

Navigating accounting reforms: a qualitative comparative analysis of accrual implementation in Italian local governments

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Abstract

Purpose – This research aims to contribute to the ongoing debate on the prospective advantages of implementing accrual accounting in countries where such a transition is underway, with a focus on Italian municipalities. The research seeks to ascertain the requisite conditions, in public sector accounting managers' perception, for a useful transition from modified cash accounting to full accrual accounting within the Italian context.

Design/methodology/approach – The methodology adopted is Qualitative Comparative Analysis, which involves conducting a survey through semi-structured interviews with accounting managers in municipal accounting departments. The sample is drawn from municipalities in the Emilia-Romagna region with populations exceeding 15,000 inhabitants.

Findings – The study shows that some stakeholders have a tangible demand for financial statement information. They believe that accrual accounting statements provide accurate insights into municipal financial health and that these statements are comparable across municipalities. All these factors together constitute sufficient conditions for considering useful the implementation of accrual accounting in local governments, in the opinion of public sector accounting managers.

Originality/value – This paper contextualises the broader international debate on transitioning to full accrual accounting in the New Institutional Sociology framework. The Qualitative Comparative Analysis is an underutilised methodology within the field of public sector accounting, and the public sector accounting managers' point of view is scarcely investigated in literature.

Keywords Qualitative comparative analysis, Public sector managers, Accrual accounting, Modified cash accounting, Accounting transition, Municipalities, Financial statements, Accountability

Paper type Research paper

Introduction

Public sector accounting has changed and is still changing as a result of several causal factors, including the development of New Public Management (NPM). The public sector context has developed, and the way governments steer it, deliver public service, and create

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public value is more complex. Accordingly, public sector accounting practices are being reshaped to keep up with the times (Grossi and Argento, 2022). Based on these changes, many countries have started a process of accounting transition at one or more levels of government (Khan and Mayes, 2009), in favour of the adoption of accrual accounting as a tool that can more accurately represent the economic balance and capital impact of government (Capalbo, 2012), to improve transparency and trust by stakeholders, enhancing in this way their accountability.

International organisations, such as the Organisation for Economic Cooperation and Development (OECD) or the International Monetary Fund (IMF), recommend the adoption of accrual accounting as it provides better information to improve decision-making (Poljašević *et al.*, 2019). The need to harmonise accrual accounting information has been called for by both scholars and institutions, especially in the European Union (EU) (Christiaens *et al.*, 2015; EU, 2013). It is widely believed that the convergence towards a single set of accounting rules will facilitate the reduction of accounting divergences (Lüder, 2000) and the international comparability of data (Schmidhuber *et al.*, 2022). It will improve the performance measurement of public entities (Hodges and Mellett, 2003) and promote better quality of decisions by increasing the usability, transparency, and accountability of financial statements (Steccolini, 2004; Nogueira and Jorge, 2017; Ismail, 2022). Italy has also moved towards the full implementation of accrual accounting in local authorities. The objective, first set by the EU Directive No. 2011/85/EU, and later by the Italian Recovery Plan, is to have financial statements that are fully understandable, relevant, reliable, and comparable (Pollitt and Bouckaert, 2011; Buylen and Christiaens, 2016). These reports must be able to increase the value of municipal management and public assets (Aprile *et al.*, 2018) through a recognition and reporting system that uses double-entry bookkeeping as a tool for monitoring management (Quagli, 2017).

At the end of 2020, about 30% of governments globally were reporting on an accrual basis (IFAC and CIPFA, 2021). In a status report, released in 2021, the International Federation of Accountants (IFAC) and the Chartered Institute of Public Finance and Accountancy (CIPFA) have forecast that 50% of governments will have transitioned to reporting on an accrual basis by 2025. Given this data, it can be useful to analyse a real case study of a country where this transition is happening, to evaluate pros and cons and to understand how some problems are dealt with to make international comparisons and address some issues from a practical point of view.

According to the International Public Sector Accounting Standards Board's conceptual framework (IPSASB, 2022), the objective of financial reporting, derived from the accounting records of public entities, is to provide useful information about the financial position and performance of the organisation to a wide range of internal and external stakeholders. Recent studies, such as those conducted by Haustein *et al.* (2021), and Ismail (2022) have shown that the degree of usefulness of disclosure obtained from the financial statements of public entities, based on accrual accounting, is perceived by several users as more useful than the disclosures derived from modified cash accounting. In contrast, several international studies continue to question the usefulness of the accrual basis reporting model, preferring the modified cash basis. It has been shown that the usefulness of financial statements based on the commercial sector model (accrual accounting) within public entities is limited due to the specificities of the public sector (Cohen *et al.*, 2013; Poljašević *et al.*, 2019; Pajković *et al.*, 2023).

This view is also shared by Italian local governments, which do not seem to agree with the full adoption of accrual accounting (Anessi Pessina *et al.*, 2010). As a matter of fact, this process is already ongoing, in order to have access to the Next Generation EU funding. In Italy, accrual accounting originates from modified cash accounting and has only a compliance function. The current accrual-based financial statements do not seem to have achieved the integrative success desired by the Italian legislator (Benfante *et al.*, 2024). Italy is in a transition phase towards the adoption of full accrual accounting in the public sector, while

modified cash accounting is currently used (Dabbicco and Mattei, 2020). It is therefore important to determine whether stakeholders find useful the accrual based financial statements.

Therefore, following the previous arguments and in line with the future evolutionary trends that place Italy at the forefront of the transition to full accrual accounting by 2026, this paper aims to answer the following research question:

- RQ. Under what conditions public sector accounting managers would perceive as useful adopting full accrual accounting as alternative to the prevailing modified cash accounting system?

This study investigates the necessary and sufficient conditions for public sector accounting managers' perceptions of the usefulness of the transition to full accrual accounting. It assumes that their perceptions are functional for the successful implementation of the reform process (Nogueira and Jorge, 2017). Public sector accounting managers are the link between the decisions made by politicians and the public administration, that is invested with the arduous task to implement these decisions in practice (Saliterer and Korac, 2014). Their role is fundamental to make changes needed to put in practice the political vision (Correa Silva *et al.*, 2022), and to effectively achieve their objectives they need to be equipped with the best instruments possible for their technical role (Nogueira and Jorge, 2017). Their perceptions are essential for any accounting reform, as they are two of the main actors of change, responsible for political decisions and administrative actions. Politicians and public sector managers' points of view should be the ones investigated, but a vast amount of literature analyses the state of the art only from the political point of view (Gomes *et al.*, 2023) and limited evidence was found about the usefulness of financial information from the perspective of public accounting managers of local governments.

Based on the previous considerations, this research is set within the current international debate concerning countries in a state of transition to full accrual accounting and highlights the limitations that this accounting model may have on the informative value and usefulness of financial statements. It covers a research gap focussing on the public sector accounting managers' point of view rather than politicians, about which there is extensive and consolidated literature (Grossi *et al.*, 2016; Budding and Van Helden, 2022).

The paper is structured into six sections. After the introduction, which formulates the research question, the theoretical framework outlines, at a theoretical level, the research stream and the conceptual foundation to which the paper belongs. After this section, the literature on the usefulness of local governments' financial statements from stakeholder's perspective is presented. A brief paragraph about the primary features of public sector accounting and financial reporting in Italy follows. This is succeeded by the step-by-step methodology and from the research findings that are directly linked with the discussion of them. Finally, the conclusion summarises the main findings of the research, outlines the limitations, and proposes suggestions for future research.

