

Original Research Paper

# The Path from Values to Value: A Case Study Within the Public Sector

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**Abstract:** The paper investigates the driving role of Intellectual Capital (IC), which is emerging from the ongoing change in the managerial approach in the Italian public sector. Drawing upon data collected from a case study regarding a local transport public utility, we intend to analyze the virtuous path that leads *from values to value*, focusing attention on the centrality of the soft dimension of human behavior (*values*) in improving the organization's performance (*value*). The case study allowed us to highlight how, in a few years, it was possible to design and implement a strategic plan, based on the three pillars of IC – human, structural and relational capital. Before managerial change, the public utility investigated was characterized by a deep lack of awareness of its intrinsic capability to face the challenge coming from the request for rationality, which is at present determining the new scenario in the entire public sector. Our research offers a contribution to the debate on the relevance of Intellectual Capital in the public sector, giving evidence of good practices that can be developed in other similar contexts and supporting a theoretical background with further advancement in managerial tools. We have also identified the relevant role of the system of internal control and the implications of that system in the accountability path.

**Keywords:** Public Value, IC, Human Capital, Organizational Capital, Relational Capital, Performance, Public Utility

## Introduction

The paper focuses on Intellectual Capital (IC) in the public sector (Guthrie *et al.*, 2009; Ramírez-Córcoles, 2010; Schneider and Samkin, 2008; Serrano Cinca *et al.*, 2003), today considered one of the least addressed areas of IC research (Guthrie *et al.*, 2012, p. 74). There is, both in literature and in practice, increasing attention being paid to IC as it is generally acknowledged that it contributes to improving a firm's overall performance (Giuliani, 2016; Massingham and Tam, 2015). Subsequently, the paper looks at public value, providing a review of concepts, critiques and meanings developed in literature (Rhodes and Wanna, 2007; Alford and O'Flynn, 2009; Meynhardt, 2009) in conjunction with the role attributed to IC in this area. Starting from the recent definition by Dumay regarding IC, in which he emphasizes its function as creating value, assuming that value is "much more than money" (Dumay, 2016, p. 169), this study focuses on the highest public administration goals considering value creation in its

characteristic ephemeral essence that can disappear or appear at any time if an organization manages it well or not. This research may be referred to as the fourth development stage of IC research whereby IC expands its boundaries and includes other forms of value, beyond just monetary wealth (Cuozzo *et al.*, 2017).

The issue is to identify the critical factors that can increase the effectiveness of managerial change in a public entity (Dumay *et al.*, 2015), intended to meet citizen expectations and improve the overall performance of the company. In this sense, the authors conducted an empirical investigation based on a case study of an Italian local transport public utility, with the aim to answer the following research questions:

- *RQ1:* Is there any evidence supporting the idea that it is possible to recover the economic viability of a company operating in the public sector with a low level of financial support, acting on the lever of intangible assets and primarily on the values related to the public identity of the company?

- *RQ2*: To what extent the management of intangible resources affected the restructuring path toward value creation in the company under investigation?

The paper has 5 further sections. The following section outlines the theoretical framework of the research, presenting concepts and models developed in literature regarding IC and public value, in the ongoing debate on the public sector. The third section describes methodology and research design, based on the case study.

The fourth section presents the ATM (*Azienda Trasporti di Messina*) case, in which the authors have observed the virtuous path *from values to value*, testing in practice the theoretical issues related to the topic investigated, to answer the research questions. Section 5 presents the results of our empirical analysis. Section 6 discusses the main findings of the field study, addresses some conclusions and the limitation of the study, providing insights for further research.

### The Theoretical Framework: Creating Public Value Trough IC

This section outlines the main conceptual antecedents for the interpretation of the case investigated in the paper. The two research streams assumed as the theoretical background of the study are those considering (1) the management of intellectual capital (IC) in the public sector and (2) the theory of public value (PV). Given the growing attention to the link between IC and public value within the public sector (Guthrie and Dumay, 2015; Massingham and Tam, 2015; Massaro *et al.*, 2015; Manes Rossi *et al.*, 2016; Wiedenhofer, 2017), the researchers adopted the confluence of these two fields of research as a lens through which to observe the real situation, following a “performative” approach, aimed to investigate *how* IC works in organizations rather than offering normative solutions (Dumay *et al.*, 2015).

More than twenty years have passed since the publication of the seminal work by Mark H. Moore, *Creating Public Value Strategic Management in Government* (1997), from which studies and research on the concept of public value were triggered. Indeed, the rise of this new approach could be attributed to the growing need to overcome the New Public Management (NPM) concept generally bound to economic models and management techniques borrowed from the private sector (Pollitt and Bouckaert, 2011). According to Meynhardt “the concept of Public Value (PV) would reflect an almost predictable renaissance of motives and themes of the “collective” and a view of the public sector that cannot be reduced to individual cost-benefit analysis, customer orientation or rational choice-models” (2009, p. 192). It represents the response to a more integrated notion of value creation than that used to measure shareholder wealth.

