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# Towards Fluid Role Identity of Management Accountants: A case study of a Finnish bank

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## **Abstract**

In our case study of a Finnish bank, we found that the *role identity* of management accountants is becoming fluid, i.e., it is constantly adjusting to accommodate shifting role expectations and changing context-specific demands. Digitalization and information technology (with such tools as artificial intelligence and robotic process automation) are key drivers of change. Furthermore, banking is also a regulated field with an increasing amount of data to be interpreted. The combination of these rather different trends is challenging for management accountants as they strive to cope with multiple pressures. We explore the role identity of management accountants (called ‘controllers’ in our case), and we find varying and fluid roles, including the roles discussed in the existing accounting literature, including the traditional ‘bean counter’ role and the ‘business partner’ role, as well as new, typically IT-related, specialist roles. We suggest that their *fluid role identity* enables controllers in our case to cope with continuously evolving tasks, and with changing role expectations. In this context, controllers are increasingly working in agile teams with specialists with diverse educational backgrounds and expertise.

**Keywords:** Digitalization, Role Identity, Banking, Accounting Change, Management Accounting, Controllers.

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# Towards Fluid Role Identity of Management Accountants: A case study of a Finnish bank

## 1. Introduction

Digitalization and other technological and societal changes are challenging accountants and organizations (see e.g., Moll and Yigitbasioglu, 2019; Vaivio et al., 2023). However, it is not clear what these challenges mean for the roles and identity of management accountants and how they cope with the multiple pressures that these challenges bring. In this paper we report the results of a case study aimed at understanding recent changes in the role and identity of management accountants (called *controllers*<sup>2</sup>) in the OP Financial Group (OP)<sup>3</sup> in Finland

Earlier studies have explored the roles of management accountants in traditional settings, such as in manufacturing or technology companies (see Goretzki et al., 2013; Järvenpää, 2007; Lambert and Sponem, 2012). These earlier studies identified a general trend towards the *business partner* role; a role in which the management accountant has broad knowledge of the business and is actively involved with other managers in making value-adding business decisions (Jones and Scapens, 2020 refer to this as orchestrating business value; see also Lukka and Järvenpää, 2018). While these earlier studies identified relatively stable management accounting practices, with a general management emphasis, we find that rapid changes in information technology (IT), together with developments in other areas, such as financial accounting, statistics and communications technology, are leading to management accountants working with other disciplines in so-called agile project-based teams, and are changing the nature of their work and their roles, requiring not just some flexibility, but what we will term a *fluid role identity* (see Tillema et al., 2022 for the term role identity, and section 2.4 below).

Wolf et al. (2020) note that advances in IT, particularly when accompanied by increasing regulation, can affect the role of management accountants and the way they use information in expanding their roles and becoming more actively involved in business decision-making. Yet, the direction of change is not self-evident and the management accountants themselves play an important part in shaping their roles in organizations (see Byrne and Pierce, 2007). In our study of OP, we analyze the ways in which the controllers work in this banking organization, a context which, in addition to being significantly affected by advances in IT, is regulated by the European Central Bank (ECB).

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<sup>2</sup> In the Finnish language there is no direct translation for the job title ‘management accountant’ and there are no specific qualifications/certifications for ‘management accountants’. Professionals in the field of management accounting identify themselves, and their roles, through their education (traditionally a M.Sc. Econ with an accounting major) and their organizational position and job title. In our case of the OP Group, and in Finland more generally, ‘controller’ or ‘business controller’ are common professional titles for management accountants. The word controller highlights controlling costs and performance and, as in the SAP controlling module, their work involves cost accounting, budgeting, planning and profitability analysis. In this paper, when we are referring to management accountants in OP, we will use the term controller, whereas when we are referring to members of the management accounting profession more generally, we will use the term management accountant.

<sup>3</sup> OP is a cooperative banking and insurance organization in Finland, and OP is an abbreviation of the Finnish word *osuuspankki*, meaning ‘cooperative bank’.

Gaining broad-based knowledge of the operations of modern financial organizations, including banks, can be difficult as there are diverse and increasingly complex financial instruments, growing amounts of data from digital sources, including social media and business intelligence (BI), artificial intelligence (AI), enterprise resource planning (ERP) systems, and management control systems (see for example, Amani and Fadlalla, 2017; Appelbaum et al., 2017; Al-Htaybat and von Alberti-Alhtaybat, 2017; Richins et al., 2017). Although there have been some unwarranted expectations (sometimes labelled ‘hype’) surrounding digitalization (see O’Leary, 2008; 2018), digitalization is likely to affect the work of management accountants, who may need new specialized knowledge (see Andreassen, 2020) while, at the same time, they may lose some of the breadth of qualitative information which surrounds, precedes and follows the numbers—(see Quattrone, 2016).

Given the concerns which have been expressed about the future of the management accounting profession due to advances in IT (Andreassen, 2020; Bhimani and Willcocks, 2014; Moll and Yigitbasioglu, 2019), it is important to study the effects of digitalization on the role(s) of management accountants. The financial sector is a relevant context for such a study, as its business processes no longer primarily involve physical materials, local offices and human interactions, but instead are increasingly characterized by the automatic digital recording of events at a distance, and the use of chatbots and mobile communications.

We conducted an in-depth qualitative study involving 36 interviews with controlling and accounting employees in the OP Financial Group between 2014 and 2023 as part of a larger project (see Appendix 1 & 2 for details of the interviews). These interviews concentrate on the perceived and expected changes in controllership practices due to increasing digitalization, and the implications for the role of controllers in OP. Our study is timely as the pressures arising from digitalization were accentuated due to the Covid-19 pandemic. Our case study will show that the roles of management accountants are becoming more varied in the digital era, and not just developing towards the business partner role (cf. Goretzki et al., 2013; Goretzki, Messner and Strauss, 2018; Järvenpää, 2007). In our case we see some management accountants who are adopting more specialist roles, while others have to be flexible and adapt their roles as practices change within the organization, due to advances, not only in technology, but also in banking regulation, for example. During our interviews with controllers in OP, we became aware of their different and shifting expectations concerning their roles and how they see themselves now and in the future. This led us to consider how their roles and identities overlap and change, and for this purpose we draw on the concept of *role identity* (see, e.g., Tillema et al., 2022), indicating self-understanding (identity) in a certain organizational position (role).

As indicated above (see footnote 1), in Finland there are no specific qualifications for controllers and no professional body to unify the professional field. Consequently, it is difficult to talk about the professional identity of controllers and this is why we, instead, use the concept of role identity. In organization studies there has been extensive research on organizational identity (for a review see Alvesson et al., 2008), in which distinctions have been drawn between identities at the individual, team, professional and organizational levels (see Stryker and Serpe, 1982; Tillema et al., 2022). In our case study we focus on the controllers’ role identity, and on how they cope with the multiple

pressures they face through their identity in a role, team and profession over time. We also draw on the work of Gioia et al. (2000), who argued that organizational identity, rather than enduring, is better viewed as a relatively fluid and unstable concept. They further argued that this can confer benefits on organizations, as it allows them to adapt to the demands of a changing environment. We extend the work of Gioia et al. (2000) by focusing on controller identity in OP (as individuals and a professional group within the organization), thereby enabling us to study the influence of individuals, professional group and IT on the identity of management accountants. We believe our analysis provides constructive implications for theory, research and practice in the field of management accounting.

