

Exploring Citizen-centered Digital Reporting in Swiss Municipalities

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Abstract This paper explores citizen-centered digital financial reporting in selected Swiss municipalities, focusing on local public sector managers' perceptions of the challenges and opportunities involved in making financial information more accessible, understandable, and usable for citizens. Based on nine semi-structured interviews with officials from small, medium, and large municipalities, the study addresses two research questions: (1) What are the characteristics of citizen-centered digital reporting initiatives? (2) What institutional, legal, and practical challenges and opportunities accompany their implementation? Anchored in transparency and accountability theory, the analysis applies a three-dimensional framework – accessibility, understandability, and usability – to assess digital reporting practices. While certain tools have improved access to financial data, most municipalities struggle to enhance the comprehensibility and relevance of this information for non-expert users. In addition to the often-cited knowledge gap between citizens and public administration, the findings reveal a communication gap shaped by bureaucratic cultures, legal constraints, and resource limitations. Despite these barriers, innovative cases illustrate how digital strategies, visualizations, and storytelling can promote meaningful engagement and local democratic legitimacy. By shifting the analytical lens from citizen expectations to administrative perspectives, the study contributes to the literature on local public finance and offers practical insights for enhancing participatory governance through inclusive digital reporting practices.

Keywords: • popular reporting • financial reporting • user needs • local government • digital reporting

1 Introduction

The global dissemination of the International Public Sector Accounting Standards (IPSAS) in the past two decades has led to an increase in both the volume and complexity of financial reporting (Haustein, Lorson, Oulasvirta, & Sinervo, 2021; Yusuf, Jordan, Neill, & Hackbart, 2013). The goal of IPSAS is to increase transparency and accountability (IPSASB, 2014), but the growth of the standards in size and level of detail has led scholars to question whether the initial objectives can still be achieved (Fahmid et al., 2020; Yusuf et al., 2013). As Yusuf et al. (2013, p. 97) put it: “Transparency enhancement efforts have tended to involve more detailed financial reporting, which has enhanced the complexity of financial reporting and may have, ironically, negatively impacted accountability to citizens.” A recent study by the World Bank and ZHAW also noted that the initial benefits of transparency and accountability are diminished by overly complex and technical annual reports (Centre for Financial Reporting Reform & Zurich University of Applied Sciences ZHAW, 2022). Thus, for the benefits of accountability and transparency to fully materialize, users (e.g., citizens) should be able to “process, digest, and use the information” (Heald, 2006, p. 35).

Many scholars have highlighted a persistent information gap between governments and citizens in understanding financial reports, which hinders meaningful public participation in governance (Del Gesso & Romagnoli, 2020; Haustein et al., 2021). The OECD’s latest report, ‘Empowering Fiscal Reporting with Digital and Interactive Approaches’, reinforces this concern, stressing that fiscal information must be presented in a clear, engaging, and accessible manner. It calls for leveraging digital technologies to move beyond traditional reporting formats, ensuring that financial data is not only available but also understandable and useful to the general public (OECD, 2025).

Recognizing this challenge, efforts to improve citizen-centered financial reporting date back several decades. In the early 1990s, the Governmental Accounting Standards Board (GASB) initiated the study ‘Popular Reporting: Local Government Financial Reports to the Citizenry’ (Carpenter & Sharp, 1992), which laid the foundation for research on citizens as primary users of financial reports (Brusca & Montesinos, 2010; Steccolini, 2004). The IPSASB has since reinforced this perspective, stating that “citizens are primary users of GPFR [General Purpose Financial Reports]” (2014, para. 2.5). This view has gained widespread support, as scholars emphasize that citizens, as involuntary providers of financial resources, have a fundamental stake in understanding government finances (Brusca & Montesinos, 2010).

Based on this discussion, scholars have further investigated the subject of popular reports, or “PRs” (Bracci, Biondi, & Kastberg, 2021; Del Gesso & Romagnoli,

2020; Manes-Rossi, Aversano, & Tartaglia Polcini, 2019; Yusuf et al., 2013). In essence, a PR provides financial and non-financial information in a citizen-centered, understandable, and comprehensive form (Bracci et al., 2021; Stanley, Jennings, & Mack, 2008). However, the current debate on popular reporting reveals that many questions remain unanswered. For example, what type of information is relevant to citizens? (e.g., Haustein & Lorson, 2022) And in what form, size and shape should this information be presented? (e.g., Cohen, Mamakou, & Karatzimas, 2017; Cohen & Karatzimas, 2015) The aim of this paper is to contribute to this debate in order to explore how digital reporting can better meet user needs.

While some authors have already engaged in examining the needs of citizens as recipients of financial reporting information (Haustein & Lorson, 2022), we want to take a step back and analyze more closely the perspective of those preparing and presenting annual financial reporting. We build on the issue raised by Manes-Rossi et al. (2019), who suggested that further research should consider interviews with public sector managers to understand the benefits of popular reporting.

Unlike previous studies that focus on citizen perceptions of financial reports (e.g., Cohen et al., 2017; Del Gesso & Romagnoli, 2020; Haustein & Lorson, 2022), this research shifts the perspective by analyzing the challenges public sector managers face in implementing citizen-centered digital reporting. This approach provides new insights into institutional, technical, and political constraints that have received limited attention in the literature.

This paper aims to explore citizen-centered financial reporting in the digital age in selected Swiss municipalities. It focuses on public sector managers from these municipalities and examines their perceptions of the challenges and opportunities associated with citizen-centered digital reporting. The research seeks to understand how digital tools and practices can enhance the accessibility, understandability, and usability of financial reports for the general public.