Theoretical framework

Over the past three decades, there has been a pervasive trend in the public sector towards the adoption of management practices similar to those in the private sector. This change has been driven by the New Public Management (NPM) paradigm, which has led to the emergence of reforms aimed at introducing private sector management logics and tools into the public sector, such as new accounting approaches aimed at measuring results (Di Mascio and Alessandro, 2018), accountability, and transparent disclosure of information (Pina *et al.*, 2009). However, one of the most important changes brought about by NPM is the transition from cash-based to accrual-based accounting systems (Hood, 1991).

Indeed, despite the decades that have passed since its advent, NPM remains at the centre of debates on public sector reform (Mussari *et al.*, 2021) and has often been examined in the

literature through different theoretical frameworks, including Neoinstitutional theory in its sociological variant (New Institutional Sociology or NIS). According to this perspective, institutions are not simply the result of rational decision-making processes but are deeply embedded in social and cultural contexts (Meyer and Rowan, 1977; Tolbert and Zucker, 1983). Institutions evolve over time through processes of socialisation, imitation and the internalisation of societal norms rather than purely through functional efficiency. Neoinstitutional theory suggests that organisations respond to institutional pressures to maintain legitimacy, rather than pursuing operational efficiency alone (Moll *et al.*, 2018). One of the core assumptions of this theory is that specific institutions formulate rules that individuals have to follow in order to gain legitimacy (DiMaggio and Powell, 1983; Lowndes and Wilson, 2003). Expectations and values, both inside and outside organisations, as well as the rules of society, play a role in the decision to introduce organisational change, including accounting reforms (Jorge *et al.*, 2021). This sociological strand of institutional theory has been used to explain how organisations respond to the pressures of their institutional environment (DiMaggio and Powell, 1983; Carpenter *et al.*, 2007; Chapman *et al.*, 2009).

Neoinstitutional theory has been extensively used to address the process of accounting change in the public sector (Polzer *et al.*, 2021; Rajib *et al.*, 2019; Meyer *et al.*, 2021), due to the influence of external pressures on the decision to reform accounting systems. The existing literature argues that Neoinstitutional theories have become an important theoretical lens through which to explore the choice of accounting and financial management reforms in the public sector (Adhikari *et al.*, 2013; Brusca *et al.*, 2016). For example, Fahlevi *et al.* (2022) used institutional theory to explain the mismatch between the adoption of accrual accounting and its actual utility in improving performance management in the public sector. Modell (2022) used the framework to understand how performance measurement and management practices are institutionalised and shaped by broader socio-political processes, and how these in turn affect institutional fields. Hausteine *et al.* (2024) applied institutional theory to examine how local government financial reporting practices have evolved under the pressure of institutionalised expectations of accountability.

Three mechanisms operate within Neoinstitutional theory: institutional isomorphism, legitimacy and decoupling. Institutional isomorphism, introduced by DiMaggio and Powell (1983), is the mechanism that best describes the process of standardisation among institutions. It explains how organisations tend to adopt similar practices and structures over time in response to institutional pressures. Isomorphism is described as a self-defensive behaviour whereby organisations, when faced with problems for which they do not have their own solution, tend to imitate other organisations. Such behaviour is seen as an attempt to gain external legitimacy and adapt to environmental expectations (Meyer and Rowan, 1977).

Accounting reforms in the public sector, such as the move to accrual accounting, can be explained by three mechanisms of isomorphism: coercive, mimetic and normative isomorphism.

Coercive isomorphism: results from formal and informal pressures imposed by legislation and by those on whom the organisation depends for resources. Coercive isomorphism, particularly in the public sector, has been linked to government intervention and informal pressure from resource providers.

Mimetic isomorphism: it occurs when organisations, faced with uncertainty or lack of solutions, imitate other organisations that are perceived as successful models. In contexts characterised by uncertainty, municipalities tend to imitate the practices of other entities perceived as more efficient or legitimate, adopting accrual accounting without necessarily fully understanding its benefits.

Normative isomorphism: manifested through the influence of professional networks and expert bodies that set standards and norms. International accounting bodies have played an important regulatory role through the dissemination of accrual standards, influencing accounting reforms at national and regional levels (Carpenter *et al.*, 2007).

In addition to isomorphism, legitimacy and decoupling are key points for Neoinstitutional theory. Organisations and other social actors strive for legitimacy, understood as the perceived appropriateness of an organisation to a social system in terms of rules, values, norms and definitions (Deephouse *et al.*, 2017). According to this concept, organisations will adapt formal structures, such as financial reporting, in response to pressures from their environment in order to gain legitimacy (Donatella and Tagesson, 2021).

Decoupling refers to the separation between the external image of the organisation and its actual structures and procedures or practices (Fernando and Lawrence, 2014), which consists of a complete detachment from the intentions of institutional pressures to respond to the dynamic institutional environment (Hyndman and Connolly, 2011). Decoupling behaviour is one of the most widely discussed topics in the accounting literature (Tsamenyi *et al.*, 2006; Adhikari *et al.*, 2013). According to this concept, the formal adoption of accrual accounting would be used as a sign of good management in response to isomorphic pressures to secure legitimacy from constituents and resources from the institutional environment (Pina *et al.*, 2009). Many public sector organisations formally adopt accrual accounting to maintain legitimacy in the eyes of regulators and external stakeholders, even if in practice they continue to rely on cash accounting for short-term decision making (Gigli and Mariani, 2018).

This study draws on Neoinstitutional theory, in particular the concepts of isomorphism, legitimacy and decoupling, to explore and understand the factors influencing public sector accounting managers' perceptions of the adoption and usefulness of full accrual accounting by Italian municipalities, and to provide a theoretical lens for understanding the observed empirical evidence.

Literature review

The issue of accrual accounting reform in the public sector

The organisational landscapes of public sector institutions have undergone significant transformations in recent decades. Among the various reforms affecting the public sector, the introduction of accrual accounting to harmonise financial statements, accounting standards, and practices internationally is one of the most analysed and discussed topics in the literature (Frintrup *et al.*, 2022; Polzer *et al.*, 2022; Bonollo, 2022; Cohen *et al.*, 2023). It is considered a key element that allows for a higher level of accountability and transparency (Brusca *et al.*, 2017), to the extent that many countries have replaced or flanked traditional cash-based accounting with accrual-based accounting, changing the form and content of budgets (Nogueira and Jorge, 2017) and financial statements.

The preparation of financial statements is an expensive process, so identifying their perceived usefulness by stakeholders (Budding *et al.*, 2014, p. 6; IPSASB, 2022) is a key point in understanding the usefulness of an accounting reform. The literature distinguishes between the perceived usefulness and the actual use of information (Reichard and van Helden, 2016; Gomes *et al.*, 2023). This distinction is particularly relevant in the context of financial reports, where the perceived usefulness of information depends on its alignment with user needs.

Accrual accounting would overcome the limitations of cash accounting, allowing the identification of costs and the use of resources, the measurement of efficiency and performance, and providing information on the soundness of the institution (Brusca *et al.*, 2017). In this way, management would be directed to reason in terms of cost and results achieved, to acquire the information necessary to better support planning and resource management in decision-making processes (Christiaens *et al.*, 2015). Therefore, accrual-based financial reporting would be a powerful tool that, on the one hand, allows minimising complexity and uncertainty in the decision-making process and, on the other hand, fulfils the task of improving accountability to stakeholders (IPSASB, 2022; Van Helden and Reichard, 2019).

Among the potential users of budgets and reports information, [Steccolini \(2004\)](#) has identified some categories, distinguishing them into internal (politicians, managers, civil servants) and external (citizens, companies using public services, donors, etc.) to the organisation, based on their information needs. [Mack and Ryan \(2006\)](#) support the evidence that the main stakeholders interested in public sector financial reports are members of the “internal community of the institutions” ([Coy et al., 2001](#)) such as politicians, public managers, and auditors. For example, as reported by [Carini et al. \(2019\)](#), citizens are not sophisticated users and therefore do not have the technical competence to understand financial reports. They do not have the time or resources to analyse the issues, and they prefer indirect forms of access to the information they need, rather than financial reports. Therefore, the financial report is not addressed to external users, and it is acceptable for preparers and auditors to use a technical accounting language that is not necessarily understood by those to whom they are accountable ([Jones and Pendlebury, 2004](#)).