In the path toward the creation of public value, a pivotal role concerns the management approach, which could be represented by the strategic triangle proposed

by Moore (1995) to better explain a strategy for the public sector. According to the Author, the result of public action depends on the organization's ability to coordinate and simultaneously fulfil three conditions:

- 1) Produce objectively valid results for public subjects, citizens and stakeholders
- 2) Implement politically sustainable actions
- 3) Be entitled to enjoy external support (must be able to attract the support of relevant actors)

Thus, the strategic triangle depicts a tool to manage public intervention strategies related to how to:

- Achieve resources
- Obtain the necessary consensus for achieving goals
- Define resource-proportionate goals

Despite the critiques on several grounds of PV, sometimes referred to as a paradigm and sometimes as a theoretical framework or as a concept, a model or as a heuristic device or even a story (Rhodes and Wanna, 2007; Alford and O'Flynn, 2009; Meynhardt, 2009), it is clear that there is an emerging interest in PV in both academic and professional circles.

Indeed, PV continues to represent the new idea in public sector management, according to which it could be considered as the balanced satisfaction of both the end-user needs of the community and the functional needs of the institution; it potentially offers a very different theoretical and practical approach to the understanding and practice of public management. In other words, the possibility to generate PV must be strictly connected to the rational management of the available scarce economic resources and, at the same time, to the management aimed at valuing its intangible, as well as tangible, assets in an efficient manner, to meet the social needs of citizens, users and stakeholders.

The main issue lies in how to define the complex and articulated notion of value as it “is one of those ambiguous container terms with enormous promise of insight but no widespread consensus” (Meynhardt, 2009, p. 196). Actually, there are several definitions of value and many philosophers and social scientists have, over time, faced the different aspects.

#### *According to Meynhardt*

“The often complex and subtle arguments can [...] be summarized as follows: Value objectivists (e.g., Windelband, Husserl, Scheler) basically argue that value “is,” i.e., value is a characteristic of an object, being almost physically attached to it. The question of this so-called value idealism is then how value can be identified and experienced. In stark contrast, value subjectivists

(e.g., Meinong, Ehrenfels, Menger) basically argue that something “has” a value, i.e., that values are not determined as external entities or truths but agreed upon by valuing (or synonymously “evaluating”) subjects. This view emphasizes a more active subject, identifying, realizing and creating values while processing information and experiences.” (2009, p. 198).

Moreover, it is true that evaluations can be related to almost any object, then it is possible to conceptualize “public” as the object of evaluation (Meynhardt, 2009). Thus, public value regards valuing “the public” considering it as what individuals perceive as public. PV, then, is the combined view of the public about what they regard as valuable and it is produced in every social contest. It regards the relationship between the individual and the social entity (community, group, nation) that differentiates the quality of this relationship; consequently, understanding PV involves a non-normative approach, an integrated notion of value creation that cannot be fully expressed by “objective” quantities.

As asserted by Meynhardt (2009, p. 212) “Public value creation is the process which is measured against psychological evaluation on an individual and group level. In this broad notion, producing “facts” is not necessarily correlated to value creation. If a value is not in peoples’ minds, it is not “real”.

According to the above, to evaluate its increase in the process of PV creation, it is necessary to assess whether this increase has considerably influenced one or more essential needs at an individual level. Therefore, to complement objective and subjective elements in a coherent framework, the PV must also consider the economic perspective where financial and economic value are instrumental-utilitarian to public value creation (Meynhardt, 2009, p. 211).

As a consequence of this view, IC can be considered as one of the important components of value creation (Massingham and Tam, 2015).

Using Dumay’s words:

“[IC] is the sum of everything everybody in a company knows that gives it a competitive edge [...] Intellectual Capital is intellectual material, knowledge, experience, intellectual property, information [...] that can be put to use to create [value].” (Dumay, 2016, p. 169).

Today, both in literature and in practice, there is growing attention paid to IC together with the awareness that it can provide considerable added value. Among scholars, there is a wide range of interpretations regarding the nature of intellectual capital (Bushfield, 2008, p. 10) and a great deal of research has been dedicated to defining IC, to explaining its elements and analysing its management and disclosure. Thus, IC can be identified as the total knowledge resources of a firm to create value; indeed, it represents a valuable resource and a capability for action based on knowledge and

knowing (Nahapiet and Ghoshal, 1998).

After two decades of interest, the rise of the knowledge economy and the current push for integrated reporting (IR), which arguably contains IC information targeted at investors, have determined a renewed increasing interest in IC research and perspectives. This pathway has led to the fourth stage of IC research, whereby it expands its boundaries into the wider eco-system to “go beyond IC reporting” (Edvinsson and Kivikas, 2017, p. 163) and to include other forms of value, beyond just monetary wealth (Dumay, 2016).