Based on these considerations, the research questions are:

- 1) RQ 1: What are the characteristics of the initiatives developed in Swiss municipalities for implementing citizen-centered digital reporting?
- 2) RQ 2: What are the challenges and opportunities faced by Swiss municipalities in implementing citizen-centered digital reporting?

As a result, this article is intended to advance our understanding of how alternative citizen-centered digital reporting formats can be designed and their potential benefits. Ultimately, this should lead to reports that present financial and non-financial information in a manner that is comprehensible to non-PFM experts and tailored to the public interests and needs.

2 Literature overview

With the global dissemination of IPSAS, the concept of accrual accounting has now become the state-of-the-art accounting system in most OECD countries and is receiving increasing interest worldwide (IFAC/CIPFA, 2021; Moretti, 2016; Polzer, Adhikari, Nguyen, & Gårseth-Nesbakk, 2021). While the implementation of accrual accounting continues on a global scale, many scholars have raised questions regarding the understandability and usability of this new and detailed information (Cohen & Karatzimas, 2015; Jordan, Yusuf, Mayer, & Mahar, 2016; Langella, Anessi-Pessina, Botica Redmayne, & Sicilia, 2021). Some researchers have concluded that the level of detail and sheer amount of information produced by an IPSAS-based accounting system results in overly complex information that is hardly digestible by non-experts (Yusuf et al., 2013). This “transparency illusion” (Heald, 2006) has led some scholars to conclude that there is an information gap between the government and the general public (Del Gesso & Romagnoli, 2020), hindering public participation and limiting interest in public finances (Jordan et al., 2016). As such, accrual accounting’s intended benefit of creating transparency has only been partly achieved, as the citizens as recipients cannot process this information (Haustein & Lorson, 2022).

In the literature, there is still some debate on the role of the citizens in this process. While some scholars question the public’s interest in local government (LG) financial information (Haustein & Lorson, 2022), others argue that citizens are the most relevant user group when it comes to public financial reporting (Brusca & Montesinos, 2010; Cohen et al., 2017; Manes-Rossi et al., 2019). This brings us back to the knowledge gap identified above. Undoubtedly, there is such a gap between the producers and the users of accrual accounting information, and accrual accounting as a concept in itself is contributing to maintaining, or even widening, this gap (Centre for Financial Reporting Reform & Zurich University of Applied Sciences ZHAW, 2022).

Previous research largely agrees that the average citizen does not possess the required knowledge and skills to understand and interpret public financial information based on an accrual accounting system (Haustein & Lorson, 2022; Hepworth, 2017; Manes-Rossi et al., 2019). As a result, financial information is effectively unusable by some of the intended recipients, such as taxpayers; or as Langella et al. (2021, p. 2) put it: “[...] citizens are often barely able to understand and interpret such information.”

It was this knowledge gap that sparked the idea of popular reporting (PR) in the early 1990s in the United States (Carpenter & Sharp, 1992). The general concept of PR is to provide concise, understandable, and meaningful information in such a way that it is comprehensible to users who do not possess expertise in accrual accounting and public finance (Del Gesso & Romagnoli, 2020; Manes-Rossi et al.,

2019). The better informed the general public is about the financial situation of their LG, the higher the legitimacy of the LG to collect taxes, and consequently the willingness to pay those taxes, because the citizens better comprehend what goods and services they receive in turn (Blöchliger & Kim, 2016; Manes-Rossi et al., 2019). Thus, there is a need for a more comprehensible and relatable form of communication of financial and non-financial information, and it needs to be delivered in an alternative, citizen-centered format (Del Gesso & Romagnoli, 2020).

Following the PR approach, clear and comprehensible communication of financial information will ultimately benefit the financial sustainability of the LGs—and therefore each country as a whole (Manes-Rossi et al., 2019). In this sense, the literature agrees that there is a clear need to better communicate the information presented in LG financial reports.

This paper aims to examine how this gap can be dealt with and reduced considering the opportunities that digital technologies offer. While there is an apparent asymmetry in knowledge and information, there is also the question of how the information is presented and made available to the public. For example, Cohen et al. (2017) discovered a clear preference for a website-based format over traditional PDFs, while in another qualitative study, Jordan et al. (2016) observed that citizens want reports to be written in plain language and visually appealing, with diagrams or other forms of visualizations. Consequently, there is not only a gap in knowledge but also one in communication. We will focus on this perspective, aiming to identify how this information must be conceptualized, prepared, and communicated under the concept of citizen-centered reporting.

3 Theoretical framework

First, we should define citizen-centered reporting and embed it within existing transparency and accountability frameworks. To do this, we draw on current accountability and transparency literature to develop and describe the key characteristics of citizen-centered financial reporting.

While we do not intend to initiate a systematic discussion about various concepts of transparency and accountability, it is important to outline the main theoretical assumptions, as these are the key to interpreting the research objectives and findings of this paper.

There are different concepts and dimensions of transparency (e.g. Birkinshaw, 2006; Bovens, 2007; Heald, 2006; Hood, 2001). Heald (2006) distinguishes between vertical transparency (upwards/downwards) and horizontal transparency (inwards/outwards):

- 1) Vertical transparency can be understood in principal-agent terms (Eisenhardt, 1989; Jensen & Meckling, 1976). “Vertical downwards transparency” is seen as a mechanism by which the principal (e.g., citizens) can observe the actions of the agent (e.g., politicians), for example, through published financial reports. Thus, vertical downwards transparency focuses on accountability, providing a tool for agents to account for their actions, while vertical upwards transparency is viewed as a monitoring and evaluation tool, for example in the context of policy evaluations (Heald, 2006).
- 2) Horizontal transparency refers to the openness and information sharing that occurs between peer organizations or entities at the same level of hierarchy within the public sector. It involves transparency between different departments, agencies, or organizations that are on the same administrative level (Heald, 2012).

