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Integrated reporting and change: evidence from public universities

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Abstract

Purpose – This paper aims to set out the case for integrated reporting (IR) and its potential to lead to change in the public sector by examining it in practice and analyzing the challenges associated with its implementation.
Design/methodology/approach – The paper investigates the role of IR in the public sector through the development of a theoretical framework applied to a case study focused on the University of Udine in Italy.
Findings – IR can be considered more as an incremental than a groundbreaking transformation of existing arrangements and approaches. The analysis revealed that the vagueness, complexity and intrinsic discrepancy between the IR concept and its operationalization brought the University of Udine to challenge and debate the IR approach and ultimately, to reconceptualize and implement its own version that better fitted its strategic aims, its intended audience and its status as a public entity.
Research limitations/implications – The application of the findings to other contexts should be further investigated, while the analytical framework should be applied to different settings and could be enriched to add knowledge and sharpen the paradigms of integrated thinking and value co-creation. Moreover, the interviews focused on people directly involved in the preparation of the integrated report, excluding other stakeholders. Further research could explore their perceptions of IR and focus on their understanding of the IR as well as the value co-creation process.
Practical implications – The findings provide decision makers with insights about how IR can be promoted to enhance its impact on value co-creation. The key processes to be considered for a public organization are integrated thinking and value co-creation, while the key aspects to be investigated in an integrated report for the public sector are materiality and stakeholder engagement. Yet, the IR framework is missing indications on how to account for stakeholders' inputs, outputs and outcomes in a value co-creation process, which is fundamental in a public service logic.
Originality/value – The results shed further light on two fundamental phenomena in the public sector, namely, integrated thinking and value co-creation. The paper also answers the call for more empirical research on IR's rhetoric and practice and on its concrete role in the value creation process.

Keywords Public sector, Intangibles, Value co-creation, Stakeholder, Intellectual capital, Integrated thinking
Paper type Research paper

Introduction

Social, environmental and sustainability reports have become ever more popular (Stewart, 2015), and attention is now moving to integrated reporting (IR) in a recognition that traditional capitals (manufactured and financial) do not provide a sufficient account not only of sustainability issues, but also of value creation opportunities (Eccles and Krzus, 2010). Among the available models and reporting practices, the IR framework (IIRC, 2013) is not just about disclosure. Its potential lies in the possibility of favoring a different way of thinking, i.e. an integrated understanding of an organization's strategies and policies geared toward present and future value creation for all stakeholders (IIRC, 2016).

Interest has been gathering around IR, and the number of companies producing integrated reports has slowly increased over the past five years as well as the number of academic

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contributions written on the topic (Dumay *et al.*, 2016). However, several scholars have highlighted barriers and challenges to IR implementation (Dumay *et al.*, 2017; La Torre *et al.*, 2019). Concerns have been raised about the lack of regulation (Adams, 2017), the vagueness of its key concepts (Dumay *et al.*, 2019), the complexity of its implementation (Dumay and Dai, 2017) and the lack of assurance (Cheng *et al.*, 2014).

Moreover, despite the increasing interest in IR and value generation, how value is co-created still remains vague, and there are calls for more studies that assess IR's rhetoric and practice (Dumay *et al.*, 2016; La Torre *et al.*, 2019). It is still unclear how IR is implemented within an organization and whether it drives organizational change as its promoters suggest (IIRC, 2013). This is a relevant gap because understanding how value is created and accounted for in all its components, whether tangible or intangible, is an imperative strategic issue particularly for public entities (Macnab, 2015).

In the public sector, IR not only responds to the need for greater accountability, legitimacy and transparency to deal with diminishing trust (Macnab, 2015; Katsikas *et al.*, 2017; Biondi and Bracci, 2018; Manes Rossi, 2018; Caperchione *et al.*, 2019), but also helps report on and question the benefits to society more widely. Indeed, public entities have a value creation and stewardship responsibility in a public service logic (Osborne, 2018), which emphasizes the need for public services to foster value co-creation that IR can help account for and promote. IR studies have only just begun to explore the public sector (Dumay *et al.*, 2016). Yet, scholars recognize that in-depth research on how IR can facilitate changes to the way information concerning value creation is reported is needed to respond to the increasing complexity of public sector organizations and because methodologies derived from the private sector are often not appropriate (Cavicchi *et al.*, 2019).

This paper investigates the role of IR in the public sector by examining it in practice and analyzing the challenges associated with its implementation through a case study that focuses on the University of Udine in Italy. There, the implementation of a strategic plan galvanized internal stakeholders into action and ultimately led to the development of a report with some adaptation of the IR concept. The research sets out the case for IR and its potential to change public sector thinking, leading to integrated thinking with impacts on strategic planning and decision-making in order not only to report, but to promote and sustain value co-creation.

To explore these issues, a framework has been developed based on models and mechanisms employed by previous empirical studies looking at IR (Stubbs and Higgins, 2014; Guthrie *et al.*, 2017). Thus, the paper is structured as follows: first, it outlines in a brief literature review the theoretical background for IR, the development of integrated thinking and value co-creation, with a focus on the public sector. It then develops a theoretical framework and explains the methodology that has been applied. Hence, the findings from the case study and their implications for theory and practice are discussed, before offering some concluding remarks in the final section.

The results are relevant from an academic perspective because they shed a further light on two fundamental phenomena in the public sector: by exploring how an integrated report was developed in a university setting, this paper enriches the research on both integrated thinking and value co-creation. It also answers the call for more empirical research on its concrete role in the value creation process (Dumay *et al.*, 2016; La Torre *et al.*, 2019). The findings are also relevant for practice because they provide decision makers with insights about how IR can be promoted to enhance its impact on value co-creation.

Literature review

Reporting on organizations' social and environmental impact has evolved significantly in the past three decades. While historically, the disclosure of relevant information about environmental, social and governance performance has taken place on a voluntary basis, the number of organizations producing social, environmental or sustainability reports has increased substantially, particularly among large multinational companies (Kolk, 2010), in line with the increasing demand by internal and external stakeholders to account for the socio-economic-environmental impact of business activities. Yet, while in the past, much of the discussion on sustainability has focused on the ability of organizations to minimize the liabilities of poor environmental policies and social practices, non-financial reports have more recently been looking also at incorporating growth opportunities associated with enhanced performance and the overall capacity to create value (Stewart, 2015). As a consequence, traditional financial reports and standalone reports such as sustainability reports have lost some appeal because they discuss social, environmental and financial information as "unconnected silos" (Haller and van Staden, 2014, p. 1,191), neglecting the importance of integrating intangible assets and governance features (Stacchezzini *et al.*, 2019). On the contrary, IR is a single tool that provides a comprehensive representation of all the dimensions that influence an organization's ability to create value over time in a forward-looking perspective (Higgins *et al.*, 2014; Liu *et al.*, 2018; Kilic and Kuzey, 2018; Stacchezzini *et al.*, 2019).

IR is defined by the International Integrated Reporting Council (IIRC) as "a concise communication about how an organization's strategy, governance, performance, and prospects, in the context of its external environment, lead to the creation of value in the short, medium, and long term" (IIRC, 2016, p. 6). The IIRC is an international partnership of regulators, investors, standard setters, accounting professionals and non-governmental organizations (NGOs) that share "the view that communication about value creation should be the next step in the evolution of corporate reporting" (IIRC, 2013, p. 1). Hence, IR includes non-financial information on governance, environmental and social metrics, which are integrated with traditional financial information: non-financial metrics are included to the extent that they are "material," i.e. they create value for the business with the aim of communicating a more holistic account of value creation. The IIRC defines value creation in general terms as "the process that results in increases, decreases or transformations of the capitals caused by the organization's business activities and outputs" (IIRC, 2013, p. 33).

Moreover, IR promotes the development of integrated thinking that is "the active consideration by an organization of the relationships between its various operating and functional units and the capitals that the organization uses or affects. Integrated thinking leads to integrated decision-making and actions that consider the creation of value over the short, medium and long term" (IIRC, 2013, p. 2).