According to the most popular classification (Guthrie *et al.*, 2001; Meritum, 2002; Serrano Cinca *et al.*, 2003; Marr and Chatzkel, 2004), it is widely recognized that there are three distinct classical aspects in which IC may be considered: Human Capital (HC) refers to all aspects involving the aptitudes, competences, experience and skills (Choo and Bontis, 2002; Guerrero, 2003; Kong, 2008) of people, since their knowledge and abilities are pivotal in the achievement of the objectives of an entity. Moreover, studies on human capital consider also the tacit knowledge that is contained inside human heads (Nahapiet and Ghoshal, 1998; Rupo, 2003) and the relationship that employees generate within an organization. Relational Capital (RC) refers to the intangible resources and capabilities, which contribute to external relations (Bontis, 1999; Roos *et al.*, 1998; Stewart and Ruckdeschel, 1997), useful for value creation; Structural Capital (SC) (also identified as organizational capital) regards the entity resources, such as databases, information systems, research projects, work procedures and routines, governance principles, ethic codes and management philosophy (Manes Rossi *et al.*, 2016, p. 698). It gives support to human capital in day-to-day activities (Garlatti *et al.*, 2014).

Though the largest part of initial studies and research on IC have been developed in the private sector (Guthrie *et al.*, 2012), given the worldwide process of reform that has interested public administration and the introduction of the NPM philosophy, it is now widely recognized that IC plays a key role also in this new approach (Manes Rossi *et al.*, 2016). Moreover, the public sector, with its peculiarities, represents a particular context of analysis for the application of IC theory (Serrano Cinca *et al.*, 2003; Dumay *et al.*, 2015).

Admittedly, there are several reasons that support the notion that intangible services are even more present in the public sector than in the private sector. Indeed, public administrations tend to have more non-financial objectives. Moreover, even if public and private sectors use the same production inputs, the public sector is characterized by a more intensive use of human and knowledge factors, which are intangible assets (Lanfranchi *et al.*, 2015a). Furthermore, a great deal of public sector output consists of services, which are essentially intangible (Serrano Cinca *et al.*, 2003).

Finally, these elements also generate additional intangibles of a collective nature, such as public good, quality of the environment and life, reputation of the territory and so on (Del Bello, 2006; Garlatti *et al.*, 2014; Manes Rossi *et al.*, 2016; Lanfranchi *et al.*, 2015b).

## Research Design and Methodology

In order to fulfill the aim of this paper, the authors considered a qualitative case study approach appropriate (Yin, 2014), in response to the strong call for case studies in the general field of IC (Dumay and Rooney, 2011; Guthrie *et al.*, 2012; Dumay *et al.*, 2015; Cuzzo *et al.*, 2017) and with regard to the specific context investigated, considered interesting for the application of the ideas related to IC theory (Serrano Cinca *et al.*, 2003), given also the lack of performative research which examines practices within organizations (Mouritsen, 2006).

The case study method was considered appropriate to deepen the role of IC, focusing on the soft dimensions of human capital, as critical factors that can lead to organizational change in the direction of generating PV. The case investigated in this study can provide more insights into *how* IC is managed inside organizations and *if* the leading force of intangibles can be the key factor in achieving results in the long term, coherently with the PV approach. The field study represents a suitable setting because of its peculiarity and especially the critical financial conditions of the firm before managerial intervention, thus “allowing to gain certain insights that other organizations would not be able to provide” (Siggelkow, 2007, p. 20).

Conducting a study on the experience of a public transport utility, as a typical model of indirect service provided by the local authority through an autonomous entity belonging to the same local authority (Grossi and Reichard, 2008), the authors focalized their attention on the meaning of IC and its relationship with the growth of PV as evidence that good practices can be developed also in other similar contexts.

Starting with the components of IC and its relationship with PV, ATM (acronym for “Azienda Trasporti Messina”, the Public Transport Company in Messina) was considered an appropriate subject for this study as it represents a suitable example on how it is possible to design and implement a strategic plan, building on the three pillars of IC – human, structural and relational capital.

Indeed, prior to managerial change, the public utility investigated was characterized by a deep lack of awareness about its intrinsic capability to face the challenge of the strong demand for rationality, which is at present creating a new scenario in the entire public sector. At the centre of current management thinking there is the idea that people working in the company (human capital) and clients (relational capital), to whom the services are provided, are the “core assets” on which to redesign the

infrastructure of the firm and the information system (structural capital) and, as a result, notwithstanding the importance of financial information, good management of intangible assets may help a public institution to achieve its objectives (Serrano Cinca *et al.*, 2003).

As regards data collection, the first and in some way the most important, source was direct contact with the main actors of organizational change and in particular: The General Manager of the company, the external consultant engaged for the new design of the organizational structure of the company and Deputy Mayor for Transport of the City.