This paper views financial reports from a vertical downwards transparency perspective, as an important accountability instrument to hold agents (e.g., governments) accountable to their principals (e.g., citizens). However, as this view resonates with the traditional understanding of accounting and financial reporting (Haustein & Lorson, 2022; IPSASB, 2014; Manes-Rossi et al., 2019), and acknowledging that there is growing criticism of such a monodirectional view, we try to go beyond our perspective to overcome some limitations. Recent scholarly contributions suggest seeing financial reporting not only as a device for downwards transparency, but demonstrating a need to rely more on a dialogic approach, encouraging citizens to understand, participate, and engage in public service performance measurement (Barbera, Sicilia, & Steccolini, 2024). Citizen-centered financial reports acknowledge such views and develop tools and mechanisms to improve vertical downwards transparency while also providing opportunities for stronger participation.

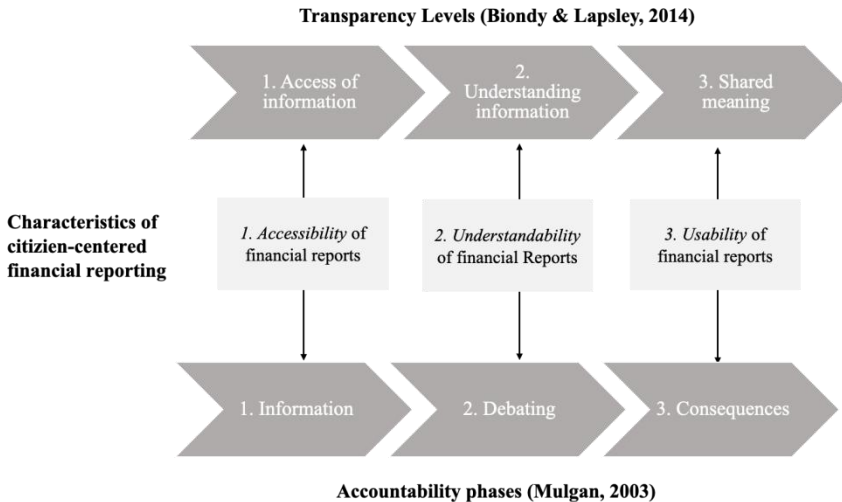
A second theoretical assumption is that there are three levels of transparency, as explored by Biondi and Lapsley (2014, p. 150) and further discussed by Haustein and Lorscheid (2022, p. 380):

- 1) The first level of transparency provides access to information (for our purposes, financial information).
- 2) The second level of transparency is achieved when the information is understood.
- 3) The third level of transparency is achieved when the information is used for sensemaking and extends to shared meanings.

Strongly connected with this, there is a third theoretical assumption that transparency and accountability are linked (da Cruz, Tavares, Marques, Jorge, & de Sousa, 2016). Mulgan (2003) describes three accountability phases: information, debating, and consequences (see also Haustein & Lorson, 2022). All

of these phases can be linked to the three transparency levels outlined in Figure 1 to produce citizen-centered reports that address both perspectives: transparency and accountability.

Figure 1: Characteristics of citizen-centered financial reporting



Source: Own illustration based on Hausteijn and Lorson (2022), Biondi and Lapsley (2014) and Mulgan (2003).

Assuming that citizen-centered financial reports should be conceptualized, prepared, and communicated in such a way that they improve vertical transparency and accountability between governments and citizens, we identify three main dimensions of such reports:

- 1) Accessibility refers to the timeliness, format, and ease of access to financial information. This characteristic ensures that financial reports are readily available to a broad range of citizens. In the context of digitalization, various scholars have focused on how digital tools create opportunities to enhance the accessibility of financial reports to a wider audience (Cohen et al., 2017; Cohen & Karatzimas, 2015).
- 2) Understandability refers to the clarity and comprehensibility of financial information presented in reports with the support of graphical representation, videos, explanations, and comparative analyses. It must ensure that a broad range of users, including users with a lower level of financial literacy, can interpret the information accurately. More recently, the topic of financial communication and data storytelling has gained strong attention in the field of public financial management. This includes questions on how to present and illustrate complex financial information so that users (citizens) are able

to understand and process it (Centre for Financial Reporting Reform & Zurich University of Applied Sciences ZHAW, 2022; Knowles, 2018; Langella, Anessi-Pessina, Botica Redmayne, & Sicilia, 2021; Shiller, 2020).

- 3) Usability refers to the practicality and ease with which citizens can use financial reports to meet their specific needs. It includes features such as the relevance of information, navigation features, interactive elements, and possibilities to extract data from the reports, as well as feedback mechanisms (Barbera et al., 2024; Jordan et al., 2016).

4 Research design and methodology

This study uses an exploratory case study research design. This is particularly well-suited for gaining knowledge of a specific phenomenon, particularly where there is no clear or single set of outcomes (Yin, 2018). Exploratory case studies are a good fit for exploring the context in which a phenomenon occurs. This is important for understanding how various factors and variables interact in a real-world setting. Additionally, the exploratory approach sheds light on practical implications and recommendations, making them useful for practitioners, policymakers, or organizations looking to make informed decisions in complex or new situations (Rashid, Rashid, Warraich, Sabir, & Waseem, 2019; Yin, 2018).