However, there is still much debate whether stakeholders base their decisions on financial statement information from accrual or cash-based reporting. Although research shows that financial statements derived from accrual basis systems are more widely used and valued both at the policy level ([Pajković et al., 2023](#); [Ismail, 2022](#); [Nogueira et al., 2013](#); [Christiaens et al., 2015](#); [Haustein et al., 2021](#)) rather than managerial ([Donatella and Tagesson, 2021](#); [Moynihan and Pandey, 2010](#)), many authors have questioned whether accrual-based reports meet the needs of stakeholders ([Andriani et al., 2010](#)), given the specificities of the public sector ([Cohen et al., 2013](#)). Indeed, the literature is divided on whether accrual accounting is better in terms of accountability. Some authors show mixed results on the use of information from accrual accounts ([Liguori et al., 2012](#)). The additional information provided by accrual accounting often does not meet the information needs of policymakers ([Caruana and Zammit, 2019](#)), who find it difficult to understand the complexity ([Buylen and Christiaens, 2016](#)) and volume of information produced, while cash-based information is considered more suitable for evaluation as it is simpler and easier to understand ([Jorge et al., 2023](#)). Indeed, the lack of training and education on the accrual accounting, technical support for information systems, and management culture in the public sector accounting have been identified in several contexts as the main obstacles to the full implementation of a full accrual accounting system ([Gigli and Mariani, 2018](#); [Grossi et al., 2016](#); [Nogueira and Jorge, 2017](#)). [Buylen \(2014\)](#) also points out that in Italy, board information is evaluated and based on data from cash-based financial statements, even though the financial statements are also prepared on an accrual basis. This is because using the cash basis for budgetary reporting makes it easier to monitor budget execution. The cash basis is more clearly focused on the authorisation function of the budget, while the accrual basis for annual reporting is considered risky due to the possibility of overspending ([Reichard and Van Helden, 2016](#); [Warren, 2015](#)).

The international context shows very diversified empirical evidence. [Cohen and Karatzimas \(2017\)](#), analysing the Greek public sector context, support the idea that the financial report, designed according to modified cash accounting, could be useful for public sector accounting professionals in supporting decision-making processes.

In line with this view, the literature has shown that there are still countries that, despite having the necessary resources and infrastructure to implement an accrual accounting system based on IPSAS, such as Finland and Germany, have refused to adopt it ([Tawiah, 2023](#)).

Finally, many countries, including Italy, have adopted dual accounting systems that provide both cash-based and accrual-based information. These dual systems, which are hybridisations of accrual accounting within cash-based accounting systems, often confuse internal stakeholders, including the editors of the financial statements themselves ([Brusca and Montesi, 2014](#)). If this information is not properly linked and presented through appropriate, mutually consistent financial statement formats, it will ultimately not be used ([Poljašević et al., 2019](#)), favouring the use of simpler information such as the modified cash ones. The coexistence of two accounts is one of the reasons for the low utilisation of accrual information ([Caccia and Steccolini, 2006](#)).

In conclusion, there is conflicting evidence on the usefulness of accounting information prepared on different accounting bases. Our research aims to understand if, in the perception of public accounting sector managers, there are some conditions under which usefulness of the introduction of full accrual accounting as alternative to the modified cash accounting can be stated, overcoming the current conflicting evidence.

Financial reporting in Italian municipalities

Divided among twenty regions, the Italian municipalities number a little less than 7,900 and are characterised by heterogeneity in terms of geographical area, population and density, economic and financial autonomy in the levying of taxes and the determination of charges for services. Municipalities, seen as the main public administrations close to the citizens, are increasingly called upon to carry out administrative tasks directly delegated by the State and the Regions, such as the development of investments, education, health care, public security, etc. Therefore, the need for more information capable of highlighting their ability to be financially and economically independent has nudged the Italian government towards the introduction of accounting systems capable of better representing their “state of health” (Bianchi *et al.*, 2018). Today, Italy has already completed the full implementation of accrual accounting in the health care, university, and chamber of commerce sectors, but not in local government, where the modified cash system prevails.

The concept of accrual accounting was first introduced for Italian municipalities by Legislative Decree No. 77/95, which provided for the adoption of an income statement and a balance sheet for reporting purposes. Nevertheless, accrual accounting was considered a mere appendix to the main budgetary reports and a derivative of them, with a marginal role and as a mere legal requirement (Borgonovi, 1996; Anessi Pessina and Steccolini, 2007). Further reforms followed, all of which were incorporated into the Consolidated Code of Local Authorities (Legislative Decree No. 267/2000), which is the main legal act regulating the administrative and accounting operations of municipalities. From 2015, Legislative Decree No. 118/2011 provides for the replacement of the old budgetary accounting system, based on cash and commitments, in favour of a modified cash system in which the cash basis and the accrual basis coexist in an integrated logic (Anzalone, 2017).

The Consolidated Code prescribes the format, content of accounting documents, obligations, and deadlines. Before the beginning of each year, the Municipal Council approves a three-year budget, which is the most important accounting document of the municipality as it allows the political authorisation function and enables a process of accountability within the framework of planning. Through the budget, the municipality ensures that the total financial revenue it expects to acquire in the reporting period covers the total expenditure it expects to make in the same period.

The budget and main summary documents are prepared using modified cash accounting, the execution of which is constantly monitored during the year to detect any deviations.

In general:

- (1) Income and revenues are recognised when the right to receive them is incurred.
- (2) Expenses and costs are recognised when the right to pay them is incurred.

Thus, with a single record, the transactions are simultaneously recorded in the annual report (modified cash accounting) and the income statement and balance sheet (accrual accounting).

In this way, the two accounting systems are integrated (Grandis and Federici, 2020), since the modified cash accounting also measures the monetary value of the costs and charges incurred and the revenues and income earned during the year, to allow the uniform recognition of management events. This mechanism works with an integrated chart of accounts that allows the reconstruction of the economic dimension by the modified cash accounting at the end of the year, but with the consequence that any error in the modified cash accounts automatically generates an error in the accrual accounts, inevitably limiting their cognitive value (Grandis and Federici, 2020).

The main objectives, set by the Italian legislator for this integrated dual system, were to determine the economic result for the period and the related assets generated, allowing the various stakeholders to obtain additional performance information, to prepare the information base for the management accounting of the municipality, and to generate the consolidated financial statement, which includes the legal entities controlled by the municipality.

However, the requirement to report on an accrual basis is applied to municipalities with a dimension of more than 5,000 inhabitants, which characterised the 30% of Italian municipalities. This requirement has been perceived as a formal legal aspect where modified cash accounting continues to play a pivotal role in the information system. Resources continue to be allocated on a modified cash basis, consequently directing the recipients to base their decision-making processes on this accounting system, without paying attention to costs (Buccoliero *et al.*, 2005) and, thus, to the accrual financial statements obtained. This led to an “organisational hypocrite” (as described by Brunsson (1989) in the field of organisational sociology from a general point of view) where local governments had to change their language but not necessarily their decisions and actions, seeing accrual accounting as an addition to pre-existing accounting rules, but not recognising the need for a broader change in the public sector (Bonollo, 2022). In this way, accounting innovations were perceived as a “Gattopardian change” in which the old system and logic were re-proposed in different forms. Italy has always been characterised by the adoption of cash accounting system approach (Dabbicco and Mattei, 2020). Even after the reform of the public sector accounting system, there has been no significant change in this respect.