Our research questions can be expressed as follows:

*How are the roles of controllers changing in the OP Financial Group?*

*How are the controllers in the OP Financial Group coping with uncertainty and multiple role identity expectations?*

Currently, management accountants face multiple field- and context-specific demands, including digitalization, which are changing their roles and identities. In our case study we will see that, in the digital era, there are multiple and changing roles for management accountants, and an increasingly *fluid role identity* – i.e., a role identity which can accommodate multiple roles and context-specific pressures in order to facilitate unknown future directions. Hence, we see controllers with specialized IT knowledge (see also Andreassen, 2020), as well as controllers who combine the bean counter role and the business partner role. Although studies such as Goretzki et al. (2013) seem to indicate the business partner role is becoming dominant, Wolf et al. (2020) observed multiple roles and possibly multiple identities. In this paper we will show that digitalization in OP, and the accompanying advances in IT, coupled with, for example, increasing banking regulation, are creating a rapidly and constantly changing banking context which requires fluid roles in the work of the controllers in OP, i.e., going beyond the simple dichotomy of bean counter and business partner (see e.g., Granlund & Lukka, 1998; Järvenpää, 2007). Furthermore, these controllers need to be flexible in responding to the rapidly changing technology in digital era banking. Despite the multiple pressures of digitalization and regulation faced by the controllers in our case study, we did not observe cognitive dissonance (see Jermias, 2001), i.e., uncertainty felt because of multiple expectations and inconsistent beliefs and opinions. We contribute to existing knowledge by showing that in the digital era management accountants, faced with diverse context-specific pressures, will have multiple roles and that a fluid role identity can be the key to coping with the resulting uncertainties, multiple demands, and potential cognitive dissonance.

As we will see, a need for ‘bean counting’ remains, but IT and data visualization skills are needed to enable controllers in any role to interpret and communicate the vast amounts of potentially uncertain and at times inconsistent data (see also Jones and Scapens, 2020). The rest of the paper is organized as follows. Next, we review the existing literature on management accounting knowledge and the roles of management accountants. Then, after describing our research methods and data, we will present our case study. Finally, a discussion of the implications and conclusions will complete the paper.

## **2. Management Accounting Identity, Knowledge and Roles**

### ***2.1 Identity***

Identity can be seen as a self-image, an understanding of who we are, and also as a self-presentation and an account or a storyline of self (professionally or personally; see Haynes, 2008; Vaivio et al., 2023). In a longitudinal accounting case study, Vaivio et al. (2023) noted that identity is not stable, but instead the representations of self are dynamic and context specific. Thus, identity is a continuous project involving tensions, transitions and struggles, through which discourses, practices and accounting numbers shape the reflective identity construction (identity work) of professionals in a workplace (Alvesson and Willmott, 2002; Vaivio et al., 2023). Furthermore, identity can be regulated and (socially) influenced, and so organizational identity regulation can be a way of managing, securing organizational control, disseminating aspirations, and translating objectives into action (Alvesson and Willmott, 2002; Vaivio et al., 2023).

According to Warin et al. (2006), professional identity is a socially situated sense of self, often providing an illusion of consistency over time in professional decision-making (Warin et al., 2006). Yet, there can be multiple competing identities and role expectations and, as a result, cognitive dissonance or even identity dissonance may occur. First, cognitive dissonance (Jermias, 2001, 144) is a negative state where an individual feels uncertain and which “occurs whenever an individual simultaneously holds two cognitions (ideas, beliefs, opinions) which are psychologically inconsistent”. An actor might cope with the potential cognitive dissonance created by such plurality through reflexive practices, such as prioritizing one aspect of the identity over other considerations, at least occasionally (Warin et al., 2006). Second, identity dissonance is “the psychological discomfort that can be felt when a person is aware of disharmonious experiences of self” (Warin et al., 2006, 237). Identity expectations can shape the way identity dissonance and identity change are experienced, particularly if the pressures, experiences and expectations are changing rapidly; this is something we will consider later.

### ***2.2 Behind the numbers – knowledge and roles***

Management accounting work largely involves interpreting numbers, and understanding what lies behind those numbers, and thereby acquiring knowledge about what has happened and what could happen to the organization. Accounting knowledge refers to the distinct or unique knowledge acquired by accounting professionals through their training and education, usually related to accounting rules, standards, practices and routines (Hines, 1989). Traditionally, accounting knowledge involves general qualities like diligence and honesty, as well as detailed knowledge of bookkeeping, auditing, accounting, and costing (ibid.). However, a loss of the uniqueness of such professional knowledge poses a serious threat “to the successful advancement or social reproduction of the profession” (Hines, 1989, 79). The legitimacy of a profession depends on adding value, while conforming to societal values and ideologies (see DiMaggio and Powell, 1983; Hines, 1988; Suddaby et al., 2015), and is linked to concepts of identity and role, both of which can change over time (Gioia and Patvardhan, 2012; Vaivio et al., 2023). Regarding the difference between identity and role, Wolf et al. (2020, 314) note that:

...identity is internal and focuses on inner dynamics, internalized meanings and internal expectations, whereas a role is external and linked to positions within social structures ... The external description of a role is likely to affect the way people think about the role, whereas a person's identity influences the way one enacts this role.

Yet, one's personal identity may be influenced, for example, by education, and an established professional organization can contribute to a coherent professional identity (Empson, 2004). Further, societal trends, changes in markets, technology, and situation-specific influences can affect both organizational and personal identity (see for instance Vaivio et al., 2023).

It has been suggested that digitalization can challenge the roles of the management accounting profession (see Moll and Yigitbasioglu, 2019), as transactions are increasingly recorded automatically in ERP systems (see Granlund and Malmi, 2002; Scapens and Jazayeri, 2003). Furthermore, as noted by Quattrone (2016), reports and charts can be created by artificial intelligence (AI), and this can cause a loss of much of the richness of accounting knowledge. Accounting information is typically a monetary expression of transactions and events, collected and reported according to generally accepted rules and practices. The collection and reporting of accounting information has traditionally been the task of accounting professionals who possess the necessary knowledge of the (changing) accounting rules and practices needed to interpret the numbers (see Hines, 1989; Suddaby et al., 2015; Quattrone, 2016).

However, applications of AI, such as IBM Cognos, can examine large datasets, identify patterns and correlations, fabricate figures and tables, and then compile reports indicating decisions to be taken. As noted by Moll and Yigitbasioglu (2019), technologies, such as cloud computing, big data, blockchain and AI, which can automate decision-making, have the potential to dramatically affect the work of accounting professionals. Quattrone (2016) argues that this poses a threat to the uniqueness of traditional accounting knowledge and blurs responsibility for the decisions made. More generally, others such as Chaboud et al. (2014) and Ford (2016) argue that modern IT systems can change market practices and challenge the legitimacy and relevance of the accounting profession. However, Huikku et al. (2017) note that accounting knowledge can still be important in data integration such that, if a predictive analytics project is initiated by the accounting function, the data integration is more likely to be effective and useful.