4.1 Research context

Switzerland is organized as a federal state, with three levels of government: the national government, 26 cantons, and 2,170 municipalities (Bundesamt für Statistik, 2021). The country has a long-standing tradition in accrual accounting (and accrual budgets) on all three government levels (Fuchs, Bergmann, Rauskala, & Schmitt, 2015). As a result, Swiss LGs prepare and present comprehensive accrual-based annual reports in accordance with national accounting standards, closely related to IPSAS (Swiss Public Sector Financial Reporting Advisory Committee, 2022). These standards, referred to as the Harmonized Accounting Model 2 (HAM2), are applied on both the cantonal and municipal levels (FDK-CDF Konferenz der Kantonalen Finanzdirektoren, 2022). Based on this national alignment, all local governments in Switzerland share the same template for their regulatory framework for public finance.

The federalism practiced in Switzerland gives municipalities a comparatively high degree of tax autonomy, which engenders a close relationship between the local authorities collecting the taxes and the citizens as taxpayers and recipients of locally financed public services (Schmidheiny, 2017). In terms of political representation, Swiss municipalities can be divided into two types: the municipal assembly and representation through parliament (Ladner, 2011). The latter is more common in larger municipalities and cities, although the former actually

represents the more common form of representation among Swiss municipalities overall (Ladner, 2015). The main difference is that with the municipal assembly, all citizens eligible to vote and participate in elections are called to attend physically the assembly.

4.2 Case selection and data collection

The case selection was guided by our research question of identifying challenges and opportunities for Swiss municipalities in implementing citizen-centered digital reporting. Within the case selection, we sought to include the perspectives of public sector managers involved in the three most relevant phases relating to the accountability of financial reporting: conception, preparation, and communication of the annual reports. This was operationalized in the three functions, or heads, of: i) operations, ii) finance, and iii) communication. The communication officers put more emphasis on the form and design of the report, including the messages that are attached to the financial results, whereas the finance departments act as the preparer of the financial reports, paying particular attention to all legal and regulatory requirements. Finally, those in operations manage the coordination between all departments and are ultimately responsible for current processes; they also have a strong influence on whether and how these processes change in the future. Moreover, heads of operations are connected to the politically elected officials, i.e., legislatures, and therefore responsible for connecting the financial results with the political agenda.

The empirical results are based on a set of nine semi-structured interviews with local government officials from Swiss municipalities as outlined in Table 1. The population size is grouped into three categories: small (<15,000), medium (15,000–25,000), and large (>25,000).

Table 1: Presentation of cases

Case	Interviewee position	Population size	Legislative body
A	Head of Finance Department	small	Municipal assembly
B	Head of Communication	large	Parliament
C	Head of Operations; Head of Finance Department	medium	Parliament
D	Communication specialist	large	Parliament
E	Head of Finance Department; Communication specialist	large	Parliament
F	Head of Communication	medium	Municipal assembly
G	Head of Controlling, Finance Department	small	Municipal assembly
H	Deputy Head of Finance Department	small	Municipal assembly
J	Deputy Head of Operations	medium	Parliament

4.3 Questionnaire and data analysis

The interviews were transcribed and analyzed using MAXQDA, a qualitative data analysis software that facilitates structured thematic coding and interpretation (Mayring, 2016; Williamson & Johanson, 2018). The categorization process followed a mixed theoretical design, combining both deductive and inductive approaches (Flick, von Kardorff, Keupp, von Rosenstiel, & Wolff, 2012; Yin, 2018).

Initially, a deductive coding framework was developed based on existing literature, aligning with the three core dimensions of the theoretical framework: accessibility, understandability, and usability. As the analysis progressed, the coding scheme was refined inductively, allowing emerging topics to be incorporated.

To enhance transparency and reproducibility, coding was conducted in multiple iterative rounds. The process began with open coding, where recurring concepts were identified, followed by axial coding, in which related themes were grouped into broader categories aligned with the study's three dimensions (Corbin & Strauss, 2008). These categories were further refined to capture nuances in the data while ensuring consistency across cases.

While qualitative research inherently involves researcher interpretation, efforts were made to maintain analytical rigor by revisiting coding decisions, comparing emerging themes across interviews, and refining categories based on new insights (Corbin & Strauss, 2008; Yin, 2018). This systematic yet flexible approach ensures that findings remain data-driven, transparent, and replicable for future research in similar contexts.

The interview questions were designed to operationalize the three key dimensions of the theoretical framework as follows:

4.3.1 Accessibility

- This dimension assesses how, when, and where financial and non-financial information is made available to citizens and the extent to which municipalities utilize digital tools or social media for dissemination. The following indicators were used: timely publication of the financial report,
- Availability in both digital and printed format, and
- Accompanying communication efforts (e.g., press releases, website updates, social media posts).

4.3.2 Understandability

Understandability was evaluated based on the clarity, structure, and design of financial information. This relates to visualization, graphical representations, videos, and other interactive elements – basically, everything that would help citizens better comprehend the information being presented to them. This dimension is assessed through the following elements:

- Comprehensibility of the text,
- Design of the financial report and all its supplementary materials, and
- Integration of visual aids such as animations, visualizations, or videos.

4.3.3 Usability

Usability measures the extent to which the information can be extracted, compared, and used in one's personal context. This also includes the option to ask questions, give feedback, or generally interact with the information itself and those who have produced and communicated it. This last dimension is assessed based on:

- Ease of data extraction and reuse of the data,
- Tools or options to interact with the municipality, and
- Level of response or reactions to the financial report or any of its supplementary materials.