However, while some maintain that IR encourages considering what value means in terms of sustainability (Adams, 2015; Atkins *et al.*, 2015) and can improve decision-making (Burke and Clark, 2016), others emphasize that its definition of "value" is rather vague (Dumay *et al.*, 2017), and that IR is too focused on the needs of capital providers and is all about the "prosperity of an organization" with a pre-eminence of investors as its primary audience and with little reference to the prosperity of society (Milne and Gray, 2013; Flower, 2015; De Villiers and Sharma, 2018). It has indeed been criticized because of the influence exercised by lobby groups, such as larger players and accounting firms (van Bommel, 2014; Flower, 2015; Strong, 2015).

Furthermore, IR raises new challenges compared to other non-financial reports, as it is more closely tied to the business strategy and how an organization creates value (Stubbs and Higgins, 2014). First, the IR framework suggests that six assets or capitals should be the inputs and outputs in the business model of any organization, namely financial, manufactured, intellectual, human, social and relationship and natural capital. Yet, some have criticized these six capitals as rather subjective concepts of stock and flows of tangible and intangible resources that are difficult to explain beyond "insubstantial narratives" (Cheng *et al.*, 2014, p. 98).

The second challenge is that the concept of integrated thinking remains rather vague to appreciate and complex to implement, as it requires that through integrated thinking, all employees at all levels consider their organization's strategy, governance, performance and prospects through the connectivity and interdependencies of the factors that have a material effects on its ability to create value. If taken literally, IR would require appreciating each of the six capitals and each functional unit within an organization to identify what "matters" to value creation and to produce an integrated report that should provide an evaluation of each internal process. Such a complex endeavor can often interest and be appreciated only by the highest spheres of an organization, and yet, integrated thinking should pervade it at all levels (Dumay and Dai, 2017). Indeed, Dumay and Dai (2017) recognize that the IR framework implies that integrated thinking must replace some of the existing organizational culture to work, as an IR process requires the overall cooperation and cultural harmonization of structures and people within an organization together with the systematization of production and data collection processes.

Thus, the issue then becomes identifying the six capitals and translating integrated thinking into practice. In other words, when an organization considers operationalizing the IIRC's definitions, they are often found to be vague and may make little sense to most within an organization, thus resulting complex to implement, also because they require changes in behavior and organizational culture. Therefore overall, while the IIRC's rhetoric may be persuasive, often it is not convincing: it is grounded on few sound and rational arguments, yet there is little evidence that IR is superior when compared to other non-financial reporting practices (Dumay *et al.*, 2017). Indeed, recent feedback to the IIRC has led it to recognize that organizations are struggling with its framework (IIRC, 2017; La Torre *et al.*, 2019).

Integrated reporting in the public sector

The public sector has seen a growing importance of more holistic "external reporting" (Broadbent and Guthrie, 2008, p. 141). Yet, even the more recent accounting instruments derived from the private sectors are often not appropriate (Cavicchi *et al.*, 2019). Unlike private entities, public sector organizations are typically more complex, encompass a broader array of stakeholders and have inherent transparency and accountability obligations as they are required to be accountable to society at large (Biondi and Bracci, 2018; Osborne, 2018). As traditional financial reporting says very little about how public organizations create value for their different stakeholders, the focus on value creation has propelled the emergence of IR and its business models for value creation, which aim to offer in a single document a more holistic picture of an organization's activities than standalone sustainability or social responsibility reports.

This is especially relevant for public sector organizations because of their nature and their *raison d'etre*. On the one hand, the intensive use of human resources, the high involvement in social and environmental issues and the intangible nature of its objectives and products (Cinca *et al.*, 2003; Puntillo, 2011) make the public sector a suitable context for the adoption of IR (Bartocci and Picciaia, 2013; Cohen and Karatzimas, 2015). On the other hand, public organizations ought to enhance and promote value co-creation within society at large following a public service logic (Osborne, 2018): public entities have a value creation and stewardship responsibility, which emphasizes the need for public services to foster value co-creation, which refers to the possibility of enabling stakeholders to be active participants in the delivery of services as well as to contribute to their own welfare (Katsikas *et al.*, 2017). Following the main tenets of the stakeholder theory (Freeman, 1984), a stakeholder approach emphasizes active management of the business environment, relationships and the promotion of shared interests. When applied to the public sector, it suggests that managers must formulate strategies and implement processes that satisfy all and only those groups who have a stake (Mitchell *et al.*, 1997), with the central task to integrate the relationships and interests of citizens, employees, suppliers, communities and other stakeholder groups in a way that accounts for their identities, power, legitimacy, urgency and salience in value co-creation (Best *et al.*, 2019).

In this respect, the discussion and operationalization of materiality in public entities require a strong reflection, as it concerns the creation of public value (Guthrie *et al.*, 2017). The concept of value in public settings is particularly complex, elusive and widely debated (Katsikas *et al.*, 2017). According to the IR framework, value creation in a public entity is the increase or transformation caused by the organization's activities and outputs to private and public assets, which are the organization's and its stakeholders' capitals (IIRC, 2016). Talbot's (2011) framework for public value focuses on five aspects: resources, services, social results, processes trust and legitimacy. IR is believed to be a suitable tool to enable the illustration of the creation of public value, as it aligns strategy and business models favoring transparency, accountability, the generation of trust and the engagement of stakeholders in value co-creation, which are pivotal for public sector entities (Manes Rossi, 2017; Caruana and Grech, 2019).

Even though the public sector is underexplored in IR studies (Dumay *et al.*, 2016), it has so far found a fertile ground particularly in healthcare organizations and universities, which are knowledge-intensive entities in which the development of intangible resources to foster value co-creation is paramount (Altenburger and Schaffhauser-Linzatti, 2014; Veltri and Silvestri, 2015; Sangiorgi and Siboni, 2017; Gatti *et al.*, 2018; Manes Rossi *et al.*, 2018; Cavicchi *et al.*, 2019). Moreover, its implementation has also interested state-owned enterprises (Busco *et al.*, 2013; CIMA, 2016; Guthrie *et al.*, 2017; Orelli, 2017; Farneti *et al.*, 2019), which have some similarities with private sector entities and have long used social reports (Biondi and Bracci, 2018) and lately, governmental departments (Caruana and Grech, 2019).

IR is the catalyst for a profound organizational and management change in the public sector (Katsikas *et al.*, 2017). The use of IR at an accountability level, rather than only as a public relations tool, implies more responsiveness toward stakeholders and requires technical and cultural organizational changes (Doni and Gasperini, 2014; Veltri and Silvestri, 2015). Caruana and Grech (2019) emphasize how IR can bring change to public organizations in two ways: on the one hand, principles and elements of IR can be gradually introduced in an effort to enhance transparency and accountability; on the other, the internalization of integrated thinking can lead to enhanced value creation, and overcome the "silo mentality" (Dumai and Dai, 2017, p. 578) that often characterizes the public sector.

Therefore, to explore IR potential to impact strategic planning and decision-making in the public sector in order not only to report, but to promote and sustain value co-creation, the main research questions this paper focuses on are: what change, if any, does IR lead to in public sector organizations and through which mechanisms?

Theoretical framework

Drawing insights from Laughlin's (1991) model of organizational change and to explore whether IR stimulates organizational change, Stubbs and Higgins (2014) develop a theoretical framework, which was later employed by Guthrie *et al.* (2017) to investigate the linkages between IR and public organizations' internal processes. According to such a framework, organizations consist of three components: interpretative schemes, i.e. beliefs, values, norms and purpose, which relate to the culture of an organization; design archetypes, i.e. structure, processes and systems; and tangible subsystems such as people, behaviors, buildings, machines and finance. In Laughlin's (1991) model, organizational change occurs in response to external "jolts," such as the need to prepare an integrated report, which can bring about either a transition with first-order or morphostatic changes, which result in changes to design archetypes and/or subsystems, or a transformation, that is a second-order or morphogenetic change that affects all components. Four different pathways of change can occur: two first order (rebuttal and reorientation) and two second order (colonization and evolution). In the rebuttal pathway, an environmental jolt such as the introduction of IR would result in minor changes to the design archetype, it would be rejected and the organization would revert to its original setup. Reorientation occurs instead when environmental jolts are internalized by an organization and result in changes to the design archetypes and subsystems. Colonization takes place when IR results in changes to design archetypes and subsystems, which spill over to interpretative schemes and are pushed through the organization by a small group of initiators. Evolution involves major changes in the interpretative schemes, which in turn reshape the design archetypes and subsystems and are promoted at all levels of the organization. IR fosters the reconceptualization of the interpretative schemes because of its pervasiveness and its acknowledgment of the connectivity among an organization's six capitals, which underpin its value creation potential.