Furthermore, the effects of digitalization can be different in management accounting, financial accounting and auditing (Moll and Yigitbasioglu, 2019; Quattrone, 2016). While Moll and Yigitbasioglu (2019, 1) argue that advances in information technology can "improve financial visibility and allow more timely intervention due to the perpetual nature of accounting", they raised concerns about the legitimacy of the accounting professions as accountants are replaced by machines. Consequently, management accountants will need to understand the current limits of the emerging AI, and other digital solutions, in interpreting the events behind the numbers. Furthermore, interpreting accounting information requires "local, context-specific knowledge" (Goretzki and Messner, 2016, 107). However, much of the hype (unwarranted expectations) surrounding advances in IT fails to acknowledge such local considerations (see for instance Andreassen, 2020; O'Leary, 2008; 2018).

### **2.3 Roles of management accountants**

Recent research has portrayed the role of the professional management accountant as moving, linearly and uniformly, from being a bean counter towards being an explorer (Baldvinsdottir et al., 2009, 878) and eventually becoming a business partner (Granolund and Lukka, 1998; Järvenpää, 2001; 2007). However, Wolf et al. (2020) argue that this movement from one role to another is not a simple transition, but may involve multiple and complex phases and roles. Thus, rather than discussing a one-dimensional role, we focus on the multi-faceted roles of controllers in OP.

According to Tillema et al. (2022), roles represent the outward expectations of a position, while identity refers to the personal perception of the self in a position. However, as Stryker and Serpe (1982, 199) note, the self can be seen as “the product of society”, where the effects of society can be felt at several different levels (individual, family, team, organization, profession and field) and, as such, an organizational role and a personal identity can influence, and be influenced by, the other levels. Tillema et al. (2022) see the business partner role as central in modern banking. However, they note that this is not always a clearly distinguishable role, but one that is shaped by the previous management accounting role(s), as well as changes in management accounting work, IT tools and the (banking) context, all of which can have implications for the roles and role identities of management accountants. They go on to suggest that these changes require further study.

Byrne and Pierce (2007) discussed management accounting roles in the light of role theory, whereby roles are determined by the expectations of other members of the organization, and they noted that, with changing technology, controls and expectations, the roles of management accountants are becoming broader. However, they also pointed out that there may be role conflicts, and that management accountants may need to both create and ‘sell’ specific roles within their organizations. In addition, Ala-Heikkilä and Järvenpää (2023) note that there can also be conflicts between current and desired identity, and that the values and demands linked to such identities can collide. Vaivio and Kokko (2006) note that seeing the ‘big picture’ is essential in any management accounting role. In addition, Burns and Baldvinsdottir (2005) suggested that adaptability is necessary in management accounting work, indicating that the roles of management accountants may not be stable over time.

At present, the effects of recent technological advances on management accounting are unclear; see for example, Wolf et al. (2020) who argue that business information needs are increasing, while management controls often remain unchanged. However, these studies do not suggest *fundamental* changes in the role of management accountants, but more subtle *micro* changes, and they provide examples of management accountants using novel techniques, such as data mining (Amani and Fadlalla, 2017), business analytics and business intelligence (Appelbaum et al., 2017), as well as IT tools for estimation, prediction and visualization (Nielsen, 2018). Such novel techniques can complement management accountants’ skills and knowledge (Richins et al., 2017) by providing new ways of generating ‘facts’ and opportunities (e.g., estimates and hidden linkages). Furthermore, IT tools allow these new facts and opportunities to be interpreted, visualized and communicated very quickly and at a distance (see Robson, 1992; Quattrone, 2016).

However, further analysis, with a longer time perspective, is needed to go beyond the ‘hype’ surrounding IT-related changes and the new digital forms of communication.



Nevertheless, leaving the hype aside, there are expectations that IT is bringing about changes in business and management, as well as in the roles of management accountants (see O’Leary, 2008; 2018; Vasterman, 2005). In the next section, we will discuss expectations concerning the need for flexible management accounting roles and identities.

#### ***2.4 Fluid role identity in management accounting***

In an organization, management accounting roles and identities could be challenged by digitalization and other technological changes which create specialized roles, and competition over professional jurisdictions (see also Andreassen, 2020), as well as necessitating new knowledge and skills in the more traditional management accounting roles. Organizational role identity is the combination of self and an organizational role (see Tillema et al., 2022) and, for our case study, the concept of organizational role identity is helpful because different organizations, and professionals in those organizations, experience phenomena like digitalization and Covid-19 very differently. Nevertheless, our focus on the controllers in OP will deepen our understanding of professional (i.e., individual or group) role identity.

Role identity relates to self-understanding (identity) in an organizational or social position (role). Ashforth (2000, 6) refers to role identity as “self-in-role”<sup>4</sup> (see also Ala-Heikkilä and Järvenpää, 2023; Chreim et al., 2007; Stryker and Serpe, 1982; Tillema et al., 2022). Therefore, in our study the concept of role identity will be used to refer to *actors’ self-understanding of their values and expectations in an organizational position (role)*. However, there can be diverse tasks (micro roles) within a particular role, and also slight shifts of emphasis, called micro role transitions by Ashforth et al. (2000). Given our definition of identity, however, such slight shifts in roles may also be accompanied by slight changes in role identities, which we would term *micro role identity transitions*.

In this way, management accountants preserve some of the traits of their old roles, which draw on their educational backgrounds and the existing organizational rules and routines, thereby retaining some of their ‘well-learned’ practices (as noted by Tillema et al., 2022), while at the same time meeting new challenges and new role expectations. Ala-Heikkilä and Järvenpää (2023) found that management accountants experienced conflicts between their current and desired identity, involving a misalignment and discrepancy between their own role perceptions, the perceptions of their employer, and the expectations of operational managers. However, some of the potential cognitive dissonance related to diverse role expectations could be avoided if the role identity is flexible enough to meet most new role expectations and is able to shift between micro role identities to meet the emerging challenges. This is what we understand by the term *fluid role identity*.

Our longitudinal case study continues the traditions of research into management accounting roles (e.g., Järvenpää, 2007) and IT and ERP system use (e.g., Orlikowski and

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<sup>4</sup> Ashforth (2000, 6) defines a role identity as the “goals, values, beliefs, norms, interaction styles, and time horizons that are typically associated with a role. A role identity provides a definition of self-in-role, a persona that one may enact. A role’s boundaries facilitate the articulation of a role identity by circumscribing the domain of the role—by demarking what activities belong to the role and what belongs to other roles”. However, in this paper we highlight that role identity may entail some flexibility. Ashforth (2000, 6-7, 189) notes that there can be multiple related, and simultaneously held, roles and that there can be (micro) role transitions between those (multiple) roles, as well as role learning over time.