5 Results

The following section discusses the empirical results in detail. It first assesses the status quo of all cases regarding the use of citizen-centered digital reporting tools or elements. Next, it depicts the challenges as perceived by the municipalities depending on their path to modernizing their reporting. Finally, this chapter concludes with the opportunities and how they can enable municipalities to move towards more citizen-centered digital reporting.

5.1 Case analysis: Characteristic expression of accessibility, understandability and usability

All nine cases are at a different points on their path towards citizen-centered reporting. To better understand where each case stands, we harness the theoretical framework. Based on the empirical results, we can now assess each case regarding the three dimensions of the theoretical framework: 1) accessibility, 2) understandability, and 3) usability. Table 2 presents all cases and where they currently stand within each dimension based on their characteristic expression [low (L), medium (M), or high (H)].

Table 2: Characteristic expression per dimension

Cases	Accessibility			Understandability			Usability		
	L	M	H	L	M	H	L	M	H
A		×		×			×		
B			×			×		×	
C			×			×		×	
D			×		×		×		
E			×	×			×		
F			×		×		×		
G			×		×		×		
H		×		×			×		
J			×		×			×	

5.1.1 Accessibility

The first and central observation is that all municipalities provide timely and transparent access to their financial reports. This is done in full compliance with the regulatory framework and includes detailed information, such as balance sheets, profit and loss statements, and notes on financial and non-financial information. The reports are either sent out as a printed document or made available on the website in PDF format. In most municipalities, supplementary information is provided in local newspapers, through social media, or in press conferences.

5.1.2 Understandability

The analysis of the understandability dimension presents a different picture. Here, the municipalities are almost evenly distributed throughout all three characteristics. To better understand how and why cases B and C are in the highest range, we will examine these two in more detail. At the time of their interview, Case B had just finished a project on digital annual reporting. The focus of the project was to design intuitive and comprehensible visualizations. It was created as a browser-based report that led the user through various highlights (including financial) of the current year, structured around 18 different topics: social welfare, security, the increase in number of pupils in public schools, and others. Each topic had its own set of illustrations, some of them partially animated.

Meanwhile, Case C conceptualized the entire annual report as a browser-based, interactive publication. The approach for this project was twofold: firstly, to reduce the financial (i.e., numerical) elements to the legally required minimum, and secondly, to change the language, structure, and appearance to make it more appealing to a broader audience. This was done through pictograms, infographics, and other types of visualizations, with the goal of reducing lengthy text and complicated tables. The project was met with both criticism and applause. The

critical opinions, primarily from the parliament, objected to being confronted with a change of the product and having to find their way around a new structure. However, the reactions received from citizens were positive, highlighting the combination of numbers and events or stories (e.g., how many kilograms of garbage was produced each year, per citizen). As pointed out by Cohen and Karatzimas (2022), infographics can enhance the perceived understandability of financial reporting on the part of the general public.

Cases D, F, G, and J used some elements to increase readability and comprehensibility of the annual report such as visualizations, videos, or pictograms, and experimented with social media to disseminate financial information.

5.1.3 Usability

Overall, usability is rated lower than understandability. This comes as no surprise, as the three dimensions are not independent from one another, but rather represent building blocks or stages. Thus, the next stage cannot be achieved if the previous one has not reached a certain level of maturity.

Again, usability is higher in cases B and C, which correlates with higher understandability. One reason for this might be that both invested in more comprehensible and visibly more appealing formats, resulting in more feedback from both citizens and parliaments. In other words, it was easier for the recipients to interact with the information due to the way it was prepared and presented. Many scholars emphasized the point that the visual appearance of financial information is a crucial element in sparking an interest among citizens (Cohen & Karatzimas, 2015; Manes-Rossi et al., 2019).

Case J also deserves special mention. This is the only case in the sample that sends out a monthly newsletter to politically interested citizens. While this newsletter concerns all political areas, it highlights public finance issues such as infrastructure investments or discussions surrounding the municipal tax rate. The newsletter represents an invitation to start a dialogue and makes the municipality more approachable for feedback from citizens.

Overall, it can be observed that accessibility is very well established and there is only little room for improvement. That, however, gradually changes when we look at understandability, where we see an almost equal distribution between low and high, with many municipalities already reaching a certain maturity. In contrast, usability is not very strongly developed, and in only three municipalities can a medium characteristic expression be observed.

5.2 Perceived challenges of citizen-centered digital reporting

After capturing the status of all municipalities through the three dimensions, we turn to the challenges and opportunities on the way to improving understandability and usability through citizen-centered digital reporting. The heterogeneity observed in the previous chapter is also reflected in the challenges the municipalities would meet in the process of moving to more citizen-centered digital reporting. We managed to catch this heterogeneity within the sample, delivering a comprehensive set of challenges faced by local government managers. The challenges are grouped into the following four clusters:

- 1) Reluctance to innovate
- 2) Legal and regulatory requirements
- 3) Perceived low interest of citizens in financial information
- 4) Limited financial resources and staff

5.2.1 Reluctance to innovate

The central obstacle in this regard is the lack of political will and a general low innovation readiness. This was observed throughout all cases, independently of their progress toward citizen-centered reporting. Many interview partners referred to discussions with superiors or the legislative body where the call to innovation was met by statements such as: “Things have always been done this way” (Case B), “We do not see the urgency in working on this” (Case F), or “we are happy how things are right now” (Case J). In other instances, members of the parliament signaled that they were afraid of public opinion if they were to try something unfamiliar or innovative (Case J). In many instances, both the legislative and executive bodies raised questions regarding the need to innovate (Cases B, C, F, and H). In Case B, some members of parliament clearly expressed their wish that such endeavors are not carried out proactively, and the administration should submit a formal request to parliament first.