Using qualitative research interviews (exploratory, semi-structured interviews), it was possible to meet the goal “to see the research topic from the perspective of the interviewee and to understand how and why they come to have this particular perspective” (Cassell and Symon, 2004, p. 11). This approach meant gaining insight into the frame of reference of the interviewee’s mind-set, who was encouraged to talk about his perception and emotional valuing of the starting point of the company and of the levers to pull for successful organizational change. The authors agree that semi-structured interviews are “well suited for the exploration of the perceptions and opinions of respondents regarding complex and sometimes sensitive issues and they also allow the interviewer to probe for more information and elicit clarification of answers” (Giuliani, 2016, p. 224).

The questionnaire drew up a preliminary list from Manes Rossi *et al.* (2016) who investigated how IC is perceived and works in local governments, adapted to take into account the context and purpose of the present study.

In addition, the group of researchers were allowed to take part as observers in periodic meetings held during the three years of observation (2015/2017), where the results of the company were presented and discussed, by means of representation of a detailed system of Key Performance Indicators (KPI). In this phase, each researcher acted as a *complete observer*, “who merely stands back and ‘eavesdrops’ on the proceedings” (Cassell and Symon, 2004, p. 154). Such observation is characterized by an inductive approach to research, enabling the single observer to gather information as a starting point from which to formulate hypotheses, then confronted and discussed within the group of researchers, in order to accommodate any contradiction and converge to a common view of hypotheses and further interpretation of findings.

The study also drew from multiple other sources, including the organizational survey commissioned by ATM from an external consultant, the project of restructuring the organization, internal strategy reports, agreements and protocols signed with the municipality of Messina, as well as official documents, such as the annual reports of recent years (from 2010 to 2015), public presentations prepared for external stakeholders in official meetings and so on.

## The ATM Case Study

With the aim to investigate the driving role of *values* as soft components of IC in pursuing public *value*, which has been emphasized over the last few years in the theoretical debate, this study is organized as follows. The first section describes the local context and historical background of the public utility under investigation. The second part outlines the “shift” toward a managerial approach being made at ATM, to illustrate the new strategic thinking professed by the key players in the organizational change.

The presentation of the case study is designed to frame the organization’s restructuring phase, whose implementation has allowed ATM to quickly recover unexpected results in terms of efficiency and effectiveness, revealing the only possible path towards economic sustainability.

### *Local Context and Historical Background*

As known, mobility represents a “fundamental aspect of city planning impacting economic activity, social equality and environmental stability” (Irish, 2017, p. 375). Urbanization pressure and sustainability changes have represented the main elements burdening the need for a sustainable city transportation system. City public transportation plans have been shifted from car-oriented to sustainable transportation through multimodal strategy integration and management of diverse transportation modes that require “adaptability”, with the aim of developing affordable, economically viable, people-oriented and environment-friendly transport systems.

The main reasons that could explain the adoption lag of solutions addressed to solve such kinds of problems are essentially related to politics, bureaucracy and cultural background (Irish, 2017). Thus, to better understand the local context in which ATM operates, it could be useful to briefly outline an overview of the present local environment and of the historical background of the city.

Messina has followed a historical path characterized by a series of pernicious events with heavy consequences on its social and cultural structure. The principal event was an earthquake in 1908 where the value of buildings destroyed was estimated at Lire 150 million and costs to Italy at the time was Lire 600 million, more than the total interest of the National Debt between 1907 and 1912. The earthquake deeply modified the entire settled urban network and the entire life of the city, with several, complex long-term consequences regarding economic, demographic and urbanistic problems that have had serious repercussions also in the quality of reconstruction.

Following the end of World War II, the city experienced population growth and increasing private automobile use. In terms of population growth, however, Messina’s post-war period was significant in a first

phase, but in recent times it has averaged a slower growth rate. Indeed, between 1961 and 2016, population growth was around 7.38%. Messina’s development has been stagnant and until 2015, without the adoption of an updated general strategic plan and in the absence of an active transportation planning, local government has made very few moves in the direction to develop an integrated, multi-modal transportation system.

ATM has represented the public transport service of the City of Messina since 1968, when the company was created with public capital entirely conferred by the City.

From the outset, the service showed inefficiencies, structural deficiencies and the lack of a strategic plan, substantially due to the inadequacy of corporate management, so that the first financial problems began to appear as early as 1972. Despite this situation, in 1999 the construction of a street tramway was started, which was completed in 2003. The company’s life has always been marked by various problems, in addition to the previous financial distress and later, between 2011 and 2012, the company also encountered serious organizational dysfunctions associated with the increasing lack of liquidity (inadequacy of infrastructures and transport means, staff absenteeism, high degree of internal and external conflict), so that the crisis began to appear more extensively. To face the emergency, from 2013, ATM initiated a protocol of intent with an homologous company operating in Turin (GTT - *Torinese Transport Group*) aiming to optimize the public transport service of the Sicilian city, using support and advice from the Turin company, which contributed in terms of technology, mobile information, operation and maintenance for the company’s fleet in Messina. The core competence of ATM concerns mainly urban transport service by bus and tramway and the management of parking services in the municipality of Messina. Today, the actors of this partnership acknowledge that many efforts should be devoted to effectively manage the public service, by adopting more advanced and comprehensive methods of design, operation and maintenance of the bus fleet (Samimi *et al.*, 2009).