Scott, 2008; Scapens and Jazayeri, 2003). In our case a standardized reporting system was in place, and an SAP system-update project was in progress. Our study complements recent studies in which social media (see Moll and Yigitbasioglu, 2019; Suddaby et al., 2015) and the increasing use of visualizations (Jones and Scapens, 2020; Sajasalo et al., 2016) have been shown to affect expectations about management accounting work; such as perceptions about timeliness and transparency, and about changes in when and where transactions are recognized and recorded, interpreted and communicated (see Quattrone and Hopper, 2005; Quattrone, 2016). In the next section, we will describe the research methods and data we used to explore the changing roles of controllers in OP.

### 3. The Case Organization, Research Methods and Data

Our case organization, the OP Financial Group (here OP), is the largest Finnish-owned financial institution, with about 13,000 employees and over €175 billion in total assets (OP Financial Group, 2023). OP has over 100 years of history in cooperative banking and insurance, and it comprises 108 local (or regional) retail banks in Finland. Even though the local banks are directed and supported by the head office in Helsinki, they are all independent cooperative banks providing both banking and insurance services in their regions.<sup>5</sup> However, in this paper we focus primarily on OP's banking operations in the Helsinki metropolitan region, where both the head office and the group's largest regional cooperative bank are located. The research team gained full access to the OP organization in 2009 to study its processes of strategy formulation and execution,<sup>6</sup> and gradually the study broadened to encompass other aspects of its management, including accounting processes and practices, and from 2014 some of the interviews began to explicitly explore management accounting issues. Co-incidentally, this was the time when digitalization was expanding in OP. In the period 2014–2023 we conducted 36 accounting and controlling related interviews, focusing mainly on digitalization in OP, the accompanying accounting changes, and the changing roles of controllers. Interviews were conducted at both local banks and the head office. However, as the controller function became more centralized over time, all five follow-up interviewees (Controllers A to E) worked at the head office. The interviews are listed in Appendix 1.<sup>7</sup>

In 2014, there was a re-organization of the OP Group structure, its centralized accounting systems were re-developed, and the first steps were taken in RPA (robotic process automation). For instance, SAP R3 became the group's main ERP system and new key performance indicators were introduced, including customer satisfaction and financial solidity indicators. In addition, there were some initial RPA projects for routine tasks,

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<sup>5</sup> In OP, as in other cooperative banks, the local banks are not subsidiaries *owned* by the head office. Each is an independent cooperative organization owned by its own members. These independent local cooperatives collectively contribute to the 'head office', which provides the central functions typical of other types of large banks. These local banks vary considerably in size, from the largest covering the Helsinki region to quite small ones in some rural regions of Finland. However, in recent years there have been various mergers which have reduced the numbers of very small banks.

<sup>6</sup> The broader research project, focusing on management topics in cooperative banking, received funding from the OP Group Research Foundation.

<sup>7</sup> To date, the broader project comprises about 230 interviews on a wide variety of management and strategy topics in OP. Although it is the 36 accounting interviews which are analyzed in this paper, these other interviews have provided the research team with rich and detailed background information and understanding about OP.

such as form filling. Banking is the largest business area in the OP Group and, during the period of our research, there were several new EU directives relating to bank solidity (e.g., minimum capital requirements) and regulatory reporting, as well as new regulations concerning customer information; both the information given to customers and the information obtained from customers (see Cranston et al., 2017; Moloney, 2014).

We used a qualitative, interpretative case study approach (see Eriksson and Kovalainen, 2008; Ryan et al., 2002; Vaivio et al., 2023), with semi-structured interviews over time to capture the interviewees' perceptions of the accounting changes and changes in the controllers' roles. Snowball sampling (Patton, 2002) was used to identify appropriate informants. Specifically, the first interviewees, mainly senior managers, were asked to identify the next interviewees, typically managers or controllers, and we continued this approach in the later interviews. The interviews lasted between 26 and 74 minutes, were recorded and subsequently transcribed. The interviews were conducted and analyzed in Finnish, and selected quotes were translated into English for this paper.

These semi-structured interviews were useful for studying how controllers talk about their work, workplace and roles, and this indirectly gave us information about their role identity. We started the interviews by discussing the background of the interviewees and then moved on to their perceptions of accounting work, the effects of digitalization, the increasing use of RPA, and the other IT systems which had been introduced. The interviewees were also invited to freely discuss broader issues and events within OP, making our data useful for identifying relevant developments in the case organization and the banking field more generally, including changes in forms of communication, such as the use of social media. Our interview protocols were adapted over time as we learned from earlier interviews. The interview protocol used during the latest interviews (2022–2023) is shown in Appendix 2. In addition, we obtained copies of relevant e-mail correspondence and collected archival data comprising internal reports about organizational performance, external financial reports, regulatory reports and statements, market data and information about current challenges in the banking field. The e-mails helped us deepen our understanding of the interviewees' responses, and the archival data broadened our understanding of OP, and the challenges and changes faced in its banking operations (see Lukka, 2005; Vaivio and Sirén, 2010). This enabled us to obtain multiple perspectives over time and, thereby, build a rich and convincing picture of the events (see Golden-Biddle and Locke, 1993).

To analyse the data collected from the interviews, members of the research team carefully read the transcripts, giving attention to (and highlighting) relevant topics surrounding the technological and other developments affecting the controllers and their roles and identities. We did not focus directly on how individual cognition shapes identity creation, as individual cognition would be difficult to measure or even grasp in a case study (see Vaivio et al., 2023), but instead during the interviews we sought to do it indirectly by exploring the participants' role identity, and their understanding of the organizational identity of OP. In addition, we used e-mails and archival data to triangulate the views we were forming through our reading of the transcripts. As a research team, we discussed and agreed our understandings of the current developments in OP and their effects on the controllers' roles over time. We then extracted relevant quotes and observations which we will use in our case study of the OP Financial Group in the next section.

## 4. Case Study of the OP Financial Group

The cooperative banking history of the case organization dates back to autumn 1902, when the first local cooperative banks were founded to support local farmers in Finland. Today, OP remains strongly rooted in the various regions of Finland, and it is led by a board of representatives who are typically non-banking professionals drawn from the members of the local cooperative banks which comprise the group. Its main business areas are banking and insurance.

### 4.1 Centralized accounting systems and the traditional roles of controllers

An important feature of accounting in OP is its centralized reporting service portal (an internet browser-based portal), called the *Reporting Service*. It is maintained by head office accounting and IT personnel, and described by a (head office) accounting manager as follows:

In head office we have this Reporting Service and we have developed reports that are automatically generated for every bank [based largely on data in the SAP system]. There is also a Board Package [a general reporting package for each bank's board of directors] and some measures are reported daily, some weekly and some monthly. [Accounting manager, 2020]

However, at the local banks, this Reporting Service is quite distant, as a local controller observed:

We have a book-keeping system, but I can't record any transactions. The accountant is in Helsinki... In this Reporting Service we find the results and risk management numbers and sales and all. ... We don't even have phone numbers, but instead a web portal for connecting with the accountant. [Local Officer/Controller, 2019]

In 2019, when asked about the controller's role and where it stands between bean counting and business partnering, one controller noted:

... well, it's fifty-fifty. There is the traditional role, looking back at what happened, but more and more the aim is to focus on the future, predicting and analyzing, bringing added value. There are still a lot of routines, so it's not just a consulting role. [Local controller 3, 2019]

As this response indicates, in OP the traditional 'bean counting role' is perceived as the routine recording of what has happened, whereas the 'business partner role' concerns looking to the future, analyzing, predicting, and adding value. The centralized system means that the routine collecting, recording, and reporting of accounting information is done at a distance from the local banking activities, as local transactions are recorded automatically by the central system. However, the local controllers need their local business knowledge to interpret the centrally provided information for both day-to-day management control and the provision of future oriented information for decision making, especially as there can be a time lag before the centrally produced reports are available and the necessary local information identified, extracted and interpreted. In the next

section we will see how the digitalization of the banking operations of OP has affected the roles of controllers, including their business partner roles.