A further step towards reform has been included as a transversal and fundamental part of the implementation of the recovery plan, known in Italy as the “Recovery and Resilience Plan” (PNRR), through which Italy intends to manage the Next Generation EU Funds. As part of the plan, Italy has provided by the implementation of Directive No. 2011/85/EU to move to accrual accounting by 2026. The reform foresees the issuance of new Italian Accounting Standards (ITAS), specific for the Italian public sector and based on International Public Sector Accounting Standards (IPSAS), a conceptual framework, and a single chart of accounts allowing the integration of financial, economic and management accounting. Indeed, none of the EU countries have directly adopted IPSAS (Brusca *et al.*, 2016). This reluctance is partly due to the fact that several studies show that the objectives of IPSAS in terms of transparency, accountability and decision-making fall short of expectations in practice (Liberato *et al.*, 2023).

In line with these evolutionary trends, the question arises as to what conditions under which the transition to a full accrual system, as provided for in the PNRR reform, can be considered useful, or whether it has remained a mere exercise in style.

Materials and methods

Our goal is to explore and explain the ongoing dynamics in public sector accounting, about the usefulness of the reform process in the perception of public sector accounting managers.

This research adopts a qualitative approach, and it can be defined as exploratory research because it consists of an attempt to discover something new and interesting about a research topic generating new hypotheses and new ideas (Swedberg, 2020). It is based on semi-structured interviews and QCA to better answer the research question. Specifically, the data collection process of the research employs semi-structured interviews to analyse the perceptions of local government accounting managers on the usefulness and application of current accrual-based reporting. Then, the responses are coded to apply the QCA methodology. Coding is carried out based on the possible relevance of a response as a predictor of the impact and usefulness of introducing accrual accounting. Indeed, according to the research question, the expected result is the identification of sufficient or necessary conditions for considering useful the substitution of modified cash accounting by full accrual accounting.

QCA is an analytical technique that uses Boolean algebra to implement the principles of comparison used by scholars engaged in the qualitative study of macro-social phenomena. Typically, qualitatively oriented scholars examine only a few cases at a time, but their analyses are both intensive (addressing many aspects of the cases) and integrative (examining how the different parts of a case fit together). “QCA makes it possible to bring the logic and empirical intensity of qualitative approaches to studies that embrace more than a handful of cases: research situations that normally call for the use of variable-oriented, quantitative methods. Boolean methods of logical comparison represent each case as a combination of causal and outcome conditions. These combinations can be compared and then logically simplified through a bottom-up process of paired comparison. The data matrix is reformulated as a “truth table” and reduced in a way that parallels the minimisation of switching circuits” (Ragin, 2014). The goal of logical minimisation is to represent, in a shorthand manner, the information in the truth table regarding the different combinations of conditions that produce a specific outcome. QCA is a methodology that remains underutilised within the field of public sector accounting. However, it is internationally acknowledged for its significant value in qualitative research, in particular it is widely used in the fields of general management, marketing, innovation and human resources (Kan *et al.*, 2016). This is attributed to its ability to preserve a higher degree of complexity and detail compared to quantitative methods and because it enables researchers to define commonalities in an observed case set (Selcuk and Cizel, 2024).

Regarding the data collection, the use of interviews was preferred to questionnaires because the former provides a more realistic and competent opinion of public managers on accounting issues and allows them to digress and enrich their answers with broader insights (Hyndman and Connolly, 2011). Moreover, given the potential sensitivity of the issues discussed and the desire for participants to be as open as possible, interviewees were informed that the interviews would be reported in aggregate so that statements could not be attributed to specific individuals. Interviews were conducted in Italian by telephone or Microsoft Teams platform between April and May 2023 and lasted on average between 15 and 30 min. The sample of respondents has been selected from municipalities in the Emilia-Romagna region with a population of over 15,000. The choice to focus on a sample of municipalities in the Emilia-Romagna region is because it represents one of the most economically and financially virtuous regions in Italy, thanks to a careful policy of resource and investment management (Mosconi and D’Ingiullo, 2023). The choice of municipal size depends on the constraints imposed by the Italian legislature on the adoption of accrual accounting in local governments. According to the Italian Consolidated Code of Local Authorities, municipalities with a population of more than 15,000 inhabitants are subject to vigilance in strategic control (Art. 147-ter), aimed at detecting financial aspects related to the results obtained. In addition, these municipalities must have an internal control system (Art. 148) aimed at reducing the risk of manipulation or error in the recording of daily transactions, to avoid situations in which the external auditor cannot rely on the quality of the entity’s financial reporting. Before conducting the interviews with the selected sample, a pilot test was conducted with a smaller sample of respondents whose roles were similar to the roles of the interviewees. The purpose of the pilot test was to ensure the clarity and relevance of the questions to the research objectives. The interviews were finally recorded and transcribed into an interview record. Subsequently, interviews were codified to conduct the QCA.

The wide-ranging questions of the interviews are grouped according to common semantic fields and, based on the opinions that emerged from the answers, fictitious questions are created that could be answered with a yes or no, which is a binomial response eligible for the QCA.

The initial questions pertain to the usefulness of accrual accounting financial reports for decision-making by public managers. The analysis considers the strategic advantages of accrual accounting in comparison to the benefits derived from using a modified cash accounting reporting system.

The next set of questions is about the flow of information between the municipality and its stakeholders, and the information needs of a particular group of them.

There are questions about the truthfulness, fairness and accuracy of the information provided by accrual accounting systems and whether these systems can provide a realistic representation of the state of health of the municipality.

The subsequent topic covered by the questions is the comparability of accrual-based financial statements between different municipalities, both from a general perspective and from the perspective of individual items in the financial statements, for a benchmarking necessity, fundamental for public management.

The final part of the interview is devoted to understanding whether the transition from the current system (modified cash accounting) to a new full accrual accounting system can be useful or not, and to motivate the answer.

Our objective is to understand if there are sufficient and necessary conditions for public managers to find it useful to adopt an accrual accounting model instead of a modified cash accounting model. To achieve this purpose, we undertook the process of coding the broad and discursive answers into binary variables, which can be seen as fictional answers to binary questions that can be inferred from the answers given by the interviewees. It is very important to note that each variable corresponds to one of the thematic groups of the interview questions. The variables and the underlying fictional questions are listed below. The “C” variables are the conditions that can be present or absent as necessary or sufficient conditions for the presence of the output variable “O”, that means a positive answer to the question that has been chosen as Output variable, as explained just below.

C1. Do public sector accounting managers make decisions based on the accrual-based financial statements?

YES(1)/NO(0)

C2. Have you ever received requests for information on accrual-based financial statements from stakeholders (internal/external)?

YES(1)/NO(0)

C3. Do the income statement and the balance sheet (accrual accounting) provide a true, fair, and accurate representation of the municipality’s state of health?

YES(1)/NO(0)

C4. Are the annual accrual-based reports comparable with those of other local governments?

YES(1)/NO(0)

O. Do you think it would be useful to move from the current modified cash accounting system to a full accrual accounting system?

YES(1)/NO(0)

There are several different ways to carry out a QCA; our choice was to use a free software called FS QCA, built exclusively for this type of analysis.

The analysis starts with the creation of a data set already set to dichotomous logic because our dataset is a crisp set (0,1), and not a fuzzy set ($0.0 \leq x \leq 1.0$) that needs to undergo a calibration process.

The next step is to analyse the necessary and sufficient conditions. The result is a table with 3 columns: condition tested, consistency and coverage.

Consistency can be compared to statistical significance and measures the degree of empirical relationship between a condition, or combination of conditions, and the outcome. It indicates “the degree to which cases sharing a given combination of conditions agree in showing the outcome in question” (Ragin, 2014). In general, a consistency value of 0.75 is required to accept a condition as sufficient for the outcome (Ragin, 2014; Schneider and Wagemann, 2012). Generally, when consistency exceeds 0.9, it also becomes a necessary condition (Schneider and Wagemann, 2012).

