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Digitalization in Accounting

Construction of identity in new role by accountants during digitalization

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Abstract
Digitalization is being used across all sectors to increase the efficiency and effectiveness of any organization and the field of accountancy is not immune to it either. Due to advancements in technologies, the accountants' role has become broader in terms of responsibilities. The accountants are expected to carry multi-dimensional roles including accounts and having basic exposure to IT. In such a scenario, the paper describes how digitalization helps accountants formulate and adapt to their new changing roles. We have conducted a qualitative study with 17 in-depth interviews within 3 different organizations where such digitalization is being carried out. Since the companies are bigger, we were not able to cover the entire digitalization process but only a few relevant instances. We believe that 3 different organizations help us to give different perspectives and further support our study. Further, we have also conducted document analysis by going through relevant research reports. Furthermore, the analysis section aims to understand the work and efforts, the accountants put in the construction of their identity to fit in their roles. Lastly, the paper contributes that digitalization has led to change in the role of the accountants, which appear to be a positive change in the view of accountants. However, this also leads us to a possible research gap that, what appears to be a positive change in the role of the accountants in large organizations, could be on contrary viewed as a negative change in the role by accountants working in a small-sized organization. Further, there is also a possibility that the digitalization phase has only been undertaken by large organizations and this has still not covered the smaller organizations.

Keywords
Role, identity work, identity construction, behavior, expectations, accountants, digitalization.

Introduction

Digitalization enables various new forms of cooperation between companies, suppliers, customers, and employees that lead to the development of new products and service offerings (Moller, Schäffer & Verbeeten, 2020). According to Knudsen (2020), current digitalization is the third phase of technological changes in the field of accounting. Phase I in the ’60s and ’70s showed the emergence of the computerized information system, that enabled the accountants to record detailed data and to produce more accurate analysis. Phase II in the late ’90s and early 2000s concentrated on the introduction of Enterprise resource planning (“ERP”) systems, which allowed accountants to acquire information across the organization in a much more efficient manner. The current Phase III- is considered as an advancement in the technologies to increase efficiency and improve results which is termed digitalization. The above division in phases shows that digitalization is not a sudden paradigm shift but instead eventual progress in interconnected technologies that have both social and technical implications on accounting and accountants (Knudsen, 2020). Some of the major areas of accounting where digitalization takes place are paperless accounting, process automation, uniformity of systems, big data analyses, and tools for visualization (KPMG, 2017). One of the areas of digitalization in accounting is Robotic process automation (“RPA”) which decreases the time and cost of data processing and improves process accuracy, consistency, and decision quality. The major limitations associated with RPA are the high project failure rate of 30% to 50% and also that organizations fail to assess potential risks and lack appropriate RPA-specific governance mechanisms and strong internal controls to implement RPA (Kokina & Blanchette, 2019).

The need for digitalization is evident in companies and according to a study by, The Association of Accountants and Finance Professionals in Business (“IMA”), one-third of accounting teams are spending anywhere from 51% to 75% of their time on repetitive, low-value tasks. Additionally, 56% of the surveyed accountants said they need automation just to keep up with their increasing workloads (Williams, 2020). The authors Moller et al. (2020) quoted Ross et al. (2017) referring to the accountants as the ‘economic conscience’ of the organization and they should be made aware in advance of the long-term viability of an organization i.e., its digital strategy. Accountants should play an active role in addressing the digital opportunities and corresponding changes in business models and organizational strategies. They should not only be used to develop and adopt new key performance indicators (“KPI”) of accounting but also be used for flexible steering approaches (e.g., the objective and key results system) and new portfolio techniques, mixing traditional with digital business models (Moller, Schäffer &Verbeeten, 2020).

In 2016, the Association of Chartered Certified Accountants (“ACCA”) also defined a range of skills that the accountancy and finance professional needs to develop to ensure that they remain relevant in the future. One of these is the “Digital Quotient”. This is defined as the awareness and application of existing and emerging technologies, capabilities, practices, and strategies. It further stated that the digital skills should not only comprise knowledge of applications but also the techniques needed to implement them (Webb, 2020). Accountant’s need to develop new competencies both on the personal and professional levels. Enhanced expertise in technology and analytics might be required on the personal level whereas, business acumen, analytical thinking, and other traditional competencies should be part of the professional competencies (Kolthof et al., 2017b; Schäffe & Brueckner, 2019), (Moller, Schäffer & Verbeeten, 2020). As an effect of digitalization, Sánchez-Rodríguez and Gary

Spraakman et al. (2012) also presented what Scapens and Jazayeri's (2003) and Lodh and Gaffikin (2003) discovered, that, there were changes in the activities of the accountants i.e., the elimination of the daily routine, time-consuming, no brainer work. Thus, leading to a reduction in the job of number crunching and more responsible and wider roles for accountants, such as that of information administrators, and that of providing improvement in the business processes (Sánchez-Rodríguez and Gary Spraakman, 2012).