#### **4.2 Digital era accounting and the roles of controllers**

In recent years, robotic process automation (RPA) and various new databases have become an integral part of OP's daily banking operations. The RPA software can automate simple routine tasks, such as data transfers between different accounting and IT systems. Furthermore, there have been experiments with artificial intelligence (AI) and predictive analytics to automate some routine day-to-day decision making. An example, which is visible to customers, is the chatbot (artificial intelligence-based web assistant) brought into use in OP's customer services in 2019. A process manager explained the aim of this and other digital developments in OP:

We aim, with this financial intelligence as we call it... with artificial intelligence and predictive analytics, to make OP more competitive and efficient, and manage risks better... We had about 50 projects last year... [Process manager/Controller, 2019]

In 2020, RPA became crucial for the day-to-day functioning of the bank, as the following quote indicates:

The OP Financial Group couldn't handle this current service situation without automation. Like ... when we promised [customers] that you can have payment reorganizations for loans to bridge these corona [Covid-19] times, and the number of applications exploded [Project leader, 2020]

Digitalization in banking has also meant that there are digital forms of communication (Skype, Teams, Yammer) and that OP is facing competition and significant pressure to cut cost by, for example, closing local branches, and this is making banking activities more remote from customers. Further, there are changing expectations about, even threats to, the nature of accounting work as a result of digitalization.

IT and robotics and automation will make the basic transactions-related work diminish... The analytics part is much more complicated... There will be big data, machine learning, and virtual assistants<sup>8</sup>, so analytics will change as well. There will be more data and we can handle that more efficiently, find algorithmic models and trends that humans cannot find. Finally, there is the governmental regulation outside the company, where we may see blockchain technology...[that] affects how companies can work... [Process manager, 2019]

Today, all controller roles seem to require at least some IT and process skills, suggesting that both the traditional bean counter and business partner roles are changing, and some tasks might be replaceable by IT and AI. Furthermore, until now, many controllers, both in the head office and in the local offices, have relied extensively on financial accounting data, and have worked with it as, so-called, *Excel experts*. But now, this role is changing (requiring more general IT specialist skills and also reforming the nature of bean counting) due to the availability of new tools and the need for new skills:

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<sup>8</sup>The manager later explained that the difference between a chatbot and a virtual assistant is that the chatbot will tell you how to do a task, while the virtual assistant can also perform simple tasks, such as money transfers, based on voice commands.

It [accounting work] is certainly changing...the accountant needs to understand how databases work and... be able to model things, understand processes and paths. If a controller has never written an Excel macro; well, I have bad news, we don't need them so much. People with only basic substance knowledge of, say, tax codes... then the chatbot comes along and you are out of date. [Process manager, 2019]

At the head office, in particular, there is an increasing need for highly specific knowledge, including non-accounting knowledge, such as statistics and the principles of coding. Thus, traditional controllers may require skills from other fields. For example, an IT specialist with an accounting background noted the importance of education in shaping professional skills in areas such as coding, statistics, AI, BI and data visualization:

You need some level of understanding of platforms and visualizations, like Tableau, QlikView and other [BI tools] ...and an understanding of the general laws [of statistics], and where the value is in all this... I have now studied Bayesian statistics in order to better understand...those artificial intelligence issues [IT specialist, 2019]

This comment indicates that, at least, some controllers in OP, particularly around 2019, had clear *expectations* regarding the expertise needed in the future and they responded by learning new skills. As we will discuss below, new skill requirements and the changing focus of their work led to the controllers working in agile project-based teams alongside experts from other fields and to changes in their role identity. As a Process manager explained in 2019, controllers, as well as other employees, were already (in 2019) receiving training in AI. This reflected the view at that time that all controllers, whatever their role, were likely to need at least some understanding of the potential of AI, despite uncertainties about how (and even whether) AI would be widely used in OP. This was rather different to the type of training they might receive about a new accounting system. In respect of AI, the training was designed to increase their understanding of its potential and thereby anticipate how it might impact their roles in the future. This affected both individual and group expectations and ways of thinking, and gradually influenced the controllers' (group-level) identity:

We have taken the path where we educate our staff quite a lot regarding AI. Basically, our whole staff requires some skills and understanding, and an ability to recognize where AI can be utilized... Then, we have people in R&D that require deeper knowledge...hard core experts and data scientists that do neural networks and can really fulfill the AI potential. [Process manager, 2019]

In OP, even traditional bean counting makes use of IT tools, such as Excel macros, Pivot tables and, increasingly, RPA. However, the use of Excel is gradually being replaced by other IT and BI tools, such as Microsoft Power BI, which are used for reporting and visualizations. Controllers in OP are currently using Microsoft Power BI much like they used Excel, but it is intended that in the future organization-level reporting templates will be developed for managers to create reports and to analyze data themselves. However, a transition from one role to another is not always easy for individual controllers, especially finding the time to develop the necessary skills and expertise when they are also still involved in day-to-day operations.

Our controllers are tied up in tinkering with financial accounting data – meaning just grinding data, instead of really making use of the data. It is useful tinkering if you compare, for example, some business opportunities, alternative costs and how this

business case is going. But...if we consider how the know-how should be developed to support the needs of our business; how the controller can be a business partner in decision-making. That is not easy because you might [have to] leave your current job undone. [Process manager, 2019].

Furthermore, expectations remain uncertain about the potential of various forms of information technology within OP, and there were differences of opinion amongst the controllers, as the following comments indicate:

It [basic robotics] is no longer hype, but how useful it is today depends on the data quality [Business controller A, 2022]

In my view, [entirely] AI-based forecasting is still hype... [Business controller E, 2022]

Similarly, views on the future paths for controllers in OP are not clear or uniform, but there does seem to be a general recognition that there are multiple paths, and that flexibility will be needed. In this section we have seen how the increasing digitalization of banking operations in the OP Group is reshaping the work of the controllers in the head office and some of the larger local banks. In the next sections we will elaborate these findings and describe some of our respondents' expectations about the future roles of controllers, including their views on the increasingly diverse professional backgrounds of controllers and the use of agile teams which can facilitate rapid changes from one task or one project to another.

