effect is occurred by $lev_{\text{operational}}$ as the reflection of the way of using capitals.

3.2. Medium-term Value Creation

The concept of value needs to be expanded due to the necessity of describing the benefits of ownership according to value creation in the medium term. Evidence can be obtained from the statement written in the International <IR> Framework (IIRC, 2013b, sec. 3.23) as follows: *Matters that might be relatively easy to address in the short term but which may, if left unchecked, become more damaging or difficult to address in the medium or long term need to be included in the population of relevant matters.* In this sense, identifying value creation in the medium term needs to specify the medium-term effects of leverages derived by using capitals.

Medium-term value creation focuses on the near-future results of using capitals rather than just the fulfilled expenditures over the past year. On that note, medium-term value refers to the financial value that reflects the expected fair value of an equity which can be estimated and expressed in terms of money by discounting the future cash flows (CFs) of an organization.

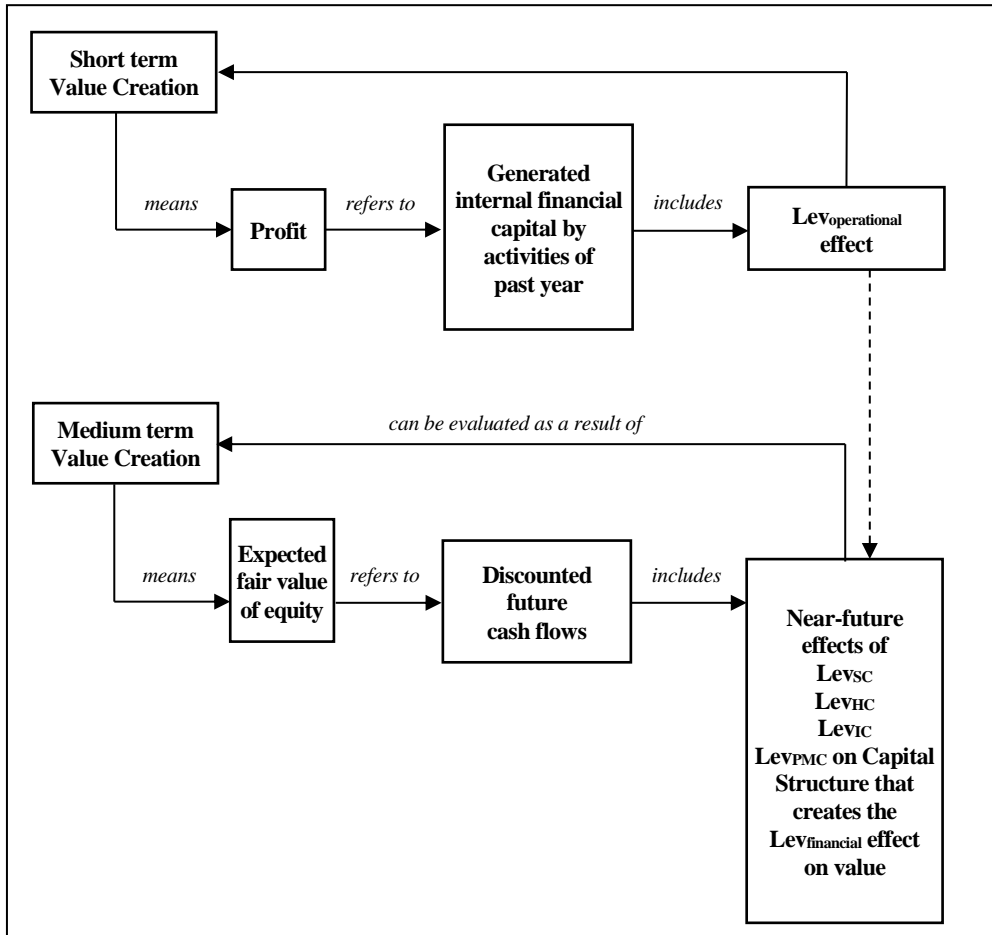
The origin of this practice is the actualized operational profit of the current year, and the growth rate needs to be estimated to calculate future CFs. Since the price of PMC includes the market-oriented detections on near-future leverage effects of SC (Lev_{SC}), HC (Lev_{HC}) and IC (Lev_{IC}), the valuation practice benefits directly from financial leverage ($Lev_{\text{financial}}$) in terms of determining the cost of capital as a discount factor and of estimating the growth ratio. Therefore, decisions on the capital structure which determine $lev_{\text{financial}}$ is an important subject for medium-term value creation.