Another reason for the reluctance to innovate can be found in old-fashioned bureaucratic office cultures and beliefs such as “we do not need to market ourselves or be first movers, our clients are there anyway” (Case A), “things are running perfectly smooth as they are, no one ever complained” (Case F), “as the old saying in bureaucracy goes, the one who moves first loses” (Case C). Discussions with the municipal council (executive body) in this area are often unsatisfactory: “In the end, you often hear: ‘Well, let's just do it the way we always have and leave it at that.’ I find that a bit difficult, that you don't fall asleep and just become an administrator. I think that's a shame.” If and how innovations are implemented finally comes down to “the courage of the municipal council [executive body].” (Case F)

The two cases that already implemented digital annual reporting to some degree (Cases B and C) stated that the lack of imagination with regard to what something might look like in the future was a considerable challenge. Members of parliament asked for visual examples and were not satisfied that the final result was something of a moving target. As a result: "...if you, as a public administration, act as a 'first mover' in a certain area, you are subjected to certain resistance. With time and consistency in your approach, you might change the perception, and people will start using what you are offering them." (Case C)

Technical affinity—or the lack thereof – also adds to the degree of innovation readiness. Introducing modern technology in environments where people have not been accustomed to frequent technical innovation presents a challenge: "I can still remember the first meeting with the digital annual report. The first question from parliament was: Is this also available in a printed format?" (Case C)

5.2.2 Legal and regulatory requirements

The federalist structure of Switzerland gives the cantons a high degree of autonomy regarding their legal framework; that freedom is limited only by the constitution. This results in a heterogeneous palette of municipal laws. The municipalities in this sample represent six (out of a total of 26) different cantons. Yet, even in this small sample, we encountered various differences in the legal and regulatory requirements for annual and financial reports.

Despite the differences in the legal requirements, there are certain similarities across all cases. For financial reporting, the most relevant is that the financial information (both annual report and budget) must be made available to the public. This information must be provided within a reasonable timeframe to allow citizens and/or members of the parliament to prepare for the assembly, meeting, or media conference. The timeframe, the actual form of the information, and the exact content vary among the individual cantons. In certain cases, the legal requirements do not specify the form or the exact content (Case F), whereas in others the requirements are more rigid, with Excel templates providing specific guidance or formatting instructions (Cases A, E, H, and I).

To a certain degree, the regulatory framework also seemed to be used as a reason to limit innovation: "When we switched to HAM2 a year ago, a gentleman stood up at the assembly and said that he no longer understood the numbers at all, and wondered whether we could do it differently. Our Head of Finance answered that it was a legal requirement to publish it this way. But what he didn't say was that there is a certain room for interpretation to do it differently. But you would have to put in the resources to do it." (Case F).

While all interviewees understand and accept certain regularities, many said that a reduction or simplification of the regulatory requirements would be much appreciated, as it would free up resources for innovations (Cases A, D, and F).

5.2.3 Perceived low interest of citizens in financial information

Across all cases, the perceived interest among citizens in annual financial reporting is rather low. Some of the interviewees reflected on possible reasons why, and whether it had to do purely with the topic (finance) or if the way it is presented is also relevant: “We really have to ask ourselves: does this thing [financial report] have to look the way it does?” (Case A) Put in another way by the head of communications from Case B, “Even my predecessors knew that the annual report [in its current form] is non-digestible. That is not something that can be communicated this way. Besides a few freaks interested in the numbers, no one would willingly do this [read the full annual report] to him or herself.” Another problem identified was that the average age of those interested in the annual report or its financial details is usually around 65 years and older (Cases A, D, and G). Case D took notice of this: “So we might have to present it [the annual report] in such a way that it would also interest younger people.”

When analyzing the perceived interest of the general public in the annual report, the distinction between the two types of legislatures becomes very relevant (cf. Chapter 2). As for municipal assemblies, the citizens themselves are asked to cast a vote on whether they agree or disagree with the financial report (and the budget). Therefore, those cases with this direct form of legislation have an even higher need to motivate their citizens to take an interest in municipal finances (Cases A, F, G, and H). In this group of cases, the participation in municipal assemblies is very low, ranging between 2% and 5% of the citizens (out of those eligible to vote). Where the legislative work is delegated to a parliament, the focus on raising interest is less on the public and more on the elected legislators (Cases B, C, D, E, and J). Here, four out of the five cases reported that they were not aware of any comments, questions, or remarks from citizens regarding the annual report. As Case J stated: “[...] people don’t ask questions about how and for what we spend the money.”

Overall, the majority of interviewees stated that there is a need for a better delineation of audiences or information recipients and that annual reporting should be designed to communicate to these groups differently. In addition to the general public and members of parliament, the local or regional media outlets are also relevant (Cases B, C, D, and E). The executive body (municipal council/city council) would be an additional separate group, as would the parliamentary or municipal audit committee.

5.2.4 Limited financial resources and staff

This issue is reported more prominently from small and medium-sized municipalities because they have smaller teams and generally less capacity for additional, innovative projects. As stated by Case F, “As far as this [citizen-centered reporting] is concerned, it is not only a question of will but also a question of resources. I think the resources to drive such a project forward are limited in the municipal administrations – in my experience.” Also, small municipalities do not have separate communication departments, and the small teams they have are mainly occupied with meeting the regulatory and legal requirements. This also plays into the capacity to innovate: “We don’t have the time, resources or money to invent something new.” (Case A) As a result, citizen-centered elements are more prevalent in municipalities with public representation through parliament and less so in those with municipal assemblies, as highlighted in Table 3.