### ***4.3 Controllers with diverse professional backgrounds***

In the OP Group, the controllers need a wide range of skills and a willingness to adapt to change and an eagerness to learn new skills – as explained in the following quote from a Business controller:

Mathematical and statistical knowledge, skills to handle masses of big data and the right [IT] systems ... logical thinking and understanding the big picture and cause and effect [links], that is central. Also being with people, showmanship, communication skills, are very important, also criticality, challenging, asking questions and searching for new perspectives. Also, BI tools, we have Power BI in use, knowing them and an interest in working with them..., eagerness, abilities and learning skills so that you can build different reports from different sources by using those [IT] tools [Business controller D, 2022].

In the interviews in 2022 and 2023 it was clear that the recent advances in technology are not perceived as a threat to the controllers, and there continues to be much work for controllers at various levels and in diverse positions and roles, and with a range of job titles – junior controllers, controllers, financial controllers and business controllers. In OP the business controller is the senior position and has a primarily business partner role. In addition, new areas, and the non-accounting tasks in areas such as risk management, are becoming part of the controllers' roles, although increasingly the controllers at the headquarters are working in multi-disciplinary teams.

We have a couple of junior controllers, basically straight from school... Controllers are the ones with limited experience, while business controller work is so demanding that it is the more senior position. ... It is more demanding in the sense that a business controller is foremost a business partner for the business area – a right hand in finances, profitability and business development. [It] is a very tight [close] part of the business as a whole. ... Our [controller] work is highly appreciated in this bank. Management definitely wants our work and appreciates it ... [Business controller D, 2022]

The BC [business controller] role includes planning and follow-up, sparring, making goals visible through numbers and managing internal value flows. We also need to look outside and see what the competitive field is and where there is potential for making business case calculations ... There are risk [themes] and now sustainability themes everywhere... it is a big trend. [Business controller B, 2022]

Some business controllers pointed out that employees with a wider range of backgrounds (other than accounting and business) are gradually entering the management accounting field, and working in multi-disciplinary teams, along with controllers, in areas such as risk management. Nevertheless, there continue to be many positions for business school graduates:

Largely we have accounting people [working here], most of us are Masters of Science in Business Administration, a couple of Masters of Science in Engineering who may have drifted to this team and [also] there are two or three with a mathematics background. [Business controller D, 2022]

Risk management has gone farthest in that they hire coders and physicists. I can understand the argument that it is easier to teach accounting than coding ... but you can imagine that there are challenges if you don't have any accounting or banking or financial reporting knowledge, it's a handicap. [Business controller B, 2022]

In asset management we still need more hands, it's a growing business. Also, the compliance and regulatory duties, related for example to money laundering, are areas where the number of people is growing... So, a business school background is the most common when recruiting people; ICT is next. [Board member, 2020]

As OP has started to recruit controllers from a much wider set of disciplines, new skills and backgrounds are becoming a normal part of the teams of controllers, and thereby affecting the role identity of controllers, as the following quotes illustrate:

Education background is not a decisive factor anymore... It's life-long learning nowadays. One of my team members is a former policeman... It's not about your education... The titles are data scientist, data analyst or data engineer. [Now] you might say that the traditional controller role is threatened... Taking numbers from SAP, adding them to Excel and then putting them in PowerPoint and sending that to CEO – its time is starting to be over. [Project leader, 2020]

We have always needed [data analysis], but we didn't always have the tools... technology is an enabler...and the amount and value of information is growing... and it is easier to do [for example] activity-based costing exercises... And there are data analysts as part of the finance team in many organizations, so it is a kind of hybrid... a *fusion* of data analysis and management accounting. [Business controller E, 2022, emphasis added]



These technology changes, coupled with the multiple banking-context-specific pressures for change, suggest that controllers in OP have diverse work roles and benefit from a fluid role identity which accommodates these continuously changing activities, while maintaining a fit between their role and their identity.

The increasing use of digitalization has been accompanied by outsourcing to India some of OP's basic ICT infrastructure. While such outsourcing can threaten the roles of local controllers *within* OP, it can also provide access to international experts and facilitate controllers working remotely. In OP, there are now expectations, and some fears, about future changes in controllers' work, which have been compounded by the recent Covid-19 pandemic and the accompanying increase in the use of digital banking and changes in working practices, such as working from home. The use of mobile and internet solutions in banking has made action at a distance almost the new norm. Under these circumstances, controllers have generally coped well, but they admit that sometimes they would benefit from having more local knowledge in order to interpret and question the accounting numbers. In the next section we show that controllers in OP are adopting agile practices and a fluid role identity.

#### **4.4 Towards fluid role identity and agile banking practices**

Due to the increasing competition and greater uncertainty in the current economic environment, which are creating field- and context-specific demands for flexibility, the use of agile practices is being emphasized in OP (as in many other banks). These practices offer new possibilities for agile controllers, as the following quotes suggest.

Agile way of working... we have gone to that. We, the business controllers, have been working agile for years, but nobody has noticed it yet. ... Looking forward, [analyzing] the paths, the risks ... understanding the data opens up new doors. Combining this with challenging the business and sparring [with colleagues] is the future key by which the controller will not be trampled by data analysts or data scientists. [Business controller C, 2022]

We have gone towards agile practices... There are fewer organizational layers, we probably had six or seven, and [now] more team-thinking has been introduced. [Board member, 2020]

In 2019 an interviewee described, as a 'mental journey', the learning processes which OP's controllers are going through as a result of digitalization, new technology and changing expectations about the future; then continued by observing that:

Robotics [RPA] is, in the automation journey, a very concrete and easy first step... It is then much easier to do real automation, for example by changing the core IT systems, because you have already started the mental journey with the robotics... it is important to start doing something [with automation] because you learn so much more and it's only then that it is worth thinking about what comes next [Process manager/Controller, 2019]

For a controller, a fluid role identity entails not just sticking to well-learned practices (see Tillema et al., 2022), or just adapting when necessary to changing

conditions, but enabling multiple possible roles and developing practices and roles for the future, as might be done by an agile research and development (R&D) team:

In ICT Business controlling we develop the practices [to provide] the digital services that banking largely is today. So, you could say that we are the R&D function in the banking world. [Business controller E, 2022]

However, there are multiple views and expectations about the future roles for controllers, with many different trends and opposing views, yet one controller saw the ‘interpreter’ role as the most persistent, despite all the trends and uncertainties.

I trust that fewer business controllers are needed because of digitalization, but at the same time the more the systems and automation develop, the more there is a thirst for information and pressure to utilize all that data and information ...[but] probably we will never lose the role of interpreter, communicating, [and being] the management support function. They, at least, will be needed. [Business controller D, 2022]

This quote suggests multiple, partly competing, trends, with less need for data collection and analysis, but greater need for interpretation and communication. At the same time, changes in legislation and regulation are increasing the need for controllers who understand financial accounting and IT, as well as the new regulations. These diverse trends require flexibility in adapting from one task to another. According to business controllers in OP, the work involved in external reporting to the European Central Bank (ECB) is both demanding and changing, For example:

Regulation sets a certain frame – what we need to say in a financial statement. And then, new EU regulations are coming [about sustainability for instance] ...but how much they’re seen in business controller work at the moment? Not much! But I tell you that in a year they will. We are running to develop skills which can be integrated into our reporting. [Business controller B, 2022].