The questions of whether a unique combination of debt and equity capital should be needed, and what specific factors determine the firm's optimal capital structure, are hotly-debated issues in the literature (Modigliani and Miller, 1958; Modigliani and Miller, 1963; Jensen and Meckling, 1976; Myers, 1977; Ferri and Jones, 1979; Myers, 1984; Allen, 1995; Rajan and Zingales, 1995; Chen, 2003 etc.). Studies have used a lot

of variables such as size, profitability, growth rate in assets, tangibility etc. to answer these questions. On the other hand, these variables also represent the results of strategic decisions on how different forms of capital are used.

The formation of a capital structure that creates $lev_{financial}$ reflects the near-future effects of other leverages. As an example, studies such as Chen et al. (2005), Hogan and Hutson (2005), Hyytinen and Pajarinen (2005), Castro et al. (2015) etc., found that IC plays an important role on capital structure formation and it has an impact on the fair value of equity. Accordingly, $lev_{financial}$ seems to be the main value creation factor that contains near-future effects of leverages derived by using capitals, and the expected fair value of equity refers to medium-term value creation in the framework of the International <IR> Framework. The value creations in the short and medium term are shown in Figure 5.

Figure 5. Value Creation in the Short and Medium Term



Source: authors' own elaboration.

3.3. Longer term Value Creation

There is a high-level of uncertainty in defining the medium term and longer term time periods in the Framework. Therefore, identifying value creation in the longer term needs to address the meaning of the longer term as well. Two main statements in the International <IR> Framework (IIRC, 2013b, sec. 2.23 and 4.59) can give us evidence to make the longer-term concept clearer. They are mentioned below respectively.

- Section 2.23: *...the capacity of the business model to adapt to changes (e.g., in the availability, quality and affordability of inputs) can affect the organization's longer term viability...*
- Section 4.59: *...for example, because longer term matters are more likely to be more affected by uncertainty, information about them may be more likely to be qualitative in nature, whereas information about shorter term matters may be better suited to quantification, or even monetization...*

Statement 2.23, which mentions that an organization's inability to comply with the changes in conditions can affect the viability in the longer term, needs to be evaluated within two dimensions: the internal ability of an organization and the environmental contributions of the organization. Internal ability of organization refers the organization's activities to keep pace with developments and/or to make itself leader as a pioneer of developments. This dimension is one of the most important parts that increases the expected fair value of equity and so is more related to medium-term value creation under the near-future leverage effects of capitals.

The environmental contributions of an organization refer to the practices which are peripheral to the traditional forms of accounting (Cho and Giordano-Spring, 2015). As all organizations and humans are in the same boat, the cumulative expenditures for capitals also and additionally create benefits for the whole planet. This reality is the reason why the content of the global reporting initiative (known as GRI) has become one of the key issues of the International <IR> Framework.

The ever-growing need to disclose the capacity of longer-term viability makes traditional financial reporting inadequate, and therefore social and environmental accounting (SEA) has come into our lives by changing the view of accounting as a social, political and institutional practice (Burchell et al., 1985; Carnegie, 1993; Potter, 2005; Gray, 2006; Gomes et al. 2008; Hopwood, 2009; Ligouri and Steccoloni, 2011). In other words, the term 'accounting' is 'implicated in the life of individuals, organizations, and society' (Craig and Amernic, 2006, p.84). In this sense, we should understand that the International <IR> Framework tries to touch on this phenomenon of accounting by using the notion of 'longer term'. Thus, 'longer term' refers to a 'needed time period' to increase the cumulative benefits and/or decrease the cumulative negative effects of bad conditions for humanity, and it consists of the far-future leverage effects of capitals that appear after a long time. This identification provides the answer to the question regarding what value creation in the longer term means: namely, it is the sum of cumulative expenditures and the joint leverage effect ($\text{lev}_{\text{joint}}$) as the function (E7) of far-future leverages of related capitals.

$$lev_{joint} = f(lev_{SC}, lev_{HC}, lev_{IC}, lev_{PMC}) \quad (E8)$$

Statement 4.59 mentions that expressing value in monetary terms becomes harder when value creation takes a longer time. Hence, as the '*longer term*' includes a very high level of uncertainty, it is not reasonable to express longer term value creation financially. Accordingly, one more question arises: *How can value creation in the longer term be presented?* This is the most ambiguous part of the International <IR> Framework, and currently the answer to this question cannot be found in the literature.

The best way to present value creation in the longer term can be to specify the contribution level of leverages by integrated indicators. International organizations, universities, think-tanks or projects like the Worldwide Governance Indicators (WGI) etc. try to state these kinds of value driven changes by creating indexes such as the human development index, democracy index, ecological diversity index etc. However, since most of them cannot be viewed as globally accepted mainstreams and cannot be easily measured, it is extremely difficult to select some of them as tools for longer term value creation reporting. This reality may be the reason why the International <IR> Framework doesn't oblige practitioners to mention all kinds of value creations in a quantitative way.