Stubbs and Higgins (2014) conclude that IR, at least at this early stage, does not drive morphogenetic change, but it leads to a transitional phase with minor reorientation. On the other hand, three years later, Guthrie *et al.* (2017) find some evidence of second-order change, with some minor transformative changes in some of the public entities they analyzed.

Moreover, while so far little has been studied about the approaches employed by IR adopters, some studies have explored those employed by other methodologies such as sustainability reporting. Schaltegger and Wagner (2006) have identified two opposing approaches: the "outside-in" approach, which aims at securing legitimacy through stakeholder dialogue and activities to fulfil their expectations, and the "inside-out" approach, which is concerned with managing performance and occurs when managers require information to support their decisions. In other words, they could be interpreted as institutional vs strategic legitimacy approaches (Suchman, 1995): organizations pursue an outside-in approach to enhance their reputation, secure legitimacy with their stakeholders and fulfil the public relations (PR) aim of being socially compliant. On the other hand, with an inside-out approach, IR supports business strategy with accounting systems aligned to performance, so as to provide effective and timely information for decision-making.

A third "twin approach" (Burritt and Schaltegger, 2010) combines both the inside-out and the outside-in processes, featuring both an external and an internal dimension to IR. By involving external stakeholders and establishing a management approach where reporting is integrated, the "twin approach" includes many organizational units in collecting information, communicating and reporting to improve performance. In addition, it involves external stakeholders in jointly developing integrated strategy, reporting, communication and accounting so that all stakeholders can contribute to value creation. Schaltegger (2012) also identifies a fourth PR-driven approach to reporting, which treats sustainability reporting as a "window-dressing" or "satellite activity," isolated from core business processes.

Stubbs and Higgins (2014) maintain that when implementing IR, the outside-in and PR approaches are more aligned with a reorientation approach, where an external jolt results in small changes to the accounting and performance management systems. On the other hand, the inside-out and twin approaches are more aligned with colonization and evolution, as they suggest that governance, environmental and social issues help shape business strategy.

Furthermore, Stubbs and Higgins (2014) identify some specific mechanisms employed by organizations to facilitate integrated reporting, which were then revised by Guthrie *et al.* (2017) and which can be summarized in five main aspects:

(1) a strategy, which can follow a push approach, when organizations use IR to drive change, or a pull approach, which occurs when IR is seen as the result of integrated practices;

(2) engagement through cross-functional teams, which are a key mechanism for implementing an IR approach, as it requires planning and coordination across business areas, or at least through committees drawn from different functional areas to review and ratify the integrated report;

(3) ownership of the IR process: over time, if the IR process is not to be simply a "window-dressing" exercise, its responsibility should shift from the communication or sustainability department to accounting and finance;

(4) integrated measures: it is necessary to develop integrated measurement systems and metrics such as tools, performance indicators and processes able to capture and represent the various capitals and IR elements; and

(5) materiality analysis, i.e. a set of processes to identify what factors and aspects matter to co-create value in the short, medium and long term; in general, organizations pursuing IR are attempting to align the materiality process with business strategy, focusing on fewer, more strategic and material issues.

In addition, several scholars (Dumay and Dai, 2017; Guthrie *et al.*, 2017) maintain that one of the reasons why the adoption of IR does not lead to transformative change is that change inside an organization may face resistance because of routines and embedded cultures. Indeed, strong organizational cultures are not readily or easily replaced (Dumay and Dai, 2017). Thus, Guthrie *et al.* (2017) analyze a sixth aspect that can facilitate IR within an organization, i.e. the employment of mechanisms to reduce, or at least manage, resistance. Kotter and Schlesinger (1979) identify five fundamental methods for managing resistance: education, i.e. explaining the reason for change to persuade employees; participation, i.e. involving potential sceptics in implementing changes to enhance their commitment; facilitation, through training and support; negotiation, i.e. offering incentives to agree to the change; and coercion, i.e. threatening negative consequences such as less perks, job losses, transfers, etc.

Combining previous theories and findings from the literature, the theoretical framework that has been adopted in this paper to answer the research questions and explore what approaches and mechanisms have been used to implement IR is presented in Figure 1.

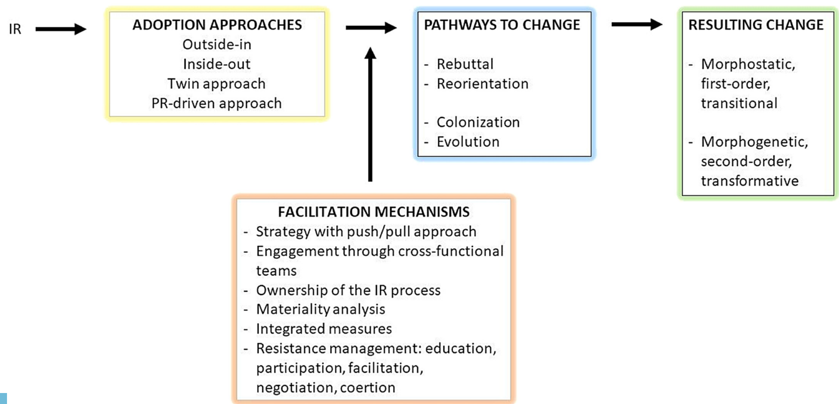

Figure 1.
Theoretical framework

Methodology

For this case study research, from an overview of the relevant literature, two research questions were developed together with a theoretical framework and a research protocol with multiple data sources. A single case study was selected as research methodology because it is particularly useful when a "how" question is being asked (Yin, 2014): single-case studies can be extremely valuable as they allow to improve the appreciation for how people frame and solve problems arising in factual contexts, and they can be used as design exemplar for extrapolation-oriented research (Barzelay, 1993, 2007). The University of Udine was selected as it is among the first Italian public universities to have embraced IR, and it has strong roots into its community. In turn, universities are an appropriate choice because they are knowledge-intensive organizations in which the development of intangible resources is pivotal (Vagnoni and Oppi, 2015; Sangiorgi and Siboni, 2017; Manes Rossi *et al.*, 2018), even more so if they are public both because of their nature and because in general public universities have undergone a shift from being fully funded to being subsidized according to their performance (Guthrie and Neumann, 2007; Manes Rossi *et al.*, 2018).

The study engaged directly with "insiders" involved in integrated reporting to examine the phenomenon in the context in which it occurs (Crane, 1999). In-depth interviews were carried out with the senior management involved in the IR process at the University of Udine. In particular, a total of six in-depth interviews were completed between October and November 2018 with the University's Chancellor, with the four people involved in devising the integrated report, i.e. the Manager of the Budget and Financial Office, the University's Director General, his deputy and the Director of the Department of Economics and Statistics and with the Business Strategy and Knowledge Management Professor involved in setting up IR training workshops, seminars and courses. Observations covered the whole implementation process. A final panel to discuss the impact of IR was organized on 3 December 2018.

An interpretive approach, utilizing qualitative data collection and analysis methods, is an appropriate methodological tool in a research of this nature (Crane, 1999). The interviews were supplemented by a documental analysis: besides its 2017–2018 integrated report, the university's articles of association, the 2015–2019 strategic plan, the 2016–18 operational plan and various implementation documents as well as its website were reviewed to extract the main strategic objectives, processes and actions developed and implemented to fulfil the university's vision and mission. The results were then discussed with the interviewees to triangulate the data and corroborate initial findings (Yin, 2014). Thus, the analysis allowed patterns to emerge (Patton, 2002; Neuman, 2003), resulting in the key themes discussed in the Findings section.