Table 3: Comparison of democratic representation and citizen-centered reporting elements

Use of citizen-centred elements	Legislative body	
	Municipal assembly	Parliament
Yes	F	B, C, D, J
No	A, G, H	E

Along with the staff situation, the technical setup is also relevant. The more sophisticated the IT systems are, the more efficient it is to produce citizen-centered financial information. Many Cases (A, C, F, and J) reported that their current ICT tools do not allow them to produce the information in a more digestible manner. The focus of most software is storing and processing the financial data to comply with the legal and regulatory framework. To visualize the financial information, most municipalities rely on standard office applications such as Excel or PowerPoint. This leads to the situation summarized by Case J as: “[...] it really is always the same... The head of the finance department stands in front with his PowerPoint presentation, which contains the same graphs as every year: A few bar charts, pie charts, or waterfall charts... so you have seen that at some point.”

5.3 Opportunities for successful citizen-centered digital reporting

The interviewees were asked to contemplate conditions that ought to be in place to make annual reporting practices more citizen-centric. The responses were as diverse as the set of municipalities themselves. Nonetheless, some common patterns emerged.

Almost all interviewees stated that it requires a certain boldness and assertiveness combined with a “just-do-it” attitude, as well as being more courageous as public managers: “You shouldn’t bother asking, you just have to start. We simply did that and informed the parliament after one and a half years into the project.” (Case C) In Case B, similarly, the project was started by the Head of Communication without previously informing the parliament. In Case F, a designated social media expert was hired to start and maintain a social media strategy: “[...] now we have a lot of followers and suddenly everyone is surprised that people are interested. I think [as a citizen], as long as it's not visible, you don't even realize that you actually would be happy to have certain information.”

Involving a greater part of the population would require identifying the citizens’ needs, what is affecting them and how this could be translated into an annual financial report. As stated by Case C: “[One] goal would be for the citizen to have an added value when he reads it [annual report]: ‘That's a cool annual report, now I know what they do with my money.’ Then, as a citizen, I might dare to ask something ... The interaction could be increased this way, if you didn’t have to look at such a graveyard of numbers.” Thus, one needs to be clear about who the report is addressed, which then defines the form and communication channel. As explained by Case A: “The question arises as to whether it [financial report] has to come in this form. And the question of the addressee... Who do we actually want to reach with which product? Who are we actually addressing with what? The annual financial statements could be made more readable, informative, and better designed.” In the same vein, Case H stated that: “It is difficult to reach all citizens with the current means of communication. That is actually impossible.”

For case C, a lot of time and money was lost in the discussion with parliament regarding small details of a browser-based annual financial report: “[...] for example, for the theme of traffic, how do we represent this graphically – with a car, a pedestrian, a bicycle or a bus? This cost us three sessions [in parliament] and a lot of money for the graphic designer.” Consequently, they suggest limiting the options of visualizations such as infographics or pictograms in order to save time, money and energy.

Both Cases B and C stated that it took considerable effort to explain what is actually meant by a digital annual financial report and what this might actually look like. Thus, the interviewees stated that having something tangible to present would go a long way in getting parliament on board for such a project. In addition, the topic of financial education and training has to be part of such a project: “The training of parliament should be included. Otherwise, the whole thing is useless... We have a laymen system. These people [the parliament] are elected without a job description. So financial education is a very important point.” (Case C)

6 Discussion and conclusions

This study adds to the growing literature on public sector transparency and citizen-centered financial reporting by examining the challenges and opportunities associated with digital reporting in Swiss municipalities. While digital tools have enhanced accessibility, our findings indicate that understandability and usability remain underdeveloped, reinforcing previous research on the limitations of traditional accrual-based reports for non-experts (Cohen & Karatzimas, 2015; Haustein & Lorson, 2022).

One of the key contributions of this study is the recognition of both a knowledge gap and a communication gap in public financial reporting. While prior research has largely focused on citizen expectations (Del Gesso & Romagnoli, 2020; Manes-Rossi et al., 2019), our findings provide a novel perspective by analyzing the constraints faced by public sector managers in adopting citizen-friendly digital reporting tools. This perspective is crucial, as it highlights the institutional, bureaucratic, and resource-related barriers that often hinder innovation.

The theoretical framework of the paper is based on transparency and accountability as the core principles of communication of information in public administrations. This led us to establish the three dimensions to be used to analyze the characteristics of the initiatives developed by Swiss municipalities: 1) accessibility, 2) understandability, and 3) usability. The study of the three dimensions allows us to answer our first research question, which is focused on the initiatives developed to communicate information in the digital era.

The empirical results from the sample cases show that access to financial reports is provided in a timely matter and that all municipalities meet their reporting obligations, although they operate in different legal frameworks. As a result, we observed medium or high levels of accessibility in all municipalities. As for the second dimension, understandability, the majority of cases were assessed at a medium level. Whereas accessibility apparently poses no problem, making the financial and non-financial information more comprehensible and easier to understand is something more municipalities struggle with, and only two of the nine municipalities have developed projects on digital reporting using comprehensive visualization such as infographics and other visual illustrations. One of the municipalities was medium-sized and the other large, and both had representation through parliament, which means that it is in this type of municipality that it seems to be easier to develop innovative initiatives to communicate financial information to users.