Coverage is similar to statistical power; it measures the empirical importance or relevance of a condition or combination of conditions (Ragin, 2014). For sufficient conditions, coverage

indicates how much of the empirical evidence is explained by a given condition or combination of conditions. The value of coverage should be 0.5 to be sure that the condition under analysis is relevant.

Going along with the analysis, the next step is to build the truth table. The truth table is a summary that shows the total number of logically possible combinations with the selected number of conditions. The truth table analysis is performed by software, but the procedures are based on Boolean algebra and as such can be reproduced by hand using Excel and transforming the data into 0 and 1 (presence or absence).

The truth table shows:

- (1) Raw Consistency: the proportion of cases in each row of the truth table that show the result.
- (2) PRI Consistency: an alternative measure of consistency for fuzzy sets based on an almost proportional reduction in computational error. For crisp sets, it is equal to the raw consistency.
- (3) SYM Consistency: an alternative measure of consistency for fuzzy sets based on a symmetric version of PRI consistency.

The final step to complete the QCA analysis is the Standard Analysis. According to [Mello \(2021\)](#), three different solutions are displayed.

- (1) The complex solution uses Boolean minimisation of truth table rows meeting specific thresholds, focusing only on empirical cases without simplifying assumptions. It captures the full complexity of the situation by avoiding logical remainders ([Ragin, 2014](#); [Schneider and Wagemann, 2012](#)).
- (2) The parsimonious solution also employs Boolean minimisation but simplifies by considering all logical remainders, potentially relying on untenable assumptions. It provides the simplest logical outcome.
- (3) The intermediate solution strikes a balance, considering certain logical remainders through specified expectations, offering a compromise between the complexity of the complex and parsimonious solutions.

To understand the results, some indicators need an explanation.

Raw Coverage measures the proportion of the memberships in the outcome explained by each solution term.

Unique Coverage measures the proportion of the memberships in the outcome that is explained by each solution term alone.

Consistency measures the degree to which the membership in each solution term is a subset of the outcome. Consistency is computed by computing the consistency of each case. For each solution term, a case is consistent if the membership in the solution term is less than or equal to the membership in the outcome.

Solution Coverage measures the proportion of memberships in the outcome that is explained by the complete solution.

Solution Consistency measures the degree to which membership in the solution is a subset of membership in the outcome.

Results and discussion

The NIS theoretical framework, based on the theme of coercive isomorphism and external pressures, influencing the municipality in search of legitimacy from the central government, can help to analyse and to interpret the public sector accounting management perception of the usefulness of full accrual accounting reform.

This section presents the main findings and discussion of the article. The need to adopt innovations from the private sector, such as full accrual accounting and international accounting standards (IPSASB, 2022; EU, 2013), and the need to produce financial statements that can provide more accountable, relevant, and comparable information (Buylen and Christiaens, 2016) are cited in the interviews of the public sector accounting managers as important reasons for introducing changes. According to the perceptions of local government accounting managers, these managerial and technical reasons seem to be the motivators for reforming the system and setting guidelines. Subsequently, the main results of the QCA analysis, presented in a technical way, are explained, and linked to the interviews and the literature of the NIS framework.

Analysis of interviews and coded responses

The data collection process, carried out on a sample of 55 municipalities, results in 41 key actors responding to the interview, giving a sample coverage of 75%. 56% of interviewees are female, with an average age of 56 and an average length of service in the public sector of 27 years. According to the methodology explained above, a database in Excel was realised in the coding process, generating 4 conditions variables and 1 output variable.

Table 1 shows the results, in terms of absolute value and percentage, of the coding process.

The key findings and main responses from the interviews are summarised and presented in the order of the issues addressed in each question in the previous section and as shown in the Table 1.

Table 1. Frequency table for variables C1, C2, C3, C4, and O

Condition	Question	Yes	No	Yes %	No %
C1	Do public sector accounting managers make decisions based on the accrual-based financial statements?	16	25	39%	61%
C2	Have you ever received requests for information on accrual-based schemes from stakeholders?	24	17	59%	41%
C3	Do the income statement and the balance sheet (accrual accounting) provide a true, fair, and accurate representation of the municipality's state of health?	23	18	56%	44%
C4	Are the annual accrual-based reports comparable with those of other local authorities?	34	7	83%	17%
O	Do you think it would be useful to move from the current modified cash accounting system to a full accrual accounting system?	21	20	51%	49%

Source(s): Authors' elaboration

Condition C1 concerns the usefulness of income statements and balance sheets for management decision-making.

From the interviews it appears that the 61% (NO) of respondents argue that the decision-making value of these documents is very limited. Instead, only the 31% (YES) claim that external stakeholders benefit more from accrual accounts because of their high information value.

Most respondents believe that accrual accounting does not offer any advantage in municipal management. They emphasise that modified cash accounting and its framework remain the main system for strategic and political decisions (Grandis and Federici, 2020; Biondi et al., 2021) because “potential stakeholders have the necessary skills to fully understand these statements [. . .]” compared to “[. . .] the income statement and balance

sheet [whose role] is marginal” (interviewee 2). This is because, in managers’ perceptions, the “adoption of full accrual accounting is a mere regulatory compliance exercise, with no real benefits for internal stakeholders” (interviewee 20). In fact, “[...] managers are used to working on budgets in modified cash accounting, so they are more interested in knowing what margin they have for allocating resources to balance against expenditure” (interviewee 7). These findings reveal that many municipalities view the adoption of accrual accounting primarily as a compliance requirement, indicating the influence of coercive isomorphism (DiMaggio and Powell, 1983). This response is consistent with the theoretical framework’s assertion that organisations often adopt new practices comply with external pressures rather than for intrinsic operational benefits (Fahlevi et al., 2022).

In addition, some respondents consider accrual accounting unsuitable for measuring the performance of a public administration whose purpose is to meet citizens’ needs and does not allow control of public expenditure (Reichard and Van Helden, 2016; Warren, 2015).

However, the remaining respondents (39% YES) argue that “accrual accounting financial statements are valuable to the internal managers and politicians because they give an idea of the organisation’s soundness. [...]” as highlighted by the interviewee 5. This is in line with the previous literature (see Brusca et al., 2017).

Moreover, some interviewees underline the importance of the balance sheet rather than the income statement in decision-making because it “includes values that cannot be found in cash accounting, such as the value of tangible and intangible assets and the value of investments [...]” (interviewee 10); and because “[...] inside the balance sheet, the study of the liabilities could have a certain degree of relevance, especially in verifying the degree of indebtedness of the entity, which could be of interest [for example] in understanding who the suppliers are” (interviewee 18).

Condition C2 relates to stakeholders’ requests for information on accrual accounts. There are three groups of responses to this question.

Firstly, some respondents (41% NO) indicate that they had not received any requests for information at all. A typical response is: “Both internal and external stakeholders are not very interested in the topic. [...] For example, internal management and auditors tend to give more importance to the modified cash accounting system because it is still the system on which the political and strategical decisions of the organisation are taken” (interviewee 3). This reflects the idea that modified cash accounting remains the primary focus of decision making; the decoupling between formal adoption and practical utility is evident here.