Findings

The University of Udine was founded in 1978 as part of the reconstruction plan of the northeastern region Friuli Venezia Giulia after a major earthquake in 1976. Its aim was to provide the local community with a centre for advanced training in cultural and scientific studies and with a point of reference for generating and exchanging knowledge and ideas. With its ca 16,000 students, Udine is considered a medium-size university in Italy. It offers bachelor, master and doctoral degree programmes in Agriculture, Economics, Engineering, Law, Modern Languages, Communication, Humanities, Medicine, Mathematics and Computer Science.

The strategic plan: a precursor for integrated reporting

In 2015, the University of Udine adopted its first strategic plan that outlines the mission, vision, strategic guidelines and objectives of the university for the five-year term mandate of its Chancellor. The plan was considered the appropriate tool to define strategies and activities that would allow the achievement of the university's long-term institutional objectives. Its mission as defined in the first of its Articles of Association is:

> To develop research so as to enrich teaching and knowledge transfer, in collaboration with Italian and foreign institutions, in order to favour the development of critical thinking, learning, and professional skills among students, and the civil, cultural, economic and social growth of the community.

The vision outlined in the strategic plan calls for maintaining the unique specificity of a university founded by popular will and strongly rooted in its territory. At the same time, the university should follow the classical academic tradition and be a place where students participate in the construction of their future by experiencing that "hic sunt future", literally "here lies the future", which is the university's slogan.

The strategic plan identifies three areas of intervention, i.e. three overall strategic business areas, which are teaching, research and organization (Figure 2). For each business area, a mission, a vision and key objectives were outlined together with an analysis of the current status and a list of actions to be implemented and indicators to be monitored to achieve, or at least strive towards, the identified goals. Management control panels were developed for the university as a whole and for each of its departments, that are its organizational units and cost centres. Both the central offices and each department had to develop three-year operational plans in line with the overall strategic plan and with the three-year budget, which is approved every year by the university.

Hence, a substantial integrated process was already underway and the traditional silo mentality had already been weakened when in 2017, the university decided to undertake IR.

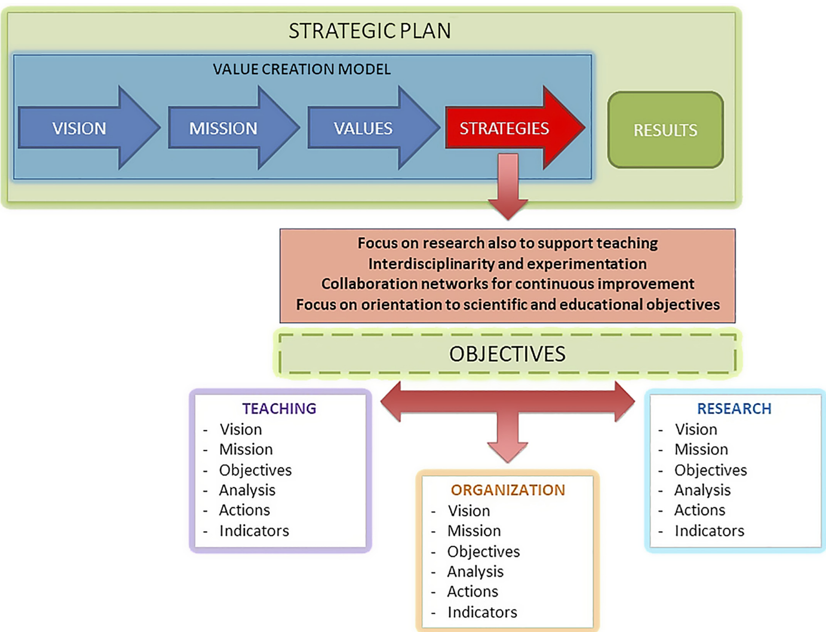

Figure 2.
Business model for the University of Udine

Implementing integrated reporting at Udine

The declared aim of the integrated report (UniUD, 2018) was to account for the impact of university activities undertaken in the 2017–2018 academic year on its assets, i.e. on its financial, technological, environmental, intellectual, human, social and reputational capitals. The main aims were to: (1) measure the value produced for various dimensions through the actions foreseen by the strategic plan for the academic year, (2) guide the academic community towards continuous improvement by monitoring the results of the actions undertaken following the strategic plan and (3) communicate and share the university's performance with its stakeholders, both internal and external.

In the integrated report, value is understood as the "characteristic of a good (commodity or service) of satisfying needs" (UniUD, 2018, p. 11). The Director of the Department of Economics and Statistics clearly outlined the complexity of appreciating and accounting for value creation in a public organization such as a university:

> Any organization, private or public, lives and thrives according to its ability to satisfy the needs of the people interested in its business, using resources efficiently. A balance is reached when the economic value added to the community and the value absorbed by it are at par. [. . .] In private enterprises an economic equilibrium is traditionally observed through their financial statements where revenues, that is a monetary measure of the value or utility produced, are compared with costs, a monetary measure of the value or utility consumed for production: if the former exceed the latter, the business has generated useful resources to remunerate the risk capital and, at the same time, has contributed to the growth of the economic system as a whole. In public institutions the economic balance is more complex to establish. Revenues cannot be used as a measure of value, as they do not represent it even approximately. Traditional budgets are limited to exposing the resources used in relation to those available, while the appreciation of the actual value produced by business activities is delegated to a compound overall judgment on outcomes and impacts vis a vis a community's needs which has to engage all stakeholders.

Thus, a progressive attention was developed towards reporting tools aimed at highlighting the overall and multidimensional contribution of the university to its community. The decision of embracing IR was taken because it was seen as the most complete reporting model available as explained by the Chancellor:

> Above all in universities, the transparency of an organizations' actions cannot be made by offering partial visions, presenting fragmented information and asking citizens to "put the pieces together". We need an integrated approach capable of connecting assets to the strategic guidelines identified by the University in order to evaluate results. It is therefore necessary to adopt an approach capable of integrating resources, decisions and actions with the results produced, capable of making transparent how organizations in general, and universities in particular, are at the service of communities and citizens.

Critical issues with integrated reporting

Interviewees confirmed that the main difficulties faced during the IR process were: the definition of materiality through the university's capitals, understanding how to relate its assets to such conceptualization, the identification of the university's value creation model and the choice of what to include in a single report that should be concise to comply with the IIRC guidelines and so that audiences would actually be enticed to read it. Interviewees agreed that these issues were augmented by the lack of clear guidelines in the IR framework already lamented in the literature (Cheng *et al.*, 2014; Dumay *et al.*, 2017). Yet, interviewees recognized that, though it took more time and effort, this brought some flexibility to the whole process and the possibility to adapt the IR principles and elements to what had been developed since 2015 through the strategic plan. Such document was identified as the basis for developing the IR report with its value creation model, its strategic guidelines and its proposed actions and indicators. The Professor of Knowledge Management and Business Strategy who followed the development of the report suggested to embrace IR for its flexibility:

> We felt the IR guidelines offered enough flexibility to reaggregate capitals in a different way which was more congenital to our assets and strategic aim.

Therefore, the IR model was adapted selecting only five out of six capitals, leaving out from the traditional IR concepts "manufactured capital". Moreover, "intellectual capital" was substituted with "technological capital", which includes assets such as e-learning activities, digital labs and the 4.0 competence centre, while "intellectual capital", interpreted as new research projects and degree courses, the recognition of one department of excellence by the Ministry of Education and so on, was linked to "human capital". Value was analyzed using Talbot's (2011) framework, hence considering resources, processes, services, social results, trust and legitimacy. At the core of the value creation process at the University of Udine lies the strategic plan, which outlines the business model, that is how activities draw on the five capitals as inputs to convert them into outputs; the university's activities and its outputs lead to outcomes in terms of effects on such capitals, i.e. they lead to value creation, preservation or diminution (IIRC, 2013). In the medium term, the capitals are then fuelled back into the system in a circular process. It is important to notice that little efforts were made to include stakeholders' assets. Indeed, "currently, data on stakeholders are not included within analyses" (Perego *et al.*, 2016, p. 58). This is an issue with most integrated reports (Farneti *et al.*, 2019) that still lack the inclusion of stakeholders' inputs, outputs and outcomes in business models, given the complexity of measuring assets and impacts already within one's own organization, let alone for other entities. From the beginning, Flower (2015) raised concerns regarding the IR framework because it does not analyze all stakeholders.