However, if we see the effects of digitalization on the organizational level, the accounting function will likely face a reduction when it comes to the number of full-time equivalents (Frey & Osborne, 2017; Schäffer 2017). This should not restrict the effectiveness and impact of the function though. On the contrary, new opportunities, as well as new roles, should emerge (Schäffer & Brueckner 2019), (Moller, Schäffer & Verbeeten, 2020). Also, several challenges are existing regarding automation and digitalization in the accounting field such as data veracity, lack of human capabilities to generate and store data, continuously increasing technology requirements, and even possible loss of status of accountants as a decision support function that processes, analyzes and verifies data (Gartner and Hiebl, 2018; Sutton et al., 2018 in Korhonen et. al, 2021). The author further states that there is a clear distinction between human and machine intelligence, which necessitates informed task division between the human and the machine (Bolander, 2019). Digitalization cannot replace the human accountant fully (Quattrone, 2016). Instead, we need to be concerned about the cooperation and task division between the human accountant and new technologies (Korhonen et. al, 2021).

The incorporation of new technologies in the existing conventional profession is seen as a privilege to some laborers equipped with technological skills whereas to others it is known to alter hierarchies and produce new tensions. The sociological literature has many interesting insights on organizational professions, but very few researches show the role of technology in relation to the professions (Plesner & Raviola, 2016). In this report we study how accountants construct their identity when new digital tools are implemented, we do this by leaning towards role theory and identity work. These theories will help us understand how human beings' behavior differs depending on their respective social identities and the situations they are in. This, moreover, give us a better understanding of the accountants' point of view on how they cope up with the dynamic digital environment. In these regards, we would further like to study the dynamic scenario in the field of accounting and answer the following question:

- *How do accountants construct their identity for new roles when digital tools are implemented?*

Theoretical Work

Previous research on digitalization in accounting and the role of accountants

A uniform understanding of the term "Digitalization" is lacking and is often used interchangeably with other related terms, such as "Digitization" or "Digital transformation". Digitization refers to the technical process of encoding information into a digital format whereas digital transformation refers to major organizational changes driven by digital technologies. Digitalization lies somewhere in between digitization and digital transformation and involves more than a technical process but does not refer to any major organizational changes (Knudsen, 2020).

Further, Knudsen (2020) cited the idea of change in the role of accountants, which was found in the studies of Arnaboldi et al. (2017). This change showed how the introduction of new systems or digitalization in the field of accounting has lead the professionals of other fields to cross boundaries and perform activities in hybridization with other roles (e.g., marketers entering traditional accounting terrain or when accountants take charge of digitalization initiatives). Digitalization also entails changing power relations both within and outside the organizational boundaries. Within the organization, the lower-level employees were given access to information that was previously in the custody of middle-level and higher-level managers. In an organizational context, it opens extra-organizational power shifts by placing more power in the hands of external stakeholders (Knudsen, 2020). However, this digitalization view is opposed by Quattrone (2016), that argue that accounting cannot be an 'answer machine' that helps decisions to be made simply by calculation, yet accounting can prepare the ground for communicative actions which will lead to decision-making. He further added that the future performances of the companies were speculated based on the past numbers and were used in the management controls. It was also used for determining the overall financial performance of the company (Quattrone, 2016).

Digitalization being the current phase of technological advancements in the field of accounting, includes, among many areas, the standardization of repetitive tasks (Knudsen, 2020). These repetitive tasks have set standard rules to be performed by systems, such as transferring the data to integrated systems (Madakam et. al., 2019). Further, digitalization also provides a vast range of data and the organizations expect that such data should be appropriately understood and utilized for their benefit. Thus, the availability and development of digital tools and techniques have been the engine to these rising expectations from the roles of accountants (Knudsen, 2020). There has also been a concern raised by Knudsen (2020), that such digitalization would lead to change in the professional domain of accountants. Further, it was observed by Suddaby et al. (2015), that, new practices, and expertise which are expected of the accountant's role, as a consequence of digitalization holds the possibility for larger changes in professional identity, ethics, and norms of behavior for accountants (Suddaby et al., 2015). Furthermore, this increased use of digitalization will surely make some accounting practices and some accountant roles obsolete, and there might be new roles in place and not the traditional ones carried forward in the field of accounting (Knudsen, 2020; Moll and Yigitbasioglu 2019).

These previous research observations, therefore, lead us to analyze the role of the accountants from the social perspective, wherein the behavior, norms, and expectations attached to the role change are focused which helps the accountants to formulate and adapt to their new roles.

Role theory

The concentration of the researchers in the field of accounting has mainly been on the activities and processes that change due to new digital tools introduced to the accountants, presenting it as the change in the role of such accountants. However, the role change of the accountants can be interpreted as the change in the behavior, that is due to modification in the activities and processes because of digitalization. Therefore, in the given case *role theory* can provide a social perspective as regards the change in the role of the accountants leading to how the accountants construct their identity while in the role (Andreassen, 2020). Role theory has been presented by Biddle (1986) as follows:

"Role theory concerns one of the most important characteristics of social behavior the fact that human beings behave in ways that are different and predictable depending on their respective social identities and the situation" (Biddle, 1986 p 68).

Different sociology and social psychology researchers have conceptualized role theory with some variations in their explanation, and their research have been categorized into five categories by Biddle (1986) based on the various concepts it stands for. The five perspectives are as follows:

Functional role theory: This focuses on the characteristic behavior of persons who hold a social position in a stable social system and the behavior is as per the set norms that have been passed on, relating to that position or the functions of the respective position. Therefore, it is argued that people holding a specific position share a common identity. (Biddle, 1986; Biddle, 2013).