On the other hand, some respondents (59% YES) were contacted for information requests. This divergence (YES/NO) reflects the ongoing debate in the literature on the usefulness of accrual-based reporting in the public sector (Caruana and Zammit, 2019; Jorge et al., 2023). Within this group, a distinction can be made between information required by internal and external stakeholders. Among internal stakeholders, councillors are the most frequently mentioned by respondents, as pointed out by interviewee 20: “[...] Some councillors asked various questions about the content of these documents, especially during the discussion of the proposal to approve the accrual-based financial statements inside the committee”. This means that councillors are asking for accrual accounts, suggesting that certain stakeholders find value in accrual accounting. From the interviews, it appears that the requests come from both parties. Minority councillors, in their role as opposition, seek details on the significance of results achieved by the local government and, in particular, on its debt position. Frequently, they ask about the occurrence of a surplus in the modified cash accounts and a net loss in the accrual accounts, or vice versa. This is because, as highlighted by interviewee 18: “due the heterogeneity of the two accounting systems, the results can be completely inconsistent. A municipality can display a net loss [in the income statement] and, simultaneously, a surplus [in the modified cash annual report]”. This dynamic can be explained in the light of the search for legitimacy (Deephouse et al., 2017), which seeks to explain the inconsistency between the two outcomes, which in practice is not an issue. The reason is the use of an integrated system based on different accounting logics and different

objectives (Brusca and Montesions, 2014; Reichard and Van Helden, 2016). The inconsistencies between the two systems highlight a key challenge identified in the literature: the complexity of integrating accrual accounting into a context traditionally dominated by cash-based reporting (Caccia and Steccolini, 2006). Majority councillors, on the other hand, request information from the Accounts Department before council meetings to understand the specific accounting data that will need to be explained and discussed during the council session. Finally, among external stakeholders, the main requests came from institutional actors, such as the Court of Auditors (interviewee 17) on the mere regularity of accrual accounting, and banks (interviewee 35) in relation to the total debt, the investments, and loans, all information which is not readily available in modified cash financial statements (Anessi Pessina, 2002). These stakeholders are focused on the health of the municipality and issues related to compliance (coercive isomorphism). This external recognition is crucial for financial managers' perception of the usefulness of transitioning to full accrual accounting.

Condition C3 relates to the ability of the financial statements to provide real, true, and correct information about the health of the entity. This condition is related to international and national accounting standards which state that the health of an organisation should be reported "truthfully, fairly and accurately" in order to provide maximum transparency in the financial statements.

Two main schools of thought emerged from the interviews as to whether this can be achieved by adopting accrual accounting.

Some respondents (56% YES) are convinced that: "*income statement and balance sheet can provide true, truthful, and correct information on the health of the entity if they are accurately prepared using tailor-made standards. However, the understandability of these annual reports requires a certain degree of knowledge to interpret the results*" (interviewee 17). The reason is that "*every transaction recorded in the accrual-based accounting system is derived from a modified cash transaction [because of the integrated system], so the information obtained is real and true*" (interviewee 5). It is, therefore, necessary to have specific accounting standards for the public sector that are comprehensive for all items in the financial statements. The public nature of these entities makes them fundamentally different from private companies and requires tailor-made accounting standards (Grossi and Steccolini, 2015). This perspective is consistent with the concept of normative isomorphism (Meyer and Rowan, 1977), which suggests that adherence to specific public sector accounting standards can increase the transparency and accuracy of financial reporting by standardising reports, thereby facilitating benchmarking (Frintrup et al., 2022; Polzer et al., 2022).

In contrast to these positions, several respondents answered negatively, as in the case of interviewee 10, that affirms: "*modified cash accounting is still the cornerstone for the municipality because all decisions and resource allocation are based on this accounting system. Therefore, the accrual accounting system takes a back seat, and it is not very useful*". This notion reflects the phenomenon of decoupling, whereby the formal adoption of accrual accounting does not necessarily translate into its practical use and reinforces the idea that municipalities may adopt accrual standards primarily to meet external legitimacy requirements rather than for internal utility (Deephouse et al., 2017).

These different perspectives underline the complexities involved in adopting accrual accounting in the public sector. While the push towards accrual accounting is driven by normative pressure and the promise of increased transparency (IPSASB, 2022; EU Directive No. 2011/85/EU), its effectiveness hinges on the ability of financial managers and stakeholders to apply these standards in a way that truly reflects the financial health of the entity.

Concerning condition C4, regarding the issue of comparability between different local governments, the scenario that emerges is the most polarised (83% YES), showing a clear bias towards the possibility of comparing accrual-based financial statements between different local governments. It was highlighted that one of the advantages of accrual accounting is the

ability to make comparisons between entities, although it is very costly to implement (Lüder, 2000; Schmidhuber *et al.*, 2022). This possibility is linked to the need for shared standards uniformly adopted by all municipalities. The usefulness of benchmarking lies in the ability to compare various items in the financial statements of different municipalities and, by identifying best practices and similar cases (in terms of population, geographical area, and main financial incomes) to have a point of reference for making more informed decisions based on real examples. Any failures to achieve objectives that require corrective actions can be strategically overcome through process reengineering and the adoption of virtuous behaviours already undertaken by other entities that have faced the same issues (mimetic isomorphism), leading to an improvement of the system in general. The effectiveness of the tools and levers used by the entities is a further advantage of benchmarking, and of course, this topic is fundamental to the measurement of performance (Kuhlmann and Bogumil, 2018).

However, respondents emphasise that for comparability to be possible, the accounting standards must be applied correctly and uniformly by each local government. On the other hand, the 17% of the respondents stress the impossibility of comparing accrual accounts due to their complexity. They point out that even if the same accounting standards and rules were applied, modified cash accounting would still play a key role. *“The comprehension of income statements, even when considering a singular municipality, presents significant challenges, rendering their utilisation for comparative purposes with other municipalities exceedingly intricate. Such complexities might lead to negligible or non-existent feedback. Furthermore, comparisons drawn using balance sheets are not particularly insightful, owing to the unique heritage of each municipality, which establishes disparate starting points for any analysis of outcomes”* (interviewee 15). In this context, a decoupling behaviour can be observed (Fernando and Lawrence, 2014), where local authorities are required to report in full accrual accounting, but in practice their decision making and operational process is centred on modified cash accounting (Dabbicco and Mattei, 2020).

Finally, the variable output **O**, that represents the usefulness of the introduction of the full accrual accounting model for the Italian municipalities and the answer to the research question, shows the relative frequency of positive and negative responses of 51% and 49% respectively, indicating a scenario of extreme uncertainty and variability. Half of the respondents agree on the usefulness of full accrual accounting, while the other half disagree. Although there is a lack of consistency between the two groups, the reasons given within each group are similar.

Those who argue for the usefulness of the income statement and balance sheet provide the following justifications:

[...] from accrual accounting, derives industrial accounting and the possibility of real management control (interviewee 6);

[...] the use of the same accounting system between the public and private sectors allows the comparability of financial statements between different public entities and the private ones (interviewee 9);

[...] its use allows managing activities and verifying the effectiveness and efficiency of the management (interviewee 30);

[...] its adoption would lead to a considerable simplification of procedures (interviewee 35).

On the contrary, those who argue against the transition from modified cash accounting to full accrual accounting cite the following reasons:

The experience of the staff is shifted to modified cash accounting and [...] without a proper training period, accrual accounting is useless [...] (interviewee 7).

This issue has been addressed in the literature by Grossi *et al.* (2016), Nogueira and Jorge (2017), and Gigli and Mariani (2018), who argue that lack of training and experience with new accounting standards is one of the main reasons against accounting reform in a country.

The authorisation dimension of accrual accounting is indeed a bit of a puzzle. Simply relying on summary expenditure budgets may not provide a complete picture of how the approval process is aligned with the adoption of accrual accounting. It’s also interesting to note that while the budget surplus is important for the management, it sometimes differs significantly from the net outcome. The inclusion of the cost of depreciation of assets, not included in the annual budget, adds a layer of complexity to the understanding of the true financial position. It raises the question of how to deal with these nuances in the context of accrual accounting (interviewee 32).