To keep the final document as concise as possible, information to be included in the report was selected according to four criteria: impact on value creation, novelty, specificity to the University of Udine and coherence among strategy, objectives, actions and results. The final layout included short texts with lots of images and explanatory figures to facilitate and encourage reading.

The theoretical framework in action

The approach adopted to promote IR within the University of Udine has revealed a mixed outside-in and inside-out approach, hence a twin approach according to the theoretical framework. There are both elements of stakeholder engagement and activities to fulfil the expectations of information by external parties typical of an outside-in approach, as well as some initial information and tools developed to provide a path to sustain IR, that is more typical of an inside-out approach, as clarified by the Director of the Department of the Economics and Statistics and the Manager of the Budget and Financial Office:

> The report is not only an element to start an integrated approach to sustainable communication, but also a fundamental junction for an integrated approach to sustainable thought and action.

> We undertook this endeavour not because everyone does it or because it is fashionable to do so. We wanted to understand the social balance sheet as a tool that could be used both inside and outside.

However, IR is still at its infancy and has not yet been fully institutionalized. It has had some impact on design archetypes and tangible subsystems, but it has not pervaded all interpretative schemes. The Manager of the Budget and Financial Office indeed recognized that "we are so many, that not all of us share this integrated thinking". Hence, the pathway to change is more of a reorientation, following the theoretical framework, with only some initial impacts on the central core of the organization, which has so far "colonized" only some offices and departments. Yet, it might eventually lead to the takeover of the entire organization.

In terms of the facilitation mechanisms adopted to introduce IR, the report is perceived both as a pull and a push factor, as conceptualized in the theoretical framework. On the one end, the Chancellor described it as the culmination of a three-year strategy:

> The report is a point of arrival in a long journey begun in 2015 with the definition of the University's Strategic Plan and Departmental Strategic Plans, programming tools useful for developing a medium-long term vision and a path to achieve it.

On the other hand, the Director of the Department of Economics and Statistics recognized that staff at the Finance Office perceived it as a first step that would need definitions, tools and indicators to be revisited to better fulfil IR requirements:

> The report is a first step along a path in which the evolution and improvement, even technical, of the instruments and the organizational processes connected to it must be intense and continuous.

Surely, engagement was fostered through cross-functional teams, and the IR process rested with the university's top management team, as suggested by Stubbs and Higgings (2014) and Guthrie *et al.* (2017). An enlarged team was composed of the university's top management figures, representatives from the Finance Office, all area managers and the directors of the nine departments. For practical reasons, the core operational IR team included four people, i.e. the Manager of the Budget and Financial Office, the University's General Director, its deputy and the Director of the Department of Economics and Statistics. The report was eventually approved by the university governing organizations, i.e. the Managing Board and the Academic Senate.

Therefore, the ownership of the IR process was, from the beginning, firmly placed within key organizational structures, which confirmed that it was never intended as a purely PR or "window-dressing" exercise. The Manager of the Budget and Financial Office referred that:

> Such an activity started from the top of the organization, that is the Managing Board and the Academic Senate. It is from these organisms that came the decision to develop an Integrated Report.

A powerful guiding coalition (Lapsley and Pettigrew, 1994) steered the development of IR inside the organization, as it had mastered the adoption of the strategic plan a few years earlier. As in other IR experiences (Gatti *et al.*, 2018), this ensured, from the earliest stages, a strong sponsorship for the project by top management and undoubtedly facilitated the subsequent steps of the design and implementation of the report. Yet, the university community at large needs to further embrace such guidelines, and a certain degree of receptivity to change is necessary for outcomes fostered by institutional leaders to become sustainable (Lapsley and Pettigrew, 1994).

A strong cross-functional core team was also key to the discussion of materiality, which required a strong reflection and commitment as it is a peculiar issue within public sector organizations that have to consider public value (Guthrie *et al.*, 2017). Rather than following the guidelines from the IIRC or examples from other IR adopters, at the University of Udine, the materiality process was linked to the business model fostered by the strategic plan. As explained by one of the interviewees, "in order to identify what distinguishes us, we needed to depart from the pure theoretical model". The Director of the Department of Economics and Statistics further clarified that the decision was to focus on those aspects that matter most to value co-creation and that are linked to the university's slogan "hic sunt futura":

> We are aware we are only at the beginning of a journey. Yet, the fact remains that our University is among the first at international level to embrace not only the issue of integrated reporting, but the much wider and more complex issue of integrated thinking, capable of combining resources, strategies and actions to accurately assess the results produced and demonstrate to students, their families, citizens and all stakeholders that "Hic sunt future".

However, while interviewees felt that the report was a step in the right direction, they believed it can still be improved. In particular, they indicated that the actual measurement of assets and capitals at the beginning and at the end of the academic year should be included. Interestingly, the report covers an academic year from September 2017 to August 2018, which does not correspond to the university's financial year, which runs from January to December. This makes it difficult to integrate and compare financial and non-financial results. Indeed, the Manager of the Budget and Financial Office was aware that financial results play a minor role in the report:

> Monetising all activities was neither possible nor did it make sense to illustrate the impact of activities on our entire community. Eventually only key financial information was included. For other activities we used existing indicators, partly because we did not have time to develop other ones, partly to be able to compare them over time.

Thus, indicators can still be enhanced to better represent actions and their results. For example, interviewees suggested that the assessment of outcomes and impacts can be refined by including the feedback from more stakeholders. Therefore, in terms of integrated measures, both integrated measurement systems and metrics can be refined and be a more effective facilitation mechanism, as suggested by the theoretical framework, even though some reservations were expressed about the knowledge and resources required to fully implement IR.

The mechanisms used to manage resistance included two of those suggested by Guthrie *et al.* (2017): education, with several meetings taking place across the university to illustrate in an integrated fashion the results of the actions undertaken following the strategic plan, and facilitation, with the organization of training workshops, seminars and courses. Moreover, to reduce resistance from intended internal and external audiences, the Manager of the Budget and Financial Office explained that the report was called "Social Report", because it was felt that integrated report would be misleading and not easily understood by lay people:

> We called it Social Report because we thought it was the most common and immediate name. It does not want to be a model, but to be readable by most people.

Hence, quite a few liberties were taken in developing and compiling the integrated report: the six capitals were developed differently than in the theoretical model, materiality was outlined according to the university's strategic plan, the financial information included was minimal and even the name of the report was changed.

Discussion

Summarizing all findings and referring them back to the theoretical framework (Figure 3), it emerges that the University of Udine undertook a twin approach to IR and prepared an integrated report both to guide the academic community (inside-out) and communicate and share its performance with its stakeholders (outside-in). The implementation was facilitated through a pull and push strategy, as integrated practices had already been introduced with the strategic plan in 2015 (pull), but at the same time, IR was used to drive change further within the organization (push). Other facilitation mechanisms included: engaging the academic community through cross-functional teams; placing the IR process firmly within key organizational structures; developing the materiality analysis from the business model fostered by the strategic plan and hence analyzing only five capitals and linking value creation to the university's motto "hic sunt futura"; fostering IR education, promoting its facilitation and naming the report "Social Report" to manage resistance to IR. Yet, the university still needs to refine its integrated measures, both in terms of measurement systems and measures.