### *Managerial Shift at ATM*

Recently, the pace of change imposed on organizations, in general, has increased significantly leading to changes which are often not planned, but generated by external factors and from reactive, rather than proactive behaviour. This kind of path prevented substantial innovation and increased the difficulty in effectively implementing reform pathways, thus generating negative expectations as well as increasing resistance to top-down change processes. Such resistance is grounded on the unwillingness to change on both a personal and organizational level, often resulting in inadequate adaptation of new management tools to the specificities of international organizations and lack of effective communication. The public sector, in which innovation typically involves new technologies, service

delivery, or new processes or systems (Massingham and Tam, 2015), up to now, has never been characterized by this kind of virtue. Indeed, efforts of persistent individual innovators coupled with important systemic changes aimed to create new realities are usually not easy to introduce (Borins, 2015).

Clearly, this situation is not a novelty. Already at the beginning of the sixteenth century Niccolò Machiavelli understood the problem. In *The Prince* (1513), he stressed the same difficulties and risks associated with the implementation of change: Resistance and lack of commitment to making it effective.

“It must be considered that there is nothing more difficult to carry out, nor more dangerous to conduct, nor more doubtful in its success, than an attempt to introduce innovations” (Chapter 6).

Over the last few years, a number of papers have investigated the relationship between organizational structure and attitudes toward organizational change and their dimensions (Yousef, 2017). Such kinds of challenges appeared at the beginning in the ATM managerial change path; on the one hand, as a need for an effective leadership to identify stakeholders, understand their needs and communicate value generated by the organization; on the other hand, as leadership understood, not as a guide of the individual, but of the organization as a whole. Starting from a first survey, carried out by the new managerial staff, aimed to understand the previous situation, all resources and previous organization structures were mapped to define the project of the whole new organization, above all to increase the firm’s commitment with its IC. In an interview with 35 company managerial and operational staff, information was collected and the following items were analysed:

- Responsibility and Activity models of the Organizational Units
- Degree of coherent and optimal allocation of responsibility among the organizational roles of the company
- Kind of organizational policy, related to Operations Functions and the production support system, as well as Staff Functions
- Nature of the staff relationship related to operational functions and support functions

From the analysis, numerous weaknesses can be seen, which characterised the old ATM administration. Data useful to the new management intervention was put together. The first critical aspect highlighted concerns that the entire responsibility of the company relating to all activities of urban transport service converged into only one position. The General Manager was hence operatively involved in all the activities regarding both transportation services and parking services. A reduction

in managerial coordination and in strategic integration activities was noted.

Issues were present in warehouse management, along with the commercial area with regard to transport and parking ticket sales and monitoring of same. The survey also showed lack of actions towards the analysis of customer needs, development and innovation of services, attention towards relationships with users and customer satisfaction analysis.

From the administrative point of view, there was a lack of cost accounting and of management accounting, in general. There was no budgetary system, nor management control, or management reporting.

With regard to human resources, personnel management was seriously lacking, also in the protection, prevention and safety areas.

IT skills, introduced to the business only since 2015, were not sufficient; business functions were not integrated and mostly obsolete.

After having analyzed the survey, the new management proposed a strategic vision aimed to achieve some objectives, among which, as primary, the path to "generating value" through specific areas of intervention addressing.

*Customer:* Growth of the urban public transport network connected to the evolution of needs and increased service in terms of frequency, reliability, punctuality, comfort and customer information.

*Community:* Development of "more sustainable mobility", both regarding environmental protection and use of vehicles with a lower environmental impact.

*Municipality:* Optimize use of resources allocated to ATM management and development in compliance with planned economic goals.

*Company:* Ensure ideal financial and economic management that guarantee the safeguarding and, above all, the continuation of business over time and the preservation of assets as a property of the community.

From the above-mentioned purposes, a clear reference to the need to strengthen the structure and content of intangible elements emerges, as a new “wave” of managerial thinking. Indeed, previously, management engagement and decision-making was mainly based on financial indicators; non-financial measures were used only in decisions concerning employee turnover, whilst IC has never taken into consideration in other decisional contexts. Thus, this new pathway, in a firm until then not aware of the crucial role of its immaterial resources, required great effort aimed to adapt the management control system to explicitly take intangibles into consideration.

## Results

Starting from the analysis of data and management actions aimed to change the previous situation, it was

possible for the researchers to investigate the component of IC of the company, highlighting the coherence of such frame with the PV approach.

One of the key points in the identification of the IC dimension is to recognize which elements are to be analyzed that perfectly fit the IC paradigm. In developing the analytical model considered in this study, the three IC components (Zambon, 2016) were empirically tested following a top-down approach, by inviting the manager to decide and validate the IC elements to be investigated and focused on.