Finally, uncertain respondents have been included in the “NO” coding. Some typical responses are:

The usefulness of the project would depend on the ability to succeed in creating a new way of managing public administrations [. . .] (interviewee 15).

The usefulness depends on how the reform is set up (interviewee 14).

QCA analysis

As explained in the Materials and Methods section, the QCA analysis was applied to the coded responses using FSQCA software. The results of the analysis are presented in the following sections.

Necessary conditions. The analysis of the necessary conditions (necessity test), where each condition is considered on its own, shows a consistency value of 0.75 only for C4, which means that it is a sufficient condition. The consistency score for C4 is also 0.90, so it is a necessary condition. C4 has a value of raw coverage of 0.5, which means that C4 is a relevant condition. So, it can be shown that C4, is a necessary condition for the output O. C4 can be interpreted as a positive answer to the question “*Are the financial statements comparable with those of the other municipalities?*”. O means a positive answer to the question “*Do you think it would be useful to move from the current system (modified cash accounting) to a full accrual accounting system?*”. This shows that comparability is essential if the transition from the current accounting system to a full accrual accounting system is to be useful and desirable (see [Figure 1](#)).

Analysis of Necessary Conditions

Outcome variable: O

Conditions tested:

	Consistency	Coverage
C1	0.571429	0.750000
C2	0.666667	0.583333
C3	0.619048	0.565217
C4	0.952381	0.588235

Source(s): Authors’ elaboration

Figure 1. Analysis of necessary conditions

Truth table. The truth table represents the number of logically possible combinations among the selected number of conditions. Our case presents 4 conditions, 16 logical combinations (2^k), described by the number and detail of the cases included in each set, and the consistency in three different versions (raw, PRI, SYM) defined above, and equal in our fuzzy set case (see [Figure 2](#)).

C1	C2	C3	C4	number	O	cases	raw consist.	PRI consist.	SYM consist
1	1	1	1	10 (24%)		cases	0.8	0.8	0.8
0	0	0	1	9 (46%)		cases	0.444444	0.444444	0.444444
0	0	1	1	5 (58%)		cases	0.2	0.2	0.2
0	1	1	0	3 (65%)		cases	0	0	0
0	1	0	1	3 (73%)		cases	0.333333	0.333333	0.333333
0	1	1	1	3 (80%)		cases	1	1	1
0	1	0	0	2 (85%)		cases	0	0	0
1	1	0	0	2 (90%)		cases	0.5	0.5	0.5
1	0	1	1	2 (95%)		cases	0.5	0.5	0.5
1	0	0	1	1 (97%)		cases	1	1	1
1	1	0	1	1 (100%)		cases	1	1	1
0	0	0	0	0 (100%)					
1	0	0	0	0 (100%)					
0	0	1	0	0 (100%)					
1	0	1	0	0 (100%)					
1	1	1	0	0 (100%)					

Source(s): Authors' elaboration

Figure 2. Truth table

Standard analysis. The standard analysis returns the complex (see Figure 3), intermediate (see Figure 4) and parsimonious (see Figure 5) solutions: they all consist of a logical combination of the initial conditions, which are interpreted as necessary, sufficient, or irrelevant conditions based on the value of consistency and coverage.

Model: $O = f(C1, C2, C3, C4)$
Algorithm: Quine-McCluskey

--- COMPLEX SOLUTION ---
frequency cutoff: 1
consistency cutoff: 0.8

	raw coverage	unique coverage	consistency
C1*~C3*C4	0.0952381	0.0952381	1
C2*C3*C4	0.52381	0.52381	0.846154
solution coverage:	0.619048		
solution consistency:	0.866667		

Cases with greater than 0.5 membership in term C1*~C3*C4: 3 (1,1),
28 (1,1)
Cases with greater than 0.5 membership in term C2*C3*C4: 2 (1,1),
5 (1,1), 6 (1,1), 9 (1,1),
10 (1,0), 11 (1,0), 14 (1,1),
17 (1,1), 21 (1,1), 35 (1,1),
36 (1,1), 39 (1,1), 41 (1,1)

Source(s): Authors' elaboration

Figure 3. Complex solution

Model: $O = f(C1, C2, C3, C4)$
Algorithm: Quine-McCluskey

--- INTERMEDIATE SOLUTION ---

frequency cutoff: 1
consistency cutoff: 0.8

Assumptions:

	raw coverage	unique coverage	consistency
C1*~C3*C4	0.0952381	0.0952381	1
C2*C3*C4	0.52381	0.52381	0.846154
solution coverage:	0.619048		
solution consistency:	0.866667		

Cases with greater than 0.5 membership in term C1*~C3*C4: 3 (1,1),
28 (1,1)

Cases with greater than 0.5 membership in term C2*C3*C4: 2 (1,1),
5 (1,1), 6 (1,1), 9 (1,1),
10 (1,0), 11 (1,0), 14 (1,1),
17 (1,1), 21 (1,1), 35 (1,1),
36 (1,1), 39 (1,1), 41 (1,1)

Source(s): Authors' elaboration

Figure 4. Intermediate solution

Model: $O = f(C1, C2, C3, C4)$
Algorithm: Quine-McCluskey

--- PARSIMONIOUS SOLUTION ---

frequency cutoff: 1
consistency cutoff: 0.8

	raw coverage	unique coverage	consistency
C1*~C3*C4	0.0952381	0.0952381	1
C2*C3*C4	0.52381	0.52381	0.846154
solution coverage:	0.619048		
solution consistency:	0.866667		

Cases with greater than 0.5 membership in term C1*~C3*C4: 3 (1,1),
28 (1,1)

Cases with greater than 0.5 membership in term C2*C3*C4: 2 (1,1),
5 (1,1), 6 (1,1), 9 (1,1),
10 (1,0), 11 (1,0), 14 (1,1),
17 (1,1), 21 (1,1), 35 (1,1),
36 (1,1), 39 (1,1), 41 (1,1)

Source(s): Authors' elaboration

Figure 5. Parsimonious solution

The complex solution shows that there are two possible logical interactions between the initial conditions, which can be sufficient or necessary conditions for the output:
C1*~C3*C4

$C2 * C3 * C4$

The first one ($C1 * \sim C3 * C4$) has a very high consistency value (= 1), but its raw coverage is too low (0.095) to be considered as a necessary condition: the minimum raw coverage value accepted is 0.5.

The second ($C2 * C3 * C4$) has a consistency value (0.846) above the threshold (0.75) but is not sufficient to be a necessary condition (0.90). Its raw coverage value (0.524) is above the threshold (0.5), so we can affirm that $C2 * C3 * C4$ is a sufficient condition for O.

The presence of a solution in the complex one stops the analysis at this step, but there are cases where the complex solution doesn't show any logical relation. In this case, the researcher should analyse the intermediate solution using the same method proposed for the complex solution. However, simplifying assumptions are made, which may affect the logical implications. The same type of reasoning should be done between the intermediate solution and the parsimonious one in case the intermediate solution doesn't show any relation. It should be noted that the result of the parsimonious solution is a logically milder result than that of the intermediate one, and the result of the intermediate solution is a logically milder result than that of the complex one.

The analysis concludes by comprehending the concrete meaning of the logical interplay of conditions that results in the solution.

$C2 * C3 * C4$ means that the contemporaneous verification of C2, C3, and C4 together is a sufficient condition for the presence of the output O.

So as the analysis shows, the transition to full accrual accounting is seen as beneficial by 51% of local government accounting officers, but only 33% of them simultaneously fulfil the sufficient conditions for the benefits of moving to this accounting system. In fact, 13 out of 41 respondents confirmed conditions C2, C3 and C4 at the same time.