When regulation changes it has an effect... Take the MiFID II [Markets in Financial Instruments Directive 2] as an example. [This affects] asset management, pricing and transparency, and the incentives for sales. Then it is a central task of the business controller to think what kind of options we have in changing the structures, pricing and incentive systems... Another example is the consumer protection regulation that, during the [Covid-19] pandemic, has brought temporary limits on interest rates in consumer credits – there the Business controllers are also involved. But ECB’s thirst for information is the thing that is visible on our desks, various clarifications and such, which we answer. [Business controller D, 2022]

Controllers in OP need to be able to respond to a wide variety of constantly shifting, field- and context-specific demands that affect organization, team and individual work, and also future expectations. Consequently, they need to be agile and this requires a fluid role identity; one which accommodates a coherent self in any role or in many roles if necessary, rather than self in one (traditional) role (see Ashforth, 2000). This means they no longer limit themselves to the traditional roles identified in the existing literature. Now, as well as those traditional roles (which still exist), there is also an emphasis on data analysis (the R&D of banking), financial accounting and regulation and, in our view, the strongest driver of role identity change is the digitalization of banking operations. But the

journey has only just begun, and new and different combinations of skills are likely to be needed in the future.

An important finding of our study is that currently, in 2022 and 2023, although the controllers in OP believe that AI and other technological changes are on the way, they nevertheless remain confident that controllers will still be needed. As a result, there does not seem to be any cognitive dissonance because, if AI does take some tasks from controllers, there will be other new tasks, such as ESG<sup>9</sup> and CSRD<sup>10</sup> reporting, which make new work and offer new possibilities for those with a fluid role identity. These tasks require controllers who are flexible enough to undertake the new work, either replacing or alongside their existing work. As a manager from the headquarters noted in 2023:

... we have this new thing, ESG, which has not been on anyone's desk so far. What will it mean and what reporting will it require? This will build up. It's a whole new field, a so-called green field, so the work [of controllers] will not be over [Headquarters manager, 2023].

So new tasks, here related to sustainability and ESG issues, seem to be, at least partly entering the controller's work, possibly further shifting their role and role identity. What we have seen in OP is that the digitalization of banking operations in recent years has brought new challenges and new tasks for the controllers, as well as for others within the Group. This has required them to apply their existing knowledge and skills in new ways and also to extend that knowledge and skills. At least implicitly, OP has opted to give new tasks to the controllers, rather than other disciplines, and this has added value to the controllers' work, something that seems to be appreciated within the Group. In order to meet these new challenges and undertake the new tasks, the controllers have had to become more flexible and to develop a fluid role identity. And this, in turn, has enabled them to meet the currently emerging challenges and, potentially, challenges which the continuing advances in technology will bring in the future.

As such, in OP we do not simply find new (or extended) roles for controllers, but rather flexible and overlapping roles. As the controllers become agile and their role identity becomes fluid, they are ready to adapt to the multiple expectations related to various roles, teams, tasks and technology. To cope with the multiple pressures, and to maintain their legitimacy as the profession which understands the events behind the numbers, controllers in OP have had to continually adapt to technological change through professional education and training to keep their IT knowledge and skills up to date with the rapidly changing IT technology. As one of our interviewees suggested, controllers in OP are at the start of a 'mental journey', in which they need to be able to continually adapt their ways of thinking (and working) in the digital era. A challenge for management accounting professionals more generally, however, is that there may be no roles in the future for those who do not continuously adapt and update their skills to keep pace with advances in information, communications and other types of technology. To survive management accounting professionals will need to be agile and able to adapt to the changing tasks, teams, and technological environment and, in our view, this will require a fluid role identity, not just flexibility in the organizational identity (c.f., Gioia et al., 2000).

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<sup>9</sup> Environmental Social and Governance

<sup>10</sup> Corporate Sustainability Reporting Directive

## 5 Discussion and conclusions

In our case study we saw various changes shaping the roles of management accountants (called controllers in the OP Group). First, we saw the centralization of accounting and reporting systems, due in part to the outsourcing of the IT infrastructure, which had the effect of making information production more distant and more uncertain for the controllers in the local banks. Second, although this centralization reduced many of the routine reporting tasks of local controllers, the local controllers needed to develop their IT knowledge and skills to enable them to interpret and use the information produced by the new centralized accounting and IT systems. Third, the extent and diversity of the centralized systems used in OP required some of the controllers at head office to have specialist skills, such as banking regulation or robotics, or even AI skills. A potential challenge for the accounting profession, however, is that these specialist roles (especially IT roles) could be filled by individuals from other (non-accounting) professions (cf. Andreassen, 2020; Moll and Yigitbasioglu, 2019). Fourth, we found that the controller role in OP is becoming quite fluid, characterized by a variety of tasks ranging from the routine collection of ‘historical’ data to communicating information for decisions concerning the future, and encompassing multiple roles, not just the business partner role (Goretzki et al., 2013; Järvenpää, 2007).

The findings of our case study of the OP Financial Group extend the findings of other studies which have shown that digitalization is becoming an essential part of professional accounting work (see Andreassen, 2020; Moll and Yigitbasioglu, 2019). We show how management accounting is changing as a result of the advances in technology, coupled with the changing needs of the business and the regulatory environment, and changes in work practices, such as remote working and working in agile teams. In particular, management accountants need flexibility and new skills to understand and use the emerging digital technologies. Furthermore, by exploring the fluid role identity of individual controllers, we extended the work by Gioia et al. (2000) who had argued that (organizational) identity, rather than enduring, can be viewed as constantly changing.

As an answer to our first research question, in OP’s rapidly advancing technological environment, management accountants need to be adaptive and agile in using their existing skills, and also in developing new skills. They need to encompass both their traditional roles (as noted by Byrne and Pierce, 2007 and Vaivio and Kokko, 2006), as well as new and constantly shifting roles. Further, based on our findings in OP, and as a response to our second research question, in the digital era management accountants are beginning to develop a *fluid role identity*. Our findings extend Tillema et al. (2022), who suggest that role identities reflect management accountants’ earlier roles, whereas we also highlight the importance of future role *expectations*. In the context of changing technology there is a need for management accountants to be flexible and adaptive, to develop diverse skills and to work in agile teams.

The concepts of role identity (Tillema et al., 2022) and self-in-role (Ashforth, 2000) helped us understand the OP case in a context where there is no professional organization of controllers, and hence no professional identity *per se*, instead there is the role identity of controllers *within* the organization. As a result of digitalization, coupled with the various other changes in the banking environment, there is now more variety in the role expectations of controllers in OP, including expectations about changes in the nature of

their work, the new skills they will need and the new roles they may be required to fill, as well as expectations about working in, for instance, agile teams with experts with non-accounting backgrounds. This could be described as flexibly accommodating *self in any role, or self-in-multiple-roles*, facilitated by a *fluid role identity*. As such, we extend Ashforth (2000) and contribute to Tillema et al. (2022) by explaining how there can be rapid (proactive and reactive) changes from one element within a role identity to another (i.e., from one *micro role identity* to another) in a way that avoids the cognitive dissonance that could arise in trying to maintain a fixed role identity. At first, there were concerns in OP that digitalization might be a threat to the controllers, but after experiencing many changes in recent years, and particularly recognizing that controllers were still needed, the controllers in OP developed a fluid role identity and are adopting agile practices to facilitate continuous adaptation. While Ala-Heikkilä and Järvenpää (2023) observed conflicts between the current and desired identity of management accountants, we show how a fluid role identity can diminish cognitive dissonance and be the key to coping with the continuous changes and uncertainty about roles brought about by digitalization and increasing regulation.