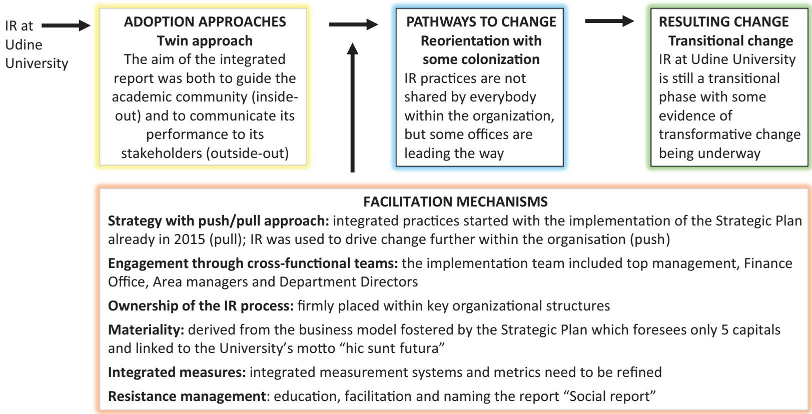

Figure 3.
IR at Udine University

At Udine, the IR plan called for the university management and community at large to engage with the integrated process to contribute to the development of new forms of reporting to help ensure that the value creation and value delivery potential were made explicit. Eventually, the intrinsic discrepancy between the IR concept and its operationalization brought the university to challenge and debate the IR approach, and ultimately to reconceptualize and implement its own version that better fitted its strategic aims, its intended audience and its status as a public entity.

On the one hand, this confirms that the process was in a transitional reorientation phase with IR playing a "transformative function" (Perego *et al.*, 2016, p. 62) leading to integrated thinking and organizational change. On the other hand, challenging and adapting the IR framework means that the integrated report that was developed was inherently subjective, and it included a mix of historical and prospective qualitative and quantitative data, which can give rise to concerns about the validity, reliability and comparability of the report itself (Dumay *et al.*, 2017; Maroun, 2017). However, this apparent contradiction may be intrinsic in the IR framework, which explains "why" IR is needed, but not "how" to implement it (Dumay and Dai, 2017).

The University of Udine adopted an adapted version of the IR framework so much that it even changed its name to a more misleading, but more readily understood term such as "Social Report". Yet, this is not unique. Recent research by Adams (2017), which analyzes ten integrated reports from large US companies, highlights that only three companies mention the IR framework in their reports and just one uses the six capitals as inputs for its business model. One company used in its report's title the term "One Report", which refers rather to the model proposed by Eccles and Kruz (2010), and the rest do not follow or mention any specific approach.

A last aspect that the IR framework has not been helpful with in the case of the University of Udine is accounting for stakeholder engagement in the value co-creation process. In the public sector, IR should eventually lead to a comprehensive integrated process, which not only requires upstream matching and harmonizing structures, cultures and people and downstream the alignment of production processes and data collection within the organization (Dumay and Dai, 2017), but which should also include stakeholders and account for their engagement in value co-creation (Best *et al.*, 2019). Instead, the IR guiding principles, which were initially designed for private entities, even when applied to the public sector encourage only to "provide insight into the nature and quality of the organization's relationships with its key stakeholders, including how and to what extent the organization understands, takes into account and responds to their legitimate needs and interests" (IIRC, 2016, p. 22). Thus, they do not take into consideration stakeholders' inputs, outputs and outcomes. Yet, these are fundamental in the public sector where value co-creation is at work in a public service logic (Osborne, 2018).

Conclusion

Starting from the development of the IR framework and the emergence of the importance of intangible capitals for value co-creation at Udine University, this paper offers some important theoretical and practical implications regarding whether IR leads to change in public sector organizations and, if so, through which mechanisms. In particular, the research concludes that IR tends to bring about a slow transformative change if implemented through different strategies and procedures aimed at promoting value co-creation, engaging the entire organization and preventing rebuttal.

As maintained by previous scholars (Stubbs and Higgins, 2014; Guthrie *et al.*, 2017), the Udine University case study confirmed that IR can be considered more as an incremental than a groundbreaking transformation of existing approaches and arrangements. Precisely because IR requires to embrace integrated thinking, which affects the interpretative schemes of an organization, change will progress slowly even on fertile grounds where some integrated approaches have already been implemented. Hence, IR leads to change by integrated thinking seeping through an organization over time.

The results of the present study are also useful for policy makers and public managers looking to adopt IR, as they shed light on the mechanisms that allow IR to play a transformative function. Such mechanisms include a twin outside-in and inside-out approach facilitated by: a strategy with push and pull approaches, cross-functional teams engaging the whole organization, key figures and departments leading the IR process, the identification of key drivers for value creation through a meaningful materiality analysis with relevant integrated measures and procedures for managing the inevitable resistance within an organization.

Nonetheless, the paper has also revealed some limits of IR regarding the complexity of promoting integrated thinking and value creation in a public setting, i.e. where, besides a focus on materiality, stakeholder engagement is also required to co-create value for society at large. On the one hand, this places this work in what Dumay *et al.* (2016) call the "fourth stage of IR research", i.e. the perspective of what IR can do for an economy, environment and society and a wider group of stakeholders beyond investors. On the other, focusing on stakeholder engagement points at a weakness of the IIRC framework and adds to previous studies about barriers and challenges to IR implementation (Dumay *et al.*, 2017; La Torre *et al.*, 2019), which concerned mainly the lack of regulation (Adams, 2017), the vagueness of IR key concepts (Dumay *et al.*, 2019), the complexity of IR implementation (Dumay and Dai, 2017) and the lack of assurance (Cheng *et al.*, 2014).

From a practical point of view, potential implementers need to be aware that the IR rhetoric is persuasive, yet it will work only if integrated thinking is developed within the organization, and if one is aware that, while IR is based on set principles, its definitions are often vague and its guidelines do not prescribe in detail how to proceed. Indeed, IR is rather complex to implement: its holistic approach may be useful for senior management with a deep understanding and knowledge of the organization, but few employees, let alone stakeholders, can conceptualize, let alone operationalize integrated thinking using its rather vague guidelines and definitions (Dumay and Dai, 2017). While this may seem to make little sense for setting reporting standards, it allows for the necessary flexibility to adapt an integrated report to an organization's specificities, at the expense though of comparability and assurance. For both policy makers and public managers, it is relevant to understand that the full introduction of the IR requirements may not be recommendable as this may be overwhelming, costly and not necessary (Caruana and Grech, 2019). It is more sensible to be aware of the IR framework, follow its principles and take from it only what is deemed as relevant for one's own organization.

Moreover, from the research, it emerges that integrated thinking can promote value co-creation in a public setting, but efforts to think about a public entity in an integrated way will improve operations and outcomes only if they focus on the value co-creation process itself (Caruana and Grech, 2019). Hence, the key aspects to be investigated in an integrated report for the public sector are materiality and stakeholder engagement in a public service logic (Osborne, 2018). On the one hand, the disclosure of materiality through the business model is important for transparency and accountability (Biondi and Bracci, 2018), as well as to assess how assets are used to create value in the short, medium and long term and whether an organization has an adequate setup to achieve its strategy (Guthrie *et al.*, 2017). On the other hand, identifying specific stakeholders and disclosing the formal processes with which a public organization responds to their interests would help open up the public sector's silo mentality (Dumay and Dai, 2017) and highlight the internal and external processes that actually lead to add value to public activities and services (Manes Rossi, 2017; Caruana and Grech, 2019). While requiring such internal and external processes to be reported may require technical and cultural organizational changes (Doni and Gasperini, 2014; Veltri and Silvestri, 2015), it may engender a continuous effort towards improvement and value co-creation.

Yet, the research has revealed that the IR framework is missing indications on how to account for stakeholders' inputs, outputs and outcomes in a value co-creation process, which is fundamental particularly for public sector organizations (Katsikas *et al.*, 2017). Flower (2015) has already voiced serious concerns about the IIRC's current approach because it does not focus on stakeholders and society at large. Future studies could focus on the need to explore further these issues to develop tools and models to account for stakeholders' engagement in value co-creation taking into consideration stakeholder identities, power, legitimacy, urgency and salience (Mitchell *et al.*, 1997; Best *et al.*, 2019).