This development becomes even more evident when we include the third dimension in the analysis. While understandability was mainly observed between

medium and high, usability was rated between low and medium. The results clearly show that the maturity regarding citizen-centered digital reporting gradually decreases throughout all cases when moving along the dimensions. This is in line with the literature pointing towards an increase in complexity and, conversely, a decrease in comprehensibility of financial information (Haustein et al., 2021; Yusuf et al., 2013). This indicates that despite the possibilities offered by digital reporting, traditional forms of communication still predominate in Swiss municipalities. Additionally, the usability of financial and non-financial information is still below what would be desirable to achieve the level of transparency and accountability as laid out in the theoretical expectations of the benefits of accrual accounting (IPSASB, 2014).

Our findings confirm that while accessibility is well-established, municipalities face persistent challenges in improving understandability and usability of financial reports. Consistent with Heald's (2006) concept of the 'transparency illusion,' simply making financial information publicly available does not guarantee citizen engagement or comprehension. Although many municipalities provide financial reports in PDF format, the absence of interactive features and visualizations limits their effectiveness—a challenge also noted by Cohen et al. (2017).

We now turn to the second research question, trying to understand what challenges and opportunities Swiss municipalities face in implementing citizen-centered digital reporting, so that municipalities can be aware of possible shortcomings and what options they can adopt to overcome them.

The first challenge is the general reluctance to innovate. The empirical results show that there is both a cultural and an institutional element to this reluctance. This is often rooted in traditional bureaucratic practices and a fear of public backlash. Many municipalities' executives and legislative bodies prefer to maintain the status quo, expressing concerns about the potential risks and uncertainties associated with altering the current reporting formats. This reluctance to innovate can be explained to a certain degree by the legal and regulatory framework for public financial reporting. The federal structure of Switzerland results in a heterogeneous legal framework, imposing a given set of requirements on municipalities. These legal constraints can limit the flexibility needed to innovate. Interestingly, the idea of digitalization in itself did not lead to reluctance to innovate. In all cases, some areas of public services have been digitalized, and this is perceived as beneficial by the administration and the parliament. However, when it comes to digitalizing annual reports or financial information, the willingness to innovate apparently decreases significantly and the fear of losing legitimacy through the reduction of complexity often prevails.

The regulatory environment, while ensuring transparency and accountability, often emphasizes compliance over user-friendly, understandable communication. The legal and regulatory requirements might also influence the low interest that public officers or politicians can have in attending to citizen's needs, which in turn leads to uninterested citizens not caring about the annual report. In general, Swiss municipalities use state-of-the-art accounting practices; the same, however, does not apply to the communication of these financial results. There is a common perception among the public managers interviewed that citizens are not particularly interested in detailed financial information, even less so when it is presented in a traditional Excel-based format. This has to do with the paradox briefly introduced in the first section (Centre for Financial Reporting Reform & Zurich University of Applied Sciences ZHAW, 2022), the transparency illusion (Heald, 2006): Having a high level of transparency in accounting information does not automatically lead to a better understanding of the financial situation among the users of financial reports (Yusuf et al., 2013), leading to a situation in which "[...] citizens are often barely able to understand and interpret such information." (Langella et al., 2021, p. 2)

This situation is sometimes coupled with limited financial resources and staff, being that introducing citizen-centered digital reporting requires both to translate the complex reports into a more digestible format. The empirical evidence shows that all municipalities, but smaller ones in particular, face significant constraints in terms of financial and human resources. This limits their potential to undertake innovative projects, including the development and implementation of citizen-centered digital reports.

Looking at the opportunities, we observe that those municipalities that have experimented with digital-only versions of annual reports have received positive feedback from the public. This shows that digital reporting formats that are more accessible and visually engaging can help bridge the communication gap and increase citizen interest in public finances. Elements of citizen-centered digital reporting such as interactive visualization, videos, or social media integration have been effective in making financial information more digestible and appealing to a broader audience.

However, the financial constraints for such endeavors show that the need for developing and implementing citizen-centered reporting requires further explanation in both the administration and legislative bodies. Making financial reporting not only transparent but also accessible can enhance the legitimacy of local governments and foster support for fiscal policies, such as taxation. Informed citizens are more likely to understand and endorse the financial decisions made by their local governments, contributing to higher tax compliance and financial sustainability.

Finally, when it comes to the implementation of citizen-centered digital reporting, the early involvement of all key stakeholders, including citizens, municipal employees, and elected officials is crucial. Building a consensus and obtaining commitment from these groups is critical for overcoming resistance and ensuring the project's success.

To conclude, the issue is not so much one of an information gap between the citizens and the government, but more of a communication gap. The cases presented in this paper all excel at the information level, coming from a long-standing tradition of accrual accounting and adhering to the latest international public sector accounting standards. However, as demonstrated, there is more to communicating financial information.

Our study offers a novel perspective on citizen-centered digital reporting by shifting the analytical focus from citizen expectations to the challenges faced by public sector managers in implementing accessible, understandable, and usable financial reporting. While previous research has largely examined the information gap between governments and citizens (Haustein & Lorson, 2022; Jordan et al., 2016), our findings highlight the existence of an additional communication gap that hinders the effective dissemination and comprehension of financial information.

Rather than merely increasing transparency by making (accrual) information available, municipalities should also consider how financial information is structured, visualized, and presented to enhance its practical use. Policymakers and standard-setting bodies should also consider guidance on citizen-friendly reporting practices to ensure that financial reports are not only compliant but also accessible and engaging for the public.

This research is not without its limitations, as the sample of entities is reduced and limited to one country. Future research could expand this analysis to other countries and governance contexts to examine how digital reporting strategies vary across different institutional settings and if the challenges presented in this paper can be confirmed in different circumstances. In any case, while the empirical results represent a small sample of Switzerland, its implications can be more far-reaching and possibly find application on a global level.

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