### *Mapping the IC Components*

The framework in which we have tried to reconstruct and understand the managerial way of using IC was defined according to theoretical models developed in literature. In particular, the Meritum (2002) were considered as a reference point in investigating managerial activity, focusing both on IC resources and on IC. In line with the aim of this research, we have identified, through the cited model, some specific characteristics and IC elements of the firm under analysis.

The first stage of our investigation was dedicated to understanding the degree of the management awareness on the importance of the three dimensions of IC. Similar to another in-depth study (Giuliani, 2016, p. 225), we adapted the Meritum tri-partite model to facilitate the individuation and visualization process. The results are shown in Table 1.

From the point of view of the General Manager, HC is considered one of the firm's most important assets that determined the process of innovation with the conversion of existing knowledge into new ideas to improve the services of ATM. Indeed, actions aimed at increasing the process of identifying a sense of belonging amongst the workers within the company represented the most important intervention, which was deemed necessary to achieve company renovation.

The process, first and foremost, tackled a lack of rules that should be commonly recognized and shared. Thus, the significance of rules seen as a key guideline of the common approach by all the members of the company was taken into consideration, developing acknowledgment of same as fundamental in everyone's value system.

This initiative entailed a fundamental change of course that increased responsibility related to every individual skill and generated professional know-how and new behaviour patterns.

Reinstatement of a set of rules was implemented mainly through a double intervention: On the one hand, rules were further clarified and made more transparent and oriented toward ethic and legal norms; on the other hand, control was increased.

At the same time, a reward method was implemented. Enhancement of merit behaviour gave rise to incentives and awards, while bad and irresponsible behaviour resulted in a series of negative consequences that, in

some cases, also led to dismissal. Training courses concerning technical and safety aspects facilitated conditions for virtuous behaviour.

For awards relating to performance, some parameters were taken into account. There were two benchmarks for the purpose of determining the performance-related premium.

Function parameters:

- Attendance: Days present calculated net of sick or accident or trade union permit leave. These are considered at an individual level for each month
- Productivity: Aimed to improve specific productivity results such as:
  - Drivers: Parameter used is a measure of efficiency of the service delivered
  - Maintenance: Parameter used is the ratio of vehicles in service compared to programmed number

Table 2 shows productivity of the driving staff from 2013-2017 and the relating increase in percentage.

Performance measures:

- Presence: An indicator evaluating the improvement of results in terms of the average value of days of absence of all staff compared to the previous year. The result has an impact on salary. In 2017, the achievement of this goal is set to no more than 13 days of average absence; every month, the total amount since the beginning of year relating to the sick days per employee, is calculated. If the total amount exceeds 13 days incentives are not given
- Productivity: This is a cost-to-income ratio and gives an indication of the efficiency of management and of quality of service. The ratio has a role of multiplier or scalar of the individual incentive

Data relating to the value of total operational revenues from 2013 to 2016 show a 40.5% increase and a 14.9% costs increase (Table 3). In particular, the composition of sales revenues (net of funding from Region and Local Governments) and their positive trend is shown in Fig. 1. From Table 4 is also evident the improvement of net income (from negative to positive value) and of the short-term solvency of the company. Indeed, as the cash and cash equivalents have increased in recent years, the company was able to meet its obligations as they come due.

These results have led to staff benefits also, such as performance payments, incentives on results achieved.

Furthermore, being aware of the impact that the behavior of each individual can exert on the entire system, the enhancement of the teamwork concept attracted much attention as being of prime importance.

**Table 1:** ATM IC resources and activities

	Resources	Activities
Human capital	Know-how and previous experience	Coaching activities
	Loyalty	Team- building activities
	Sense of belonging	Motivation and satisfaction activities
	Quality of the workplace	Enhancing layout
	IT competences	Investment in dress uniform
Structural capital	Quality of the relationships	Employee survey
	Procedures	Renewal activities
	Manuals	Empowerment and delegation
	Database	IT information system
Relational capital	Software	
	Organizational architecture	Activities aimed at improving quality of service
	Relationship with customers/citizens	Actions for enhancing image and reputation of the firm
	Relationship with suppliers	Web communication
	Relationship with the institutions (local government, etc.)	Activities with suppliers Activities with the institutions

**Table 2:** Driving staff productivity (monetary data in EUR1000)

	2013	2014	2015	2016	2017*	2017 vs 2013
Km bus	2,090,038	2,558,012	3,031,071	3,813,830	4,289,898	+105%
n. bus drivers	192	188	183	190	195	
Km per personnel	10,885	13,606	16,563	20,072	21,999	+102%
Km tram	287,722	293,596	317,895	350,589	342,894	+19.2%
n. tram drivers	44	43	41	34	30	
Km per personnel	6,539	6,828	7,753	10,311	11,429	+74.7%

\*Projection over the year of data until April 2017

**Table 3:** Economic performance – main indicators trend from 2013 to 2016 (in EUR1000)

	2013	2014	2015	2016	2016 vs 2013
Total operational revenues * ATM	4,017	4,134	4,947	5,642	40.50%
Total operational costs	26,983	27,686	29,363	31,008	14.90%
Revenues/costs (%)	14.90%	14.90%	16.80%	18.2%	

Sale of bus tickets and parking (residential pass and play and display)

**Table 4:** Simplification of financial data (in EUR1000)

	2009	2010	2011	2012	2013	2014	2015
Sales and other operational revenues	36,665	33,745	35,243	31,176	29,265	30,730	31,748
Personnel costs	25,615	23,714	22,500	21,908	20,853	20,263	20,686
Net income	-18,223	-1,072	0	-12,189	248	174	188
Cash and cash equivalents	210	251	226	90	2,869	6,593	2,217

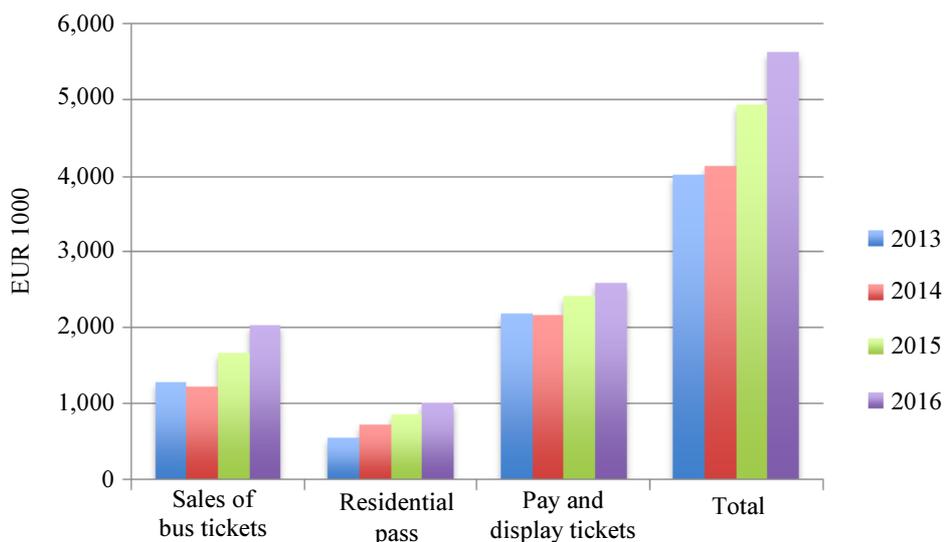
Even in a more formal aspect, elements that enhanced new skills were introduced, such as better allocation of workspaces or the requirement to wear the uniform, which was last used in 1994.

It should be noted that, mainly during the first step of the new management, reluctant attitudes regarding for example, uniforms, resulted in punitive sanctions. But today, employees declare themselves proud to wear the uniform, which clearly identifies them with the company.

The second IC component, Relational Capital (RC) refers to intangible resources and capabilities related to external relationships, which are useful for value creation (Manes Rossi *et al.*, 2016). RC emerged as decisive in enabling ATM to gain more popularity and success.

As seen above, a propulsive role was played in this direction by the cooperation agreement with the homologous company operating in Turin (GTT - *Torinese Transport Group*) aiming to optimize the public transport service of the Sicilian city, using support and advice of the Turin company. The GTT provided its contribution in terms of technology, mobile information, operation and maintenance for the company's fleet of transport in Messina.

The manager emphasized the importance and his own conviction regarding investments in widening opportunities for communications and relations with both citizens and external organizations, as fundamental actions aimed at enhancing trust and sense of respect. For this, employees and users have easy access to the official, renewed website.



**Fig. 1:** Revenues from ordinary operations originated from the sale of bus tickets, residential passes and pay and display tickets

In addition, many resources have been devoted to the implementation of modern and more effective communication systems. Two new apps have been introduced that allow better use of both the ticketing system for public transport and car-parking fees and a more efficient service to obtain, in real time, useful information on buses and trams to better communicate with customers. One app, namely MYATM, was fully developed inside the company by the information technology staff, who were never before so involved in operations of increasing communications with customers. Also, increasing interest regarding environmental issues was seen: The company today has a project regarding the purchase of electric busses.

Attention on Structural Capital (SC), the third component of IC, appears as fundamental in the process aimed at improving procedures and routines for the benefit of the community. The manager shows a clear vision of the future for ATM and defines an efficient

Another noticeable activity regarded information linked to resources employed in management decision making. We believe that this aspect needs to be further developed, given the influence of the management accounting system on the performance of the company. Therefore, the next section focuses on this issue. Over the last few decades, several studies have revealed a strong convergence between IC and management accounting activities (Casas Novas *et al.*, 2017). It is clear that there is a strong correlation between human resource management and information systems. Currently, the challenge for management is to satisfy the information needs of different departments as well as coordinate work-flows among functional subunits that have become highly interdependent.

With respect to the important role that Management Accounting Systems (MASs) can play in this situation, in the present study the existence of such complementary features is considered a key point to strongly address in the ongoing change in the management approach of the firm.

There is, anyway, evidence of the improvements achieved so far by the company in terms of financial performance, as it is shown by the analysis of financial data carried out on the company's financial reports (see Table 4 and Fig. 1), from 2009 to 2015 (available on the firm's website).

At the time of our research, the 2016 Annual Report was still not available; therefore, we utilized the available data only. The original structure of the financial statements, drawn up according to the Italian Accounting Standards, was simplified and reduced in order to identify the following categories: Sales and other Operational Revenues, Personnel Costs and Net Income, Cash and Cash Equivalents.

## Discussion and Conclusion

The complexity of public action at a governmental level and especially at the local level, means that the value of public production has to be considered not only in economic terms; it should be dealt with considering the contribution given to sustainable development and wealth and then in also generating future benefits.

Managerial tools and reform processes do not always work the same way in different institutional contexts. Political systems and administrative cultures have to be taken into account. The culture of a country and its institutional features are the scenario where changes take place. Intangible assets for a country are a variable concept.

According to the Italian academic tradition, profit for a company operating in the public sector is not a prominent goal but rather a condition to achieve in line with its economic sustainability and durability for future generations. In other words, “This is not to say that making money is bad – without profits, businesses cannot sustain themselves. But it is possible to consider a company’s stewardship to society and not concentrate solely on wealth-creation, focusing instead on providing monetary, utility, social and environmental value. This is the future for IC!” (Dumay, 2016, p. 180).

What could be relevant to better understand this phenomenon is to uncover the prominent role of values and the way they can “work” as intangible resources within a public-sector entity, being the main sources fuelling the performance improvement of the company.

This paper has tried to follow this direction, realising that in the ATM case as soon as the management restored some ethical rules, building on values, the new identity of the company, the transformation of the company started and, consequently, financial achievements improved and citizens/clients reacted positively. This work underlines the role of top management in the creation-restoration process of values and in the valorisation of intangible assets. Management action at this level has to be driven by adequate skills and specific knowledge to push value diffusion both inside and outside of the organization. From another point of view, we can say that the information system and, specifically, the accounting system can play a relevant role in this process, thanks to the implementation of more advanced control system tools.

According to RQ1, from the analysis of the financial trend we can undoubtedly say that there is no evidence regarding the possibility to definitely overcome a financial crisis without adequate financial support, and actually the firm needs further financial funds – from the local government, and in this sense a negotiation is still on-going – to recover negative situation in equity caused by many decades of inefficient administration. Nonetheless it is evident that management action has determined positive results in economic indicators and in the level of service quality. That is to say that also without new funding (debts or equity) a company operating in the public sector can improve its economic performance and legitimation towards clients and the community in general.

For many reasons already known, the overall economic performance in a public-sector utility company, like the one studied, is significantly related to a funding policy that is defined at governmental level. However, in all cases, a positive performance must be required.

Concerning RQ2, it is clear from the case that a restoration process like the one analysed is based on the relevance and prevalence of intangible assets especially connected to human capital and relational capital. The ATM case clearly demonstrates that in a specific,

designed context public value can be created by public values, as proven by better economic performance and the increasingly higher number of tickets and vehicles available for the public.

As well as any in-depth study, this research has limitations, due to the approach adopted, given that the case under investigation has undeniably its own peculiarities influencing findings generalization. Nonetheless, regardless of whether we adopt a definite methodological approach or another, we analyse a paradigmatic case study or process a large quantity of data, it is very difficult to extend the results of an investigation.

However, we believe that in many respects the results of this research are meaningful, as they highlight a virtuous path and best practices which can be effectively replicated in other realities similar to the one here investigated. In addition, due to the peculiarity of the case, the analysis allowed us to “isolate” the effects of managing intangibles on company performance. In this sense, research findings appear to be more relevant, reinforcing the idea that intangibles and in particular human capital, play a prominent role in public sector business processes.

With regard to the future direction of the research, it would be useful to extend the analysis to other case studies, in order to test the validity of the research hypothesis underlying this work. Further studies should also address the development of an appropriate system of indicators related to each dimension of IC, to reveal the nexus with value creation in order to validate (and then manage) the positive relationship between intangibles and public value.

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## Author’s Contributions

Though all the authors have contributed to conceive and implement the research, and also to revise critically the manuscript, the writing of the article can be attributed as follows:

**Giovanna Centorrino:** ATM case, background, managerial shift and results.

**Daniela Rupo:** Introduction, Research design and methodology.

**Pierluigi Catalfo:** Discussion and Conclusion.

## Ethics

Authors declared that there is no ethical issues that may arise after the publication of this manuscript.

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