Finally, there are some limitations that future research could address. First of all, this study has the usual limitations, and advantages, of a single-case study. The findings shed light on an emerging area and contribute to a better understanding; yet, they may not be directly transferrable to other contexts. In other words, the implications from this study would need to be further validated using comparative examination with evidence not only from other universities, but also from public organizations in other sectors and geographies to verify if and in how far findings can be generalized and to build on this early stage of understanding, which may lead to further theoretical insights. The framework could then be enriched with the conceptualization and investigation of other dimensions, which could eventually contribute to add knowledge and sharpen the paradigms of integrated thinking and value co-creation. Lastly, the interviews focused on people directly involved in the preparation of the integrated report at the University of Udine, excluding other stakeholders such as regulators, community leaders, students and their families. Further research could explore their perceptions of IR and focus on their understanding of the IR as well as the value co-creation process.

References

Adams, C.A. (2015), "The international integrated reporting council: a call to action", *Critical Perspectives on Accounting*, Vol. 27, pp. 23-28.

Adams, C.A. (2017), "Conceptualising the contemporary corporate value creation process", *Accounting, Auditing and Accountability Journal*, Vol. 30 No. 4, pp. 906-931.

Altenburger, O.A. and Schaffhauser-Linzatti, M.M. (2014), "Integrated reporting for universities? Austrian public universities as an example", in *Knowledge and Management Models for Sustainable Growth, e-book of Proceedings of IFKAD (International Forum on Knowledge Asset Dynamics)*, pp. 2705-2712.

Atkins, J.F., Solomon, A., Norton, S. and Joseph, N.L. (2015), "The emergence of integrated private reporting", *Meditari Accountancy Research*, Vol. 3 No. 1, pp. 28-61.

Bartocci, L. and Picciaia, R. (2013), "Towards integrated reporting in the public sector", in Busco, C., Frigo, M.L., Riccaboni, A. and Quattrone, P. (Eds), *Integrated Reporting. Concepts and Cases that Redefine Corporate Accountability*, Springer, Cham, pp. 191-204.

Barzelay, M. (1993), "The single case study as intellectual ambitious inquiry", *Journal of Public Administration Research and Theory*, Vol. 3 No. 3, pp. 305-318.

Barzelay, M. (2007), "Learning from second-hand experience: methodology for extrapolation-oriented case research", *Governance: An International Journal of Policy, Administration, and Institutions*, Vol. 20 No. 3, pp. 521-543.

Best, B., Moffett, S. and McAdam, R. (2019), "Stakeholder salience in public sector value co-creation", *Public Management Review*, Vol. 21 No. 11, pp. 1707-1732.

Biondi, L. and Bracci, E. (2018), "Sustainability, popular and Integrated Reporting in the public sector: a fad and fashion perspective", *Sustainability*, Vol. 10 No. 9, pp. 1-16.

Broadbent, J. and Guthrie, J. (2008), "Public sector to public services: 20 years of 'contextual' accounting research", *Accounting, Auditing and Accountability Journal*, Vol. 21 No. 2, pp. 129-169.

Burke, J.J. and Clark, C.E. (2016), "The business case for integrated reporting: insights from leading practitioners, regulators, and academics", *Business Horizons*, Vol. 59 No. 3, pp. 273-283.

Burritt, R.L. and Schaltegger, S. (2010), "Sustainability accounting and reporting: fad or trend?", *Accounting, Auditing and Accountability Journal*, Vol. 23 No. 7, pp. 829-846.

Busco, C., Frigo, M.L., Riccaboni, A. and Quattrone, P. (2013), *Integrated Reporting. Concepts and Cases that Redefine Corporate Accountability*, Springer, Cham.

Caperchione, E., Cohen, S., Manes-Rossi, F. and Brusca, I. (2019), "Editorial: innovations in public sector financial and management accounting—for better or worse?", *Public Money and Management*, Vol. 39 No. 6, pp. 385-388.

Caruana, J. and Grech, I. (2019), "Tweaking public sector reporting with integrated reporting (IR) concepts", *Public Money and Management*, Vol. 39 No. 6, pp. 409-417.

Cavicchi, C., Oppi, C. and Vagnoni, E. (2019), "On the feasibility of Integrated Reporting in healthcare: a context analysis starting from a management commentary", *Journal of Management and Governance*, Vol. 23 No. 2, pp. 345-371.

Cheng, M., Green, W., Conradie, P., Konishi, N. and Romi, A. (2014), "The international integrated reporting framework: key issues and future research opportunities", *Journal of International Financial Management and Accounting*, Vol. 25, pp. 90-119.

CIMA (2016), *Integrated Reporting in the Public Sector*, Chartered Institute of Management Accountants, London, UK, available at: https://integratedreporting.org/resource/cima-integrated-reporting-in-the-public-sector/.

Cinca, C.S., Molinero, éc.M. and Queiroz, A.B. (2003), "The measurement of intangible assets in public sector using scaling techniques", *Journal of Intellectual Capital*, Vol. 4 No. 2, pp. 249-275.

Cohen, S. and Karatzimas, S. (2015), "Tracing the future of reporting in the public sector: introducing integrated popular reporting", *International Journal of Public Sector Management*, Vol. 28 No. 6, pp. 449-460.

Crane, A. (1999), "Are you ethical? Please tick yes or No. On researching ethics in business organizations", *Journal of Business Ethics*, Vol. 20 No. 3, pp. 237-248.

De Villiers, C. and Sharma, U. (2018), "A critical reflection on the future of financial, intellectual capital, sustainability and integrated reporting", *Critical Perspectives on Accounting*, in press, doi: 10.1016/j.cpa.2017.05.003 (accessed 20 October 2019).

Doni, F. and Gasperini, A. (2014), "The internal integrated reporting and the value creation: a case study approach", in *Knowledge and Management Models for Sustainable Growth, E-Book, of Proceedings of IFKAD*, International Forum on Knowledge Asset Dynamics, pp. 2666-2704.

Dumay, J. and Dai, T. (2017) "Integrated thinking as a cultural control?", *Meditari Accountancy Research*, Vol. 25 No. 4, pp. 574-604.

Dumay, J., Bernardi, C., Guthrie, J. and Demartini, P. (2016), "Integrated reporting: a structured literature review", *Accounting Forum*, Vol. 40, pp. 166-185.

Dumay, J., Bernardi, C., Guthrie, J. and La Torre, M. (2017), "Barriers to implementing the international integrated reporting framework: a contemporary academic perspective", *Meditari Accountancy Research*, Vol. 25 No. 4, pp. 461-480.

Eccles, R. and Krzus, M. (2010), *One Report: Integrated Reporting for a Sustainable Strategy*, Wiley & Sons, Hoboken NJ.

Farneti, F., Casonato, F., Montecalvo, M. and de Villiers, C. (2019), "The influence of integrated reporting and stakeholder information needs on the disclosure of social information in a state-owned enterprise", *Meditari Accountancy Research*, Vol. 27 No. 4, pp. 556-579.

Flower, J. (2015), "The international integrated reporting council: a story of failure", *Critical Perspectives on Accounting*, Vol. 27, pp. 1-17.

Freeman, R.E. (1984), *Strategic Management: A Stakeholder Approach*, Pitman, Boston MA.

Gatti, M., Chiucchi, M.S. and Montemari, M. (2018), "Management control systems and integrated reporting: which relationships? The case of the Azienda Ospedaliero Universitaria Ospedali Riuniti Ancona", *International Journal of Business and Management*, Vol. 13 No. 9, pp. 169-180.

Guthrie, J. and Neumann, R. (2007), "Economic and non-financial performance indicators in universities: the establishment of a performance-driven system for Australian higher education", *Public Management Review*, Vol. 9 No. 2, pp. 231-252.

Guthrie, J., Manes Rossi, F. and Orelli, R., (2017), "Integrated Reporting and integrated thinking in Italian public sector organisations", *Meditari Accountancy Research*, Vol. 25 No. 4, pp. 553-573.

Haller, A. and van Staden, C. (2014), "The value-added statement – an appropriate instrument for Integrated Reporting", *Accounting, Auditing and Accountability Journal*, Vol. 27 No. 7, pp. 1190-1216.