Concluding Remarks

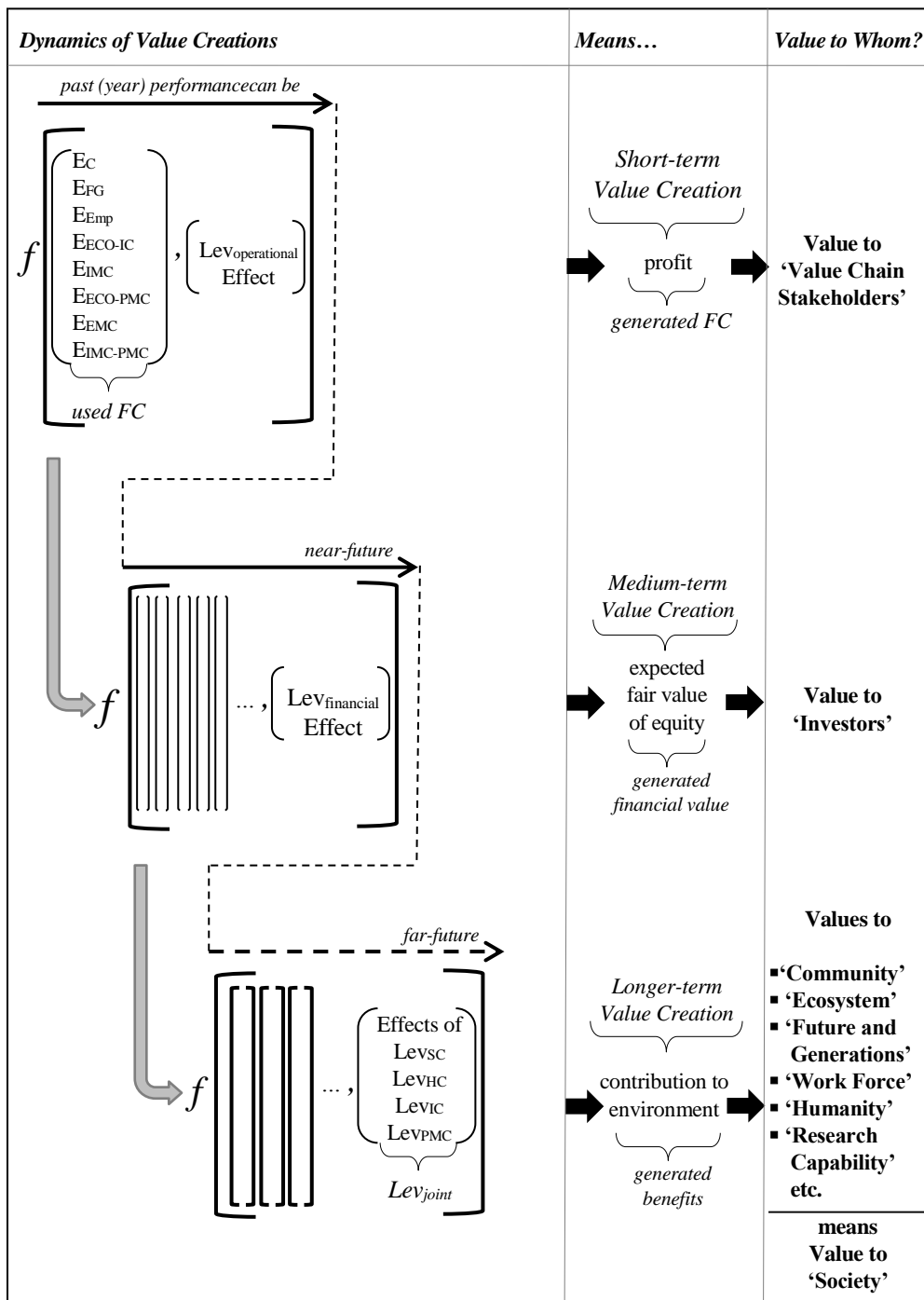
Value to Whom?

This paper tries to answer what the value concept refers to in the International <IR> Framework in a comprehensive way by defining the dynamics of capital formations according to interrelations between capitals and demonstrating the value creation process in the short, medium and longer term.

Value chain describes the full range of activities which are required to bring a product or service from conception, through the intermediary phases of production (involving a combination of physical transformation and the input of various producer services), to delivery to final consumers, and final disposal after use (Kaplinsky, 2000, p. 121). Therefore, *profit* is the result of short-term value creation which indicates the '*value to value chain stakeholders*' such as service providers, value chain actors and financial service providers. Operational leverage is the main value creation factor in the short term.