As we saw in the case, the controllers in OP were undertaking continuing education and training, some provided by OP and some arranged by the controllers themselves, to enable them to acquire the knowledge and skills needed in the digitalized banking context, including training in AI and RPA. The education and training which is needed in the rapidly developing technological environment is fundamentally different to learning new techniques such as balanced scorecards and strategic management accounting in the past. Such techniques aligned with the traditional role identity of management accountants. This contrasts with the education and training which is needed in the context of constantly evolving technologies, which are creating new and different roles for management accountants. Here, the education and training are needed to prepare management accountants, not only to understand and use current techniques, but also techniques which will emerge in the future and, in particular, to cope with the uncertainties which surround their development. This suggests that in educating management accountants in universities and colleges, traditional management accounting courses will need to be supplemented with courses in IT and other technologies. However, learning specific IT tools and coding languages, for example, may be less important than preparing student management accountants to adapt to the challenges which advances in technology will bring in the future.

Our case study contributes to earlier work on the effects of digitalization and IT on management accountants (see Andreassen, 2020; Moll and Yigitbasioglu, 2019; Suddaby et al., 2015) by highlighting the need for management accountants to have a fluid role identity, whereby they can flexibly switch between roles (including bean counting, business partner or IT specialist roles), undertake diverse tasks and work in agile teams in order to respond to the opportunities and demands of the digital era. A fluid role identity will allow management accountants to accommodate multiple directions of change, not just towards becoming business partners (cf. Ala-Heikkilä and Järvenpää, 2023; Tillema et al., 2022). Furthermore, working with others (with different professional and educational backgrounds) in agile teams will allow management accountants to adapt to rapid and diverse technological changes, while at the same time maintaining and reinforcing their traditional management accounting skills and, especially, understanding and interpreting the numbers.

Although this has been a case study of one bank in Finland, the banking industry as a whole, across many countries, is at the forefront of digitalization and, as such, the OP Financial Group is probably a good indicator of how digitalization is likely to be affecting banks and the management accountants who work within them. Further, as accounting systems and financial information are central to the operations of such organizations, this is a context in which digitalization can have particularly significant implications for management accountants. Although organizations in other industries may not digitalize in the same way or to the same extent as the banking industry, they are nevertheless likely to experience technological developments which will affect the work of their management accountants. As such, further research is needed to look at the effects of IT and other technological developments on the role of management accountants in both other banks and other industries. Our study, with its focus on the role identity of management accountants, could provide a useful framework for such studies.

So, in this study we have seen that advances in IT are enriching and blending the bean counter and business partner roles, as well as creating a need for controllers with specialist IT skills, such as coding and BI. However, there is a danger for the management accounting profession that some of these specialist roles could be filled by non-accounting professionals. Whether the potential threats from other professional groups materialize will have to await future research which will study how events unfold and their effects on the identities and roles of management accountants. As was suggested in our case study, management accountants are only at the beginning of the digitalization journey, and they will have to learn how to use effectively the new IT tools and systems, and to be agile and respond flexibly and creatively in providing information and supporting their colleagues in ways which add value to the business. Future research will tell how management accounting roles develop, and if and how management accountants are able to meet current and future challenges. In the meantime, our study has shown that management accountants (in OP, at least) are developing the fluid role identity which they are likely to need to respond to multiple opportunities and challenges in the future.

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## Appendix 1: Interviews conducted

The 2014-2023 interviews focused on recent changes, digitalization, controllers' roles, accounting, performance measurement, centralized reporting and rewards, and finally Covid-19 and current developments in controller work (see also Appendix 2).

The 36 interviews listed below are relevant for this study, although in this paper we focus on the more recent developments. The interviewees had a range of job titles; for example, a business controller is the head of a business controlling team. Further, some had previously worked in a position that could be considered as a controller and, hence, they are indicated by, for instance, '/Controller' in the list below.

### Interviews:

1)	11.6.2014	Local controller 1	42 min
2)	11.6.2014	Local controller 2	45 min
3)	2.11.2014	Controller/Risk manager	45 min
4)	3.11.2014	Controller/Financial expert	40 min
5)	5.2.2018	Banking professional	72 min
6)	20.4.2018	Communication manager	61 min
7)	10.12.2018	Unit manager 1	31 min
8)	7.1.2019	IT expert	36 min
9)	8.1.2019	Local officer/Controller	56 min
10)	18.1.2019	Risk manager/Controller	40 min
11)	29.3.2019	Process manager/Controller	50 min
12)	29.3.2019	IT specialist/Controller	52 min
13)	29.3.2019	IT manager/Data officer	40 min
14)	10.5.2019	Financial Expert (AI)	33 min
15)	15.5.2019	Local controller 3	29 min
16)	16.5.2019	Unit manager 2	58 min
17)	21.5.2019	Risk manager	48 min
18)	21.5.2019	Unit manager 3	74 min
19)	26.11.2019	Financial analyst/Manager	35 min
20)	6.3.2020	Manager	48 min
21)	6.3.2020	Manager 2	57 min
22)	6.3.2020	Vice unit manager	52 min
23)	26.3.2020	Project leader/Controller	47 min
24)	3.6.2020	Board member	26 min
25)	30.6.2020	Unit manager 3	65 min
26)	8.6.2020	Accounting manager	66 min
27)	26.8.2020	Industry finance expert	60 min
28)	5.10.2020	Unit manager 4	56 min
29)	15.10.2020	Unit manager 5	44 min
30)	22.10.2020	HR manager	60 min
31)	20.1.2022	Business controller A	37 min
32)	27.1.2022	Business controller B	38 min
33)	27.1.2022	Business controller C	41 min
34)	27.1.2022	Business controller D	33 min
35)	17.2.2022	Business controller E	39 min
36)	23.3.2023	Headquarters Manager	44 min

## **Appendix 2: The Interview Protocol Themes in 2022–2023**

Background and duties in OP (work role, education, etc.).

What is a controller or a business controller as a concept?

What is controller work (for you/your team)?

Reporting and reports, changes, KPI measures, presentation (to management and other stakeholders).

Accounting work focus – backward or forward (forecasting etc.)?

Backgrounds of controllers.

Skills and knowledge needed.

IT systems and their changes, also other tools (Excel, SAP etc.).

Work role changes. (How is digital technology, regulation, Covid-19, remote working, digital tools, platforms, data analytics, robotics, and AI affecting the work?)

Central and local bank co-operation and reporting.

Central and local bank oversight, control, regulation (including Basel, IFRS, EU) and changes therein.

Future of/outlook for controller work. Are management accounting professionals still needed?