Higgins, C., Stubbs, W. and Love, T. (2014), "Walking the talk (s): organisational narratives of integrated reporting", *Accounting, Auditing and Accountability Journal*, Vol. 27 No. 7, pp. 1090-1119.

International Integrated Reporting Council (IIRC) (2013), *The International Integrated Reporting Framework*, International Integrated Reporting Council, London.

International Integrated Reporting Council (IIRC) (2016), *Focusing on Value Creation in the Public Sector. An Introduction for Leaders*, International Integrated Reporting Council, London.

International Integrated Reporting Council (IIRC) (2017), *International <IR> Framework Implementation Feedback*, International Integrated Reporting Council, London.

Katsikas, E., Manes Rossi, F. and Orelli, R.L. (2017), *Towards Integrated Reporting: Accounting Change in the Public Sector*, Springer, Cham.

Kılıç, M. and Kuzey, C. (2018), "Assessing current company reports according to the IIRC integrated reporting framework", *Meditari Accountancy Research*, Vol. 26 No. 2, pp. 305-333.

Kolk, A. (2010), "Trajectories of sustainability reporting by MNCs", *Journal of World Business*, Vol. 45 No. 4, pp. 367-374.

Kotter, J.P. and Schlesinger, L.A. (1979), "Choosing strategies for change", *Harvard Business Review*, Vol. 86 Nos 7/8, pp. 1-10.

La Torre, M., Bernardi, C., Guthrie, J. and Dumay, J. (2019), "Integrated reporting and integrated thinking: practical challenges", in Arvidsson, S. (Ed), *Challenges in Managing Sustainable Business: Reporting, Taxation, Ethics and Governance*, Palgrave Macmillan, London, pp. 25-54.

Lapsley, I. and Pettigrew, A. (1994), "Meeting the challenge: accounting for change", *Financial Accountability and Management*, Vol. 10, pp. 79-92.

Laughlin, R.C. (1991), "Environmental disturbances and organizational transitions and transformations: some alternative models", *Organization Studies*, Vol. 12 No. 2, pp. 209-232.

Liu, Z., Jubb, C. and Abhayawansa, S. (2018), "Analysing and evaluating integrated reporting: insights from applying a normative benchmark", *Journal of Intellectual Capital*, Vol. 20 No. 2, pp. 235-263, doi: 10.1108/JIC-02-2018-0031 (accessed 8 July 2019).

Macnab, A. (2015), "Debate: would outcome costing and integrated reporting link resources to strategy in the public sector?", *Public Money and Management*, Vol. 35 No. 6, pp. 399-400.

Manes Rossi, F., Nicolò, G. and Tartaglia Polcini, P. (2018), "New trends in intellectual capital reporting: exploring online intellectual capital disclosure in Italian universities", *Journal of Intellectual Capital*, Vol. 19 No. 4, pp. 814-835.

Manes Rossi, F. (2017), "Setting the context for integrated reporting in the public sector", in Katsikas, E., Manes Rossi, F and Orelli, R.L. (Eds), *Towards Integrated Reporting: Accounting Change in the Public Sector*, Springer, Cham, pp. 1-24.

Manes Rossi, F. (2018), "Is integrated reporting a new challenge for public sector entities?", *African Journal of Business Management*, Vol. 12 No. 7, pp. 172-187.

Maroun, W. (2017), "Assuring the integrated report: insights and recommendations from auditors and preparers", *The British Accounting Review*, Vol. 49 No. 3, pp. 329-346.

Milne, M.J. and Gray, R. (2013), "W(h)ither ecology? The triple bottom line, the global reporting initiative, and corporate sustainability reporting", *Journal of Business Ethics*, Vol. 118 No. 1, pp. 13-29.

Mitchell, R.K., Agle, B.R. and Wood, D.J. (1997), "Toward a theory of stakeholder identification and salience: defining the principle of who and what really counts", *Academy of Management Review*, Vol. 22 No. 4, pp. 853-886.

Neuman, W. (2003), *Social Research Methods: Qualitative and Quantitative Approaches*, Pearson Education, New York NY.

Orelli, R.L. (2017), "Accounting change and integrated reporting in practice: the case of Hera", in Katsikas, E., Manes Rossi, F. and Orelli, R.L. (Eds.), *Towards Integrated Reporting: Accounting Change in the Public Sector*, Springer, Cham (Switzerland), pp. 95-117.

Osborne, S.P. (2018), "From public service-dominant logic to public service logic: are public service organizations capable of co-production and value co-creation?", *Public Management Review*, Vol. 20 No. 2, pp. 225-231.

Patton, M.Q. (2002), *Qualitative Research & Evaluation Methods*, 3rd ed., Sage Publications, Thousand Oaks, CA.

Perego, P., Kennedy, S. and Whiteman, G. (2016), "A lot of icing but little cake? Taking integrated reporting forward", *Journal of Cleaner Production*, Vol. 136, A, pp. 53-64.

Puntillo, P. (2011), "Intellectual Capital in the public sector", in Bronzetti, G., Mazzotta, R., Puntillo, P., Silve and Veltri, S. (Eds), *Intellectual Capital Reporting Practices in the Non-profit Sector*, Virtus Interpress, Sumy, pp. 58-85.

Sangiorgi, D. and Siboni, B. (2017), "The disclosure of intellectual capital in Italian universities: what has been done and what should be done", *Journal of Intellectual Capital*, Vol. 18 No. 2, pp. 354-372.

Schaltegger, S. and Wagner, M. (2006), "Integrative management of sustainability performance, measurement and reporting", *International Journal of Accounting, Auditing and Performance Evaluation*, Vol. 3 No. 1, pp. 1-19.

Schaltegger, S. (2012), "Sustainability reporting beyond rhetoric: linking strategy, accounting and communication", in Jones, S. and Ratnatunga, J. (Eds), *Contemporary Issues in Sustainability Accounting, Assurance and Reporting*, Emerald Group Publishing, Bingley, pp. 183-196.

Stacchezzini, R., Florio, C., Sproviero, A.F. and Corbella, S. (2019), "An intellectual capital ontology in an integrated reporting context", *Journal of Intellectual Capital*, Vol. 20 No. 1, pp. 83-99.

Stewart, L.S. (2015), "Growing demand for ESG information and standards: understanding corporate opportunities as well as risks", *The Journal of Applied Corporate Finance*, Vol. 27 No. 2, pp. 58-63.

Strong, P. (2015), "Is integrated reporting a matter of public concern? Evidence from Australia", *The Journal of Corporate Citizenship*, Vol. 60, pp. 81-100.

Stubbs, W. and Higgins, C. (2014), "Integrated reporting and internal mechanism of change", *Accounting, Auditing and Accountability Journal*, Vol. 27 No. 7, pp. 1068-1089.

Suchman, M.C. (1995), "Managing legitimacy: strategic and institutional approaches", *Academy of Management Review*, Vol. 20 No. 3, pp. 571-610.

Talbot, C. (2011), "Paradoxes and prospects of 'public value'", *Public Money and Management*, Vol. 31 No. 1, pp. 27-34.

Università degli Studi di Udine (UniUD) (2018), *Bilancio Sociale*, Forum, Udine.

Vagnoni, E. and Oppi, C. (2015), "Investigating factors of intellectual capital to enhance achievement of strategic goals in a university hospital setting", *Journal of Intellectual Capital*, Vol. 16 No. 2, pp. 331-363.

van Bommel, K. (2014), "Towards a legitimate compromise? An exploration of Integrated Reporting in The Netherlands", *Accounting, Auditing and Accountability Journal*, Vol. 27 No. 7, pp. 1157-1189.

Veltri, S. and Silvestri, A. (2015), "The Free State University integrated reporting: a critical consideration", *Journal of Intellectual Capital*, Vol. 16 No. 2, pp. 443-462.

Yin, R.K. (2014), *Case Study Research: Design and Methods*, 5th ed., Sage, Thousand Oaks, CA.

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