Medium-term value creation includes the effect of financial leverage, which represents the near-future effects of using capitals. Accordingly, *expected fair value of equity* represents the '*value to investors*'.

Longer-term value creation is the result of joint leverage, which includes the effects of far-future leverages of SC, HC, IC and PMC. Therefore, *longer term value* represents the '*value to society*' that comprises values to the community, ecosystem, future generations, work force, humanity, and research capability etc. The answers to the question are shown in Figure 6.

Figure 6. Value to Whom?

Source: authors’ own elaboration.

Comprehensive Value Approach

The International <IR> Framework has a comprehensive view on value creation. We can say that the philosophy of integrated reporting focuses strongly on value creation reporting in a way to incorporate all the aims of traditional financial reporting, social and environmental accounting (SEA), and the political economy of accounting (PEA) to its structure. In this sense, the concept of '*value to investor*' constitutes only a part of value creation, and the concept of '*value to society*' is adopted by the IIRC under a longer term framework.

Inadequacies of the Framework

The Framework makes clear that the principal function of integrated reporting is the reporting of 'value' (Flower, 2015, p. 5). On the other hand, the statements of the International <IR> Framework related to the value creation process seem very philosophical and so they are inadequate to make integrated reporting fully practicable. Therefore, the Framework needs some revisions, including, but not limited to, the issues mentioned below.

- A systematic interpretation of interrelations between capitals.
- A classification of manufactured capital, like IMC, EMC and PMC.
- A clear classification of value creation under short, medium and longer terms by adopting a result-oriented approach to answer the question *which value refers to what?*
- Touching on leverages of capitals or similar concepts which represent the *something* that create advantageous conditions in short, medium and longer-term value creation.
- Clear identification of the medium and longer term time frames.
- Addressing the tools to report longer term value creation in particular.

Future Research Opportunities

The comprehensive value approach of the International <IR> framework could cause some uncertain issues with current accounting research. In other words, the value creation reporting phenomenon has created a need to revisit some theories, approaches or applications. We mention three of them below as areas of future research.

Positive accounting theory (PAT) was a milestone for accounting that turned the normative perspective into a positive by contributing to the literature that uncovered empirical regularities in accounting practice (Watts and Zimmerman, 1990, p. 131). Thus, the research on explaining and predicting accounting choices has diversified. Recently, highlights of positive accounting research has focused on the value relevance of accounting information (Barth et al., 2001; Brimble and Hodgson, 2007; Jianwei, and Chunjiao, 2007; Beisland, 2010). In other words, hypothetically, *a bridge was constructed between the power of accounting numbers and the values in order to examine their relations especially from the window of the participants in the capital markets*. Most of the studies are related to the short-term results of accounting choices and the significance of accounting information on medium-term value creation. However, this

perspective isn't enough, according to the Framework's comprehensive approach to value creation. Future studies should attach importance to the significance of accounting information in longer term value creation.

Fama et al. (1969) produce useful evidence on how stock prices respond to information and many studies focus on returns in a short window around a clearly dated event. On the other hand, the recent financial literature seems to produce many longer term return anomalies and are consistent with the market efficiency hypothesis that the anomalies are chance results, the apparent overreaction of stock prices to information is about as common as underreaction, and post-event continuation of pre-event abnormal returns is about as frequent as post-event reversal (Fama, 1998, p. 283). Additionally, the IIRC proposed that the integrated report be an organization's single report, which means that the integrated report would be the primary source of information that affects stock prices. In this sense, integrated reports can block possible price anomalies by expressing the expected fair value of equity in terms of money. On the other hand, this kind of reporting can also create a useful tool for value-oriented financial manipulation. In other words, there are question marks regarding trusting organizations on value creation reporting. These issues, *namely the effects of integrated reporting under efficient market hypothesis and how assurance is provided in value creation reporting*, are in need of discussion.

Patten (2013) indicates that the valuation of information disclosed by the publication of standalone reports is the backbone of SEA research. Additionally, these reports are social, political and economic documents, and are useful in recognizing power and conflict in society and the influence of accounting practice and reporting on the distribution of wealth in the framework of PEA (Cooper and Sherer, 1984; Hooks and Stewart, 2015). In this sense, the success of SEA and-PEA based reporting is closely related to the generally accepted beliefs on right and wrong (Roberts and Wallace, 2015). However, *today's right could be tomorrow's wrong*, i.e. generally accepted beliefs can change in the future. Therefore, methodological perspectives should be identified to avoid this probability in the framework of corporate governance.

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