Symbolic interactionist role theory: in which it is proposed that roles evolve through social interactions. The roles so developed then reflect the norms, attitude, contextual demands which are constantly evolving based on the understanding of the actors and negotiations (Biddle, 1986; Biddle, 2013).

Structural role theory: the focus here is on the "social structures", perceived as stable organizations of a group of persons who share the same, patterned behaviors that are directed towards other sets of persons in the structure (Biddle, 1986; Biddle, 2013).

Organizational role theory: the perspective presents that the role is associated with the social positions and the norms attached to the positions, which may vary from individual to individual; the expectations attached by the organization with the person holding the position and the pressure from the other informal groups, but due to multiple sources of norms, often there is *"Role conflict"* faced by individuals and this cause strain and stress, which needs to be resolved, for the organization to function smoothly (Biddle, 1986; Biddle, 2013).

Cognitive role theory: Lastly, the cognitive role theory presents that the role assumed by an actor is the perception that he holds about the expectations of others and this affects his behavior (Biddle, 1986; Biddle, 2013).

These perspectives may vary based on what they focus on, however, they all have a common base, that being, the role theory is concerned with three concepts i.e., *patterned behavior, parts or identities that are assumed by the social participants, and the expectations of the behavior that are understood by the performers* (Biddle, 1986). Therefore, the above concepts will help us understand the role of the accountants and what it is grounded on.

Identity work

As quoted by Knapp et al. (2013) from the works of Snow & Anderson (1987), identity work tactics are the set of actions that individuals undertake to create and maintain their personal identities and these actions taken up by the individuals are to manage the identities of the organizations or the social status that they belong to (Knapp et al. 2013). Further, identity development is explained as a

continuous ongoing process wherein individuals induce upon certain prescriptions of behavior that circulates among the individual within the social group (Goretzki et al. 2019; Alvesson et al., 2008). Additionally, identity construction is also said to be a result of "Critical Instances", as mentioned by Alvesson et al. (2008). These critical instances were explained to be either "Major changes" or "Localized instances". Alvesson et al. (2008), highlights that identity work is more heightened when there are transformational shifts at the societal, organizational, or individual life course level. Identity work is similarly heightened even during "Microlevel incidents", when it becomes the responsibility of the individual at the personal level to encounter the context and interpret the challenges attached and form an identity (Alvesson et al., 2008).

This provides us an understanding that what is identity and how and when it is modified.

Relationship between role theory and identity work

Understood from role theory is that when an individual acquires a role it is based on patterned behavior. This patterned behavior is a product of the social status and expectations from various sources related to the social status. Additionally, it is also the identity that an individual construct based on the expectation and his contextual environment. Therefore, there seems to be a relationship between the role of a professional and the identity construction.

Recently, this relationship has been explored by several authors (Andreassen, 2020; Goretzki, 2019), and is also quoted by Barley (1989, p 50) from the works of Maccall and Simons (1978), that *"Role and Identity are opposite sides of the same social coin"* (Barley, 1989; Goretzki et al, 2019; Andreassen, 2020). Hence, Identities enable people to give meaning and purpose to their actions and behavior (Barley, 1989). It's also appropriately quoted by Barley (1989) from the works of Stryker and Serpe (1982) that identities embrace the experience of a role and create the basis for developing a commitment to a situated self and provide a sense of "me, I am here" (Barley, 1989).

Further, a similar proposition is also presented by Alvesson et al. (2008) that identity focus on how people formalize their identities by interactions and prepare a "narrative for self" using the diverse contextual resources. Furthermore, identity construction incorporates an important concept of "identity work" which describes, the continuous mental effort of an individual to build a description for self to cope with the ambiguous and complex situations, and in such situations, individuals take help of their previous memories and desires to transform their sense of self (Alvesson et al., 2008). Hence, the important aspect in identity work is the "*Self-reflexive perspective on the self within an individual*" (Andreassen, 2020).

Adding to the above arguments, Vough et al. (2020) state that identity work is more like a process by which an understanding of one's self is formed, created, maintained, and /or is changed over time (Vough et al., 2020). Similarly, Beech et al. (2008), quoted the meaning provided by Sveningsson and Alvesson (2003) of identity work, that it is a process of "forming, repairing, maintaining, strengthening, or revising the constructions that are productive of a sense of coherence and distinctiveness". He further explains that such identity works very much depends on the consciousness of an individual where he tends to raise self-doubt and self-openness, which is a consequence arising due to encounters/ interactions with others, their perception and also the system and objects i.e., the

context (Beech et al, 2008). Beech et al. (2008) also propose that identity work involves complexity, and this can be a consequence of many reasons, such as many identities work projects are co-present or could be also due to time. It is possible that the construction of identity is not conducted at the time when needed and then the identity requirements change. Lastly, Beech et al. (2008), depicts identity work as dynamic, the requirements of which change based on the interpretations that one creates for self, the interactions and the interpretations of the other, i.e., the expectations of other for the role and also the context (Beech et al, 2008).

Thus, role theory and identity work will provide us with a wider perspective on the change in the role of accountants. It will help us understand the self-interpretation of the accountants in the dynamic digital environment, the expectations of the role from the other sources, here being the organization, and also the impact of the context on the role and identity construction as a whole.

Methodology:

Setting of the research

The setting of the research includes accounting departments mainly located in Sweden or the Northern European region. We have mainly considered large multinational manufacturing companies established in Sweden namely SKF Group that are the manufacturers of ball-bearings and Volvo Cars, manufacturer of cars. These companies have many ongoing projects related to digital tools and applications. The third company is a consultant company named Advectas also founded in Sweden in 2006 a leading business intelligence and data science company in Scandinavia, taken over by Cap-Gemini in 2020.

All the above three companies are very large and hence only a part of the accounting department is taken under consideration for our study which has been introduced with some new digital tools in the whole project of digitalization. As mentioned above the companies selected were suitable for our research since either they are undergoing digitalization in the finance department or are supporting the companies in implementing these digitalization projects. And thus, such a situation is suitable to analyze the way these digital tools impact the professional role of the accountants. Further, they were accessible because one of the authors is working in SKF in the accounting department and the other had completed an internship at Volvo Cars. The authors were careful as to not be biased in their views while collecting their data for research and kept an open view while collecting the data. Furthermore, the contact to Advectas was provided to us through our supervisor which helped us to support our research with more a general view on our research. All the interviews were conducted digitally via Teams or Zoom, due to the situation of the pandemic.

Besides conducting the above interviews, document analysis was also carried out in which we had gone through several consultancy reports on digitalization in accounting and we especially considered two relevant reports from the consulting companies KPMG and PWC. These reports comprise interviews of key personnel at the companies and we have considered them to be relevant to our study.

Design of the study

The study is focused on gaining a deeper understanding of the changing roles and identity constructed by the accountants. As per Silverman (2013), the only methods that are appropriate in the qualitative research is the topic and the model with which one is working on. In our study, we have considered mixed methods comprising multiple interviews and document analysis. The interviews were conducted within 3 different companies where such a digitalization process is being carried out to have a different overview of the digitalization in the accounting process. The candidates for interviews were selected based on their roles and experiences in the accounting field. Hence, we selected the roles of Accountants, Global process managers ("GPM's"), Process Developers, Business Controllers, and Analysts suitable for our interview process. In this study, we have conducted 17 interviews within 3 companies. We have selected the interviewees based on their availability and their experiences in the field of accounting. Besides, we have gone through research reports issued by consulting firms for further support to our interviews and we have considered especially two relevant research reports issued by KPMG and PWC on digitalization in accounting. The research reports consist of interviews about digitalization in accounting and their opinions which we considered as essential supporting evidence to our study. It is important to understand that when the qualitative research is executed poorly, the results are neither credible nor useful. The qualitative results pose many challenges and it is important to realize that this method probably to a greater degree is dependent on the knowledge and skills of the research team as compared to the quantitative methods (Sofaer, 2002). Hence, we have prioritized the selection of the right candidates to have some credible results.

The design of the research is mainly to show how the accountants cope up with their changing roles and identity at the time of implementation of digital technologies. The versatile type of interviews ranging from managers to accountants to HR to Business Controllers helps us to have an overall view of Digitalization and form a consensus opinion. Furthermore, the document analysis from the reports consisting of inputs and facts of experts from the accounting field helped to strengthen and support our interview findings. As qualitative researchers are believed to provide a deeper understanding of the social phenomena study as compared to quantitative researchers. Such deep understanding can be mapped in different territories such as by using their inner experiences, language, narratives, sign systems, or forms of social interaction (Silverman, 2013).

Data collection

Since the research is qualitative, we referred to our study as an instance of the phenomena of "digitalization in accounting" within the organizations we have studied and that it may not be identical to in other organizations. Further, we pursued extrapolation on the information collected in the form of interviews and document analysis to support our research (Silverman, 2017). Interviews are an important methodology adopted for qualitative research where the researchers can gain knowledge in the form of experiences of the researched and give voices to them (Silverman, 2017; Kvale, 2006). Thus, our primary source of data collection was interviewing. The interviews conducted were semi-structured one consisting of open-ended questions, and such that it allowed the interviewees to respond openly and it was more of a conversational flow that made the interviewees comfortable to talk. The questions asked were based on the theme of the research and varied a little based on the role of the interviewees. The questions were mainly divided into three sections: the first section including the questions regarding the digital tools that are introduced, second the current roles of the accountants,

and lastly questions regarding the change concerning the roles that existed before digitalization. There were in total 17 individual interviews conducted from all three organizations. The interviewees in SKF, Volvo Cars, and Advectas were referred to us by the initial contact person, implying the snowball sampling process, wherein the initial contact person proposes the other interviewees suitable for data collection for the research. Along with the snowball sampling, even purposive sampling was followed as the authors directly approached a few interviewees that belonged to the group that related to the research (Silverman, 2013). These interviews were conducted using the online platforms Zoom and Teams and were recorded and transcribed for analysis as per Silverman's recommendations (Silverman, 2013). Each interview lasted for about 40 to 50 Mins. Also, it would be appropriate to mention that the sample of interviewees included people who had many years of experience like 30 to 15 years, and those who had 5 years of experience in the same or similar roles. Figure 2 shows the summary of the interviewees- their roles, organizations and the number of interviews and Figure 3 represents interview intercepts considered from research reports:

Designation	**Organization**	**No. of Interviews**
Process Leaders - Treasury operations	SKF International AB	2
Purchase to Pay - Manager	SKF Sverige AB	1
Purchase to Pay – Accountants	SKF Sverige AB	4
Business Controllers /Management Accountants	SKF Sverige AB	2
Business Analyst	AB SKF	1
VP Human Resources - Accountancy & Finance	AB SKF	1
Global Process Managers - Global Finance Delivery	Volvo Cars	5
Accountant	Advectas	1
Total		**17**

Figure 2: List of Interviews conducted

Name & Designation	**Organization**	**Reports**
Robert Köthner, Chief Accounting Officer	Daimler AG	PWC Report - Digitalization in Finance & Accounting
Axel Sommerlatt, Head of Accounting	Drägerwerk AG & Co. KGaA	KPMG Report - Digitalization in Accounting
Christoph Hütten, Chief Accounting Officer	SAP SE	KPMG Report - Digitalization in Accounting

Figure 3: Intercepts from Interview - Document analysis

Data analysis

In qualitative research, it is the quality of the data analysis that matters to the methodology and not the fact that how cleverly the data was collected. The quality of Qualitative research cannot be determined by following any prescribed formulas, rather its quality lies in the power of how the analysis is displayed in which we discover something about ourselves and our common humanity (Buchanan, 1992). Qualitative research is at its most powerful in exploring things that are every day and taken for granted (Silverman, 2013).

In this study, we have used the grounded theory methodology for analysis and as mentioned by Glaser and Strauss (1967) and Charmaz (2006), only providing labels to the categories cannot itself build theories and the data needs to be redefined within a well-articulated analytic scheme. Konecki (2005), also further adds that open coding in the methodology of grounded theory means ascribing labels to the data. The labels should usually have a conceptual character that shifts the researcher from different descriptions, and it becomes conceptual elements to the analysis, and they have their empirical references. The analysis from the data should be able to answer questions such as whether the preferred methodology is suitable for this research and are they suggesting any interesting questions or having a strong grip on the data that would help us to discover interesting generalizations. Also, does the previous research apply to the collected data and how the previous research could be applied to our collected data, and which concepts look best and are likely to be more predictive in our research (Silverman, 2013).

As soon as the initial interviews were taken, we started transcribing the data and did not wait for all the interviews. (Silverman, 2013). The interview guide was drafted in consideration of the points which we wanted to cover in our study. After transcribing the interviews, we selected themes relevant to our study: a). Roles prior to digitalization b). Current digitalization phase, c). Current expectation from the role of accountants and d). Accountant's adaptability towards their new roles. These topics will help provide an overall summary. We used these topics as codes in the grounding process (Bryman & Bell, 2011).

The analysis of qualitative data is the most challenging aspect. As the data collected cannot be populated in the table and be treated as a summary and these data cannot be generalized. Data from the qualitative research are typically suggestive and rarely conclusive, nevertheless, the analysis should be highly deliberate and systematic (Sofaer, 2002). For the validity of the findings and the data received, we have considered the Triangulation method which is a validity procedure where researchers search for convergence among multiple and different sources of information to form themes or categories in a study (Creswell & Miller, 2010). Further, we have analyzed the findings by using the role and identity work theory leading to the formulation of the new role of the accountants.

Ethical aspects

The authors of the report are/were part of the companies involved in the multiple case study and knew some of the interviewees personally. It was ensured that past experiences and emotional relationships with the interviewees were not taken into consideration during the interview process. At the same time, it is also necessary to make the interviewees feel secure and create an honest relationship with them.

In this regard, we ensured that the ethical aspects were considered while researching as is suggested by Silverman (2013), consent was obtained from all the companies and the interviewees to interview them and maintain the anonymity of the interviewees. Previous consent was also obtained from the companies' HR departments to use their names in the report. The anonymity clause with the interviewees was necessary as it would make them feel comfortable and they would not be any biased opinions to the authors of the report.

Limitations

As mentioned above, the authors are/were part of the companies involved in the multiple case studies and have disclosed their interest. Further, they have refrained as far as possible from being biased towards the subject or the interviewees or having any personal interests. We have tried to be as neutral as possible towards the subject. However, there would be certain section unconsciously which would reflect the author's knowledge.

Another limitation would be having multiple case studies conducted in three organizations and considering other instances from the document analysis which gives us different views and perspectives towards digitalization. Since digitalization is dynamic, the interviewed companies have different stages of ongoing digitalization and it was not possible to achieve a uniform set of information. However, we have tried to maintain uniformity by having the same questionnaire for all the interviewees based on their designation. For instance, Mangers, GPMs, and other senior personnel were given the same questionnaire whereas the accountants were given a modified version. This difference in the questionnaire helps us to better understand the accountants' roles and identities.

Empirical findings

This section brings about the new digital tools that are being implemented in accounting in large companies, in our case SKF and Volvo Cars, and thus highlighting the changes in the role of the accountants due to digitalization. The finding mainly states the expectations that are attached to the role of the accountants by themselves as well the other sources including the organization implementing such new digital tools to achieve efficiency. It also presents what role did the accountants assume long before such digitals tools even existed and how they have now evolved in their roles with such digital tools.

a). <u>Roles prior to digitalization</u>

Digitalization has come a long way and this current phase has been reached to, after several years, this can be viewed based on the experiences of our interviewees i.e., 37 years ago, when one of the interviewees was just introduced to computers, and not the one which we use today, but instead it was a large computer room and a big machine, interviewee mentioned that:

> *"(…) you know when I started in SKF, they gave me a PC, one of the first PCs. They told me to play with it. No one knew what to use it for (….)"*
>
> (Sr. Analyst and VP HR, SKF)

Further, it would also be worthwhile to mention that during that time, for reporting of books of accounts, the reports of all the units (as SKF being a big company with many sister companies/daughter companies and various units) were sent in physical paper. These papers were then manually typed in by the computer departments and this typing created punching cards. These punching cards were then uploaded to the computer overnight and then the accountants were able to view the data and information on a screen. The interviewee mentioned that:

> *"(....) the computer was the size of a house. Yeah, the house is still in Gothenburg (...)"*
>
> (Sr. Analyst and VP HR, SKF).

However, on the other hand, another senior employee of SKF, who had previous experience from another company as well, mentioned that she has always been working in a digital environment, and never has posted a paper letter but used outlook for mails but agrees that the tools available now are evolved. The evolutions of digital tools bring us to the current phase of digitalization.

b). <u>Current digitalization phase</u>

As mentioned in the introduction above, the current third stage of digitalization is ongoing in most companies. The below intercepts from the interview gives us an idea of the digitalization scenario in accounting prevailing in Volvo Cars.

> *"The digitalization phase has already commenced in parts. In Sweden, 99% automation of invoices is completed. We are further trying to use a simple solution which gives us maximum efficiency".*
>
> (GPM 1, Volvo Cars)

The above view suggests that Volvo Cars has commenced and achieved digitalization in automatizing the invoicing process. We have received a similar opinion from the document analysis undertaken by us. The Chief Accounting Officer ("CAO") in an interview published in the PWC report on "Digitalization in Accounting" was asked about the digitalization phase in his company. The CAO further mentions that they have achieved efficiency in terms of compiling when compared with the peer group due to digitalization and they have achieved automation in most of the areas.

> *"Daimler compiles its financial statements within just 30 business days which puts us at the top of our peer group in terms of timing. In a company with a turnover of over EUR 160 billion, we couldn't do that without technology. So, we can say that we already have a pretty high degree of automation, particularly in terms of transactions. But there are always opportunities for improvement".*
>
> Robert Köthner, CAO, (PWC, 2018).

Further, to expressly state and name a few of the new digital tools that are introduced in the company (SKF), that represents digitalization are:

Power BI (Business Intelligence) - the tool which helps in handling large amounts of data along with generating standard reports.

Payment Factory - which would automatically create payment proposals and would have a common interface with all the different banks in different units and countries. The payments will require no manual intervention. Further, all the checks as regards the authenticity of the bank accounts and the vendor would be done by the tool, bringing in more transparency. This tool would lead to standardization in the whole of the company for payments.

E-invoicing - wherein, all the invoices received by the company from the various suppliers via emails would be automatically handled by the system, provided such invoices are for goods and services for which Purchase orders are created. These invoices are then matched with the purchase orders and accounted for.

Ariba - an easy system of placing a purchase order for office supplies, as there were scenarios when such office supplies were bought and when the invoice arrived, they were paid, without proper track and transparency of the process. This system brought in transparency and set process for the purchase of office supplies.

Hence, when all such new digital tools and systems were introduced, there has been a change in the expectations from the role of an accountant.

c). <u>Current expectations from the role of the accountants</u>

Digitalization leads to change in the expectations from the role of the accountants, which leads to the various skills and competencies required them, it was mentioned by Sr Analytics and HR VP SKF that, it might be obvious to have very different transparency today, but one can also say that mistakes are much more complex and it can be difficult to understand the information and trace the information. And so, he mentions that, it also requires very different competencies, as the information is very distant and abstract now and that there is a bigger risk that information is not correct and it's undetected as incorrect also. Further, he adds that today people who have more digital skills or analytical skills, etc. they are more in demand today in the accounting field.

In addition to the above view, another interviewee - a management accountant at SKF when talking about the Power BI tool stated that there might be various skills that become important when a new system or tool is implemented. First of all, he referred that, the further one gets from the actual raw data, the more there is a need to either get system support or some gut feeling or self-realization to say that something might be incorrect with the data presented by the system. Therefore, knowing how to work in the tool is surely a skill set that is important i.e. learning how to navigate the tool but since most tools aim to be very user friendly or very intuitive, so this would be just a basic, mechanical skill set, but what becomes even more important is to build the skills to arrive at the understanding of the data that is being presented by the tool. The more things get digital, the more things move automatically, the more one needs to understand what has happened behind the scenes. He mentioned that,

> *"You might need less of this fancy pivot and V lookup a skill set in Excel, but you need more business knowledge of what you look at."*

(Management Accountant 1, SKF)

A similar view was also that of the other accountants and the management accountant interviewees in SKF, that is to fit into the digital environment, with the digital tools working, it is important to understand the process, also to know in this process who to reach out to solve if any issue arises.

The accountant interviewees mentioned that when such digital tools are available, they are not doing their repetitive tasks but rather monitoring the system and working as troubleshooters like in the case of E-invoicing, payment factory systems. The interviewee believed, that even if some processes and tasks of an accountant are replaced by some system/ tool (by Robotic systems), the system would not be able to handle the conversation part that would be needed to solve an issue i.e. to reach to people outside the organization, even though the system might be well equipped to solve issues internally, there would be a need of a troubleshooter- accountant, who can resolve the issues that need human skills.

> *"(...) So, you have a history with errors from different angles and there are some errors in the bank, and I don't believe that a robot will be able to speak with all different people in the bank. So maybe you could have a robot equipped internally that could solve things but then when we send it to the bank if the error happens in the bank the robot will not be able to solve it. Then it needs to come to a troubleshooter saying OK then we need to contact the bank and so I think this troubleshooting role will still need to be there."*
>
> (Accountant 1, SKF)

Also, from another accountant:

> *"What we are doing is monitoring the data flow and we are troubleshooting. We help the Accounts Payable team a lot with solving issues and users, so we don't process anything, but we give advice and we support."*
>
> (Accountant 2, SKF)

Further during the process of document analysis, we came across the opinion of the experts in the accounting field wherein they were asked about their expectation from the accountants after introducing digital technologies to which they replied as:

> *"Automation does not mean cut back in jobs but allows human labor to be employed for more meaningful purposes. As we automated the group reporting of SAP, we did not reduce employee numbers. Instead of basic entering the numbers, employees now do monitoring activity which is more important and interesting for the employees."*
>
> Christoph Hütten, SAP SE, (KPMG, 2017)

It indicates that the role and responsibility of the accountants will increase with the digitalization as the basic jobs will be replaced by machines but there would be no reduction in the existing number of

employees. We got a contrasting view when we asked in one of our interviews whether there would be replacement of accountants by digital technologies:

> *"Yes, there has been some reduction in the manpower, but we cannot disclose the numbers"*.
>
> (GPM 3, Volvo Cars)

Also, one of the managers further added that Volvo Cars have been outsourcing the manual tasks and these are basic tasks that are being replaced by robots so there would be a reduction in employees but it will not impact Volvo Employees directly as there would be a reduction in the outsourced employees:

> *"Volvo Cars has been outsourcing the manual accounting tasks since 2002 and we use the basic outsourcing of manual invoices something easily replaceable by robots and not the transactional activity. Reduction of employees due to digitalization will not impact Volvo Cars employees but it would impact the outsourcing employees"*.
>
> (GPM 4, Volvo Cars)

Further, we have also gone through the interview from the PWC report and came across the opinion of the CAO from Daimler AG when asked about the impact of digitalization implemented in his company. He added the cost-benefit perspective and high quality in addition to the increasing responsibility of the accountants.

> *"The digital financial statement audit will be more efficient and cost-effective for us. There are good prospects for artificial intelligence to be used to examine forecast data and reports which would be interesting to us as well. It would also help us to maintain our data quality targets"*.
>
> Robert Köthner, CAO, Daimler AG, (PWC, 2018)

The GPMs of Volvo Cars was also asked during interviews about their opinions regarding the change in the role of accountants owing to digitalization. The below manager mentioned that the manual efforts will be automated, and digitalization will improve the role of the accountants by giving them more responsible roles or multi-dimensional roles including accounts and IT.

> *"After digitalization, manual efforts will be completely automated, and the role of accountants will be predictive and analytical. In future, specialization would not be in one area only, but accountants would be exposed to multiple areas like Finance and IT"*.
>
> (GPM 1, Volvo Cars)

The above manager also mentioned that major aspects of accounting will be digitalized in the long term and it will be reflected in the dashboard automatically. It need not have many dependent people for checking and uploading the data individually as the data would be readily available for analysis and review with higher accuracy. Another manager added that the current role of accountants

includes routine transactional activities involving manual efforts which will be later replaced with a monitoring role.

> *"The main role of the accountants currently is to monitor file transfer, send correct information, check entries have hit the right account. Instead of doing the routine transactional activities, it will become more of the monitoring role after automation"*.
>
> (GPM 4, Volvo Cars)

He also mentioned that digitalization will reduce the manual efforts and improve efficiency in the future and the role of the accountants is changing rapidly and they do not need accountants for the daily work of posting manual transactions instead they need them to set processes such as file transfer between the systems which can then be carried automatically later.

> *"My view is touchless accounting practice and I don't want in future accountants to handle invoices and balance payments manually"*.
>
> (GPM 4, Volvo Cars)

He further added that it would be horrible to say that in the future accountants' role will completely change towards something else it would still be in the same direction, but the approaches would differ. Also, when hiring new accountants in the future they need to understand the basic digital flow at least to monitor if something goes wrong in the digital transactions. It is not necessary to have detailed expertise in IT because they have a separate IT department to handle those detailing and specifications. But accountants need to have some knowledge and need not be experts in it. There should be specific teams to manage if something goes wrong in the automation process.

One of the managers also mentioned that having a flexible and open attitude for change is important than having a digital background

> *"Digitalization still implies that the accountants should have basic accounting knowledge because tasks will be automatized and perform by robots but the person handling them should also be aware of the accounting policies so that they can check whether the system is doing is alright"*.
>
> (GPM 2, Volvo Cars)

Similarly, adding to the expectations of managers to the role of accountants, when asked about what are the basic skills that are looked for when the accountants are recruited for the position, the accountants' manager in SKF replied that the accountants should be an open-minded, adaptable, quick learner, yet knowledgeable in accounting. Thus, accountants will still be expected to know the accounting policies because, in the end, they will be the ones monitoring the automatic transactions but having digital expertise is not the only essential. Further, the GPMs of Volvo cars added:

> *"There were many no-brainer activities earlier like sorting of emails, direct booking of bank statements which has been replaced currently by robotics. Having a digital background is not that important as having an openness and ready attitude for change and*

trying to learn new things. These are the important qualities required rather than having a digitally trained employee".

(GPM 2, Volvo Cars)

The no-brainer activities such as the sorting of mails, checking of entries, and other transactional activities were replaced by more of an operational activity requiring monitoring of roles and more judgment. Further, digitalization has also led to a change in the role of the managers along with the accountants in general. One of the GPMs of Volvo cars mentioned that:

"For us, as global process managers not much have changed, but the role of operations managers has changed, now they don't have to put their time in checking data entry instead they can spend more time in activities requiring judgments".

(GPM 3, Volvo Cars)

The above suggests that their role has not changed much as compared to those of the operational managers as they do not have to waste time checking the data as digitalization ensures higher accuracy levels as compared to humans.

d). <u>Accountants' adaptability towards their new roles</u>

To implement new changes in an organization and ensure that the accountants adapt to their new roles effectively, it must be communicated in a professional way considering the protocols of the respective companies. Since digitalization involves replacing some of the existing techniques of humans with that of machines, we asked whether additional training is provided to the existing accountants to help them cope up with new digital technologies. One of the managers mentioned the training program required for the changing role of the accountants and it depends on the organization and its processes, but all accountants need to continuously enhance their skills both in accounting and IT.

"Volvo Cars academy trains employees for developing additional skill sets on the broader level. In addition to that, every department has training solutions to enhance their work-related requirements like Power BI".

(GPM 1, Volvo Cars)

One of the GPMs of Volvo Cars also mentioned that resistance is part of the change and employees do not welcome change initially unless they are aware of its benefits

"It depends on the entities and employees. Most of them welcome change in the form of digitalization as it eases their tasks but there are some resistances wherein the employee has been working for more than a decade and it is difficult to leave the comfort zone but, in the end, people accept it".

(GPM 1, Volvo Cars)

Similarly, we found another opinion from the document analysis wherein it was mentioned that apart from creating technical perquisites, it is also important to make the employee realize that introducing robots to the process will only enhance their role in some manner and it would not be completely obsolete.

> *"[…] there are two essential challenges: firstly, creating the technical prerequisites, and secondly, motivating the employees in this process of change. This is because the employee asks himself the question: are there sufficient high-quality tasks available for me that cannot be taken over by robots?"*
>
> Axel Sommerlatt, Drägerwerk AG & Co. KGaA, (KPMG, 2017)

The Finance Lead had the opinion that rather than the selection of tools, it is the process of implementing change that is difficult, and often the selection of the tool is an easy part.

> *"Selection of tools is not that important but rather it is what you want to do with them is important because change is the difficult part rather than selection".*
>
> (Finance Lead, Advectas)

A similar viewpoint was also that of the Sr Analyst and HR VP of SKF, but with this, he also mentioned that another important aspect along with giving training to the employees is to explain to them their role in the future and how they fit into the future. This should be achieved by continuous explaining and supporting with training and proper communication. Such support and communication would then make them positive about their role. He also states that such transitions are complicated due to the dynamically changing environment. He also mentions that in most cases people would not like to go back to the old way of working, but the important aspect about changing roles and it also might not have to do with digitalization either is, the initiative one takes himself are more liked than the initiatives taken by others. In his words,

> *"(...) It's more than digitalization nowadays has a big impact on companies and assesses people, and it's more than initiatives we take ourselves we like, and initiatives are taken by others that impact us we don't like."*
>
> (Sr Analyst and HR VP of SKF)

Further, if we see the changing roles of the accountants and how they adapt to their new ones, one interviewee added that it is a personal choice of the accountants wherein some are comfortable using excel sheets whereas some uses advance functions such as python:

> *"Robotics are used in the automation process to handle things. Some accountants are still comfortable using excel sheets whereas other accountants use advanced software such as python"*
>
> (Finance Lead, Advectas)

Further adaptability also depends on the context. Here it would appropriate to mention the views of an interviewee in SKF that sometimes it's the tools in itself that do not allow the end-user to adapt to it. He explains that sometimes the new tool is not fully developed to give the required results, which makes the end user go back to their original tools, as was the instance described by him on use of Excel

(old digital tool) instead of Power BI (the new digital tool). It was observed by the interviewee that such tools were used by end-users for generating reports that were standard and repetitive and when there were scenarios that required detailed and line-level analysis, end-users resorted back to their original tool. Further, he also added that each user has their "own twist" or "singularity", how they want to see their report and this makes them extracting the source data and amending it as per their requirement instead of cleaning the source data itself. Thus, as per the opinion of the interviewee, an effort is required to step by step gather such requirements from end-users, analyzing what can be useful for all units and also at the group level and then moving towards standardization. Then a large part of the users could be pushed in the direction of the standard tools and the direction for using standard reports. But there will still prevail scenarios