The results of the QCA have interesting implications which can be analysed on the basis of the interviews collected and the literature presented. To understand what the simultaneous verification of conditions C2, C3 and C4 means, it is necessary to consider the managerial and policy consequences of each requirement.

More concretely, the study shows that stakeholders demand information on accrual accounting (condition C2), asking for details on all the information that is not readily available in the modified cash accounts (total debt, investments, and loans). This external recognition is crucial for accounting managers' perceptions of the usefulness of moving to full accrual accounting.

These findings have important implications for the adoption of accrual accounting in public sector organisations. The different levels of stakeholder engagement suggest that while accrual accounting is introduced to enhance transparency and accountability (Poljašević *et al.*, 2019; Ismail, 2022), as posited by NPM reforms, its practical uptake depends on how well it meets stakeholders' information needs and their familiarity with its application (IPSASB, 2022). Therefore, policymakers should consider strategies to enhance stakeholders' understanding and engagement with accrual-based financial reporting (e.g. staff training), thereby bridging the gap between formal adoption and practical utility. Linked to the issue of accountability and information capacity towards all stakeholders is the need for financial statements to provide real, true, and correct information about the health of the entity (condition C3), which is necessary for transparency and to enable a shared and uniform interpretation of information by all stakeholders (Pollitt and Bouckaert, 2011; Buylen and Christiaens, 2016). Transparency and shared interpretation are prerequisites for comparability between different local governments (condition C4) to be realised, although it is very costly to implement in practice (Schmidhuber *et al.*, 2022). The complexities and contextual differences highlighted by respondents and supported by recent research (Bonollo, 2022) suggest that a one-size-fits-all approach may not fully capture the financial nuances of each municipality. Therefore, policymakers need to consider these complexities and work towards a balanced implementation strategy that promotes comparability while recognising the diversity of local government contexts. As mentioned in the literature review, the European Union allows

Member States to choose their accrual accounting standards. In accordance with this directive, Italy is implementing its national accounting standard for the public sector, called Italian Accounting Standards (ITAS). These standards have not yet been finalised and remain incomplete, making it impossible to apply and enforce them, but they are the instrument that can make it possible the benchmarking activity, enhancing so the accountability of the local governments among its stakeholders. To do a proper use of these instrument it is fundamental a training process involving key actors, in need of specialised expertise.

The NIS is used to justify the shortcomings and limitations of empirical evidence through isomorphism, i.e. adapting to existing models, decoupling behaviour, separating substance from form, and seeking legitimacy from higher authorities so that municipalities can continue with their normal activities. The findings suggest that the push for accrual accounting is often driven by external regulatory pressure rather than internal demand (Polzer *et al.*, 2021; Meyer *et al.*, 2021). To maximise its benefits, local governments should strike a balance between meeting regulatory requirements and ensuring that accrual accounting practices are concretely useful for internal management purposes.

Conditions C2, C3, C4 are necessary for full accrual accounting to be perceived as useful and then, through proper implementation, to be useful in practice.

Thus, we can say that the combination of stakeholders' request for financial statement information, the confidence in the accrual accounting system to accurately reflect a municipality's financial health, and the comparability of financial statements across municipalities collectively form a sufficient condition to say that the introduction of the accrual accounting system would be useful in the opinion of public management. There is still considerable resistance to this change. Many respondents believe the system is not mature enough to make such a rapid and costly change by 2026 because the necessary framework conditions are not in place.

Conclusion

This article is based on a single-region case providing qualitative exploratory research on the accounting reform process towards the full accrual accounting adoption. More concretely, the focus is on the study of the perception of public sector accounting managers about the usefulness of adopting full accrual accounting as alternative to the prevailing modified cash accounting system in the Emilia-Romagna region, in Italy. Our research question is specifically aimed to investigate the sufficient and necessary conditions to consider this accounting transition useful; in order to achieve this goal, we made use of QCA analysis.

It can be noted that C2, C3, and C4 highlight the complex interplay between stakeholder engagement, the pursuit of transparency through true, fair, and accurate information, and the quest for comparability through common accounting standards (Brusca *et al.*, 2017; Grossi and Steccolini, 2015). These findings resonate with the NIS framework, where the adoption of accrual accounting practices is driven by the need to conform to institutional pressures for legitimacy (DiMaggio and Powell, 1983), as opposed to adoption driven by internal demand.

In this setting an analysis of the sufficient and necessary conditions, for public sector accounting managers, to consider useful the reform towards accrual accounting system in local governments covers a research gap. Firstly, it investigates the point of view of one of the interdependent actors that has a prominent role in the reform process that have been neglected from the actual literature. Secondly, it derives empirical evidence form the interviews that cannot be generalised, but from which can be derived interesting insights about problems, risks, uncertainties, ideas, and hints that can be a benchmark for similar cases and the basis for future research.

The research indicates how policymakers should act to guide the perception of the benefits of transition by increasing consensus among public administrations on the three sufficient conditions. This can be effectively achieved by:

Striking a strategic balance between meeting regulatory requirements and ensuring that accrual accounting practices are of practical use for internal management purposes.

The promotion of training to increase stakeholders' awareness of the informational value of accrual-based documents. In this sense, improvements in the quality and readability of financial reports could also be useful.

The introduction of ad hoc accounting standards for the public administration that consider the specificities of the sector. This would ensure, through a tailor-made full accrual accounting system, a real, true, and fair representation of the health of the entity.

Promoting comparability of financial statements by establishing accounting standards common to all public administrations and by creating easily accessible open databases. A further action could relate to identifying best practices in managing public finances.

Complex technical reports are not adequate to provide relevant information to non-professional stakeholders, but more user-friendly forms of reporting should be used for general information disclosure.

Taken together, these conditions show that the adoption of accrual accounting in local government is not just a technical exercise, but a response to the wider institutional system, which demands accountability, transparency and comparability to ensure that its adoption goes beyond compliance and adds real value to public financial management.

Training is the key instrument for achieving this scenario, as it would enable internal staff, politicians, and technicians to understand and perceive the benefits of this "new" accounting and to use it effectively in practice and decision-making processes. Training therefore needs to be provided consistently at a systemic level, rather than unevenly across municipalities. Consequently, the adoption of common accounting standards, well-organised and comprehensive training involving universities, the adoption of appropriate tools, immediate government support in case of issues and the recruitment of highly specialised personnel could certainly change the culture of public sector accounting, making the transition smoother and much more efficient and effective, thus maximising the benefits of this significant change.

This study provides valuable insights for policymakers involved in reform processes, despite some limitations. One of the main methodological limitations is the use of interviews as the primary data collection method. As a result, the conclusions drawn may predominantly reflect the subjective perceptions of the respondents, which may differ from the objective realities. In addition, the research methodology does not examine various personal background factors of the respondents that may have influenced their responses.

Another methodological issue is that our sample, made by the local governments of Emilia-Romagna region with more than 15.000 inhabitants, is representative of the local governments of the region, or for northern Italy but, due to a large gap between northern, central and southern Italy, it's not necessary representative of the average Italian local government at country level.

To mitigate these limitations in subsequent research efforts, future studies should be made by employing a larger and more nationally representative sample. In addition, broadening the scope of the research to include the perceptions of local political actors, rather than just those of technical experts, could provide a more holistic understanding of the issues at hand. Some years after the implementation of the reform, it would be interesting to study the obtained results and the gap in relation to the desired outcome, as well as the main issues in the implementation process. A comparison with the health and university education sectors, which have moved to full accrual accounting, could provide valuable insights. Investigating the perspectives of managers who have experienced this reform may help to identify the critical issues they have faced and whether they consider the reform to be beneficial. Furthermore, the comparison of the experiences of countries undergoing similar transitions in accounting practices could add new insights and themes to the analysis, thereby significantly enriching the existing literature on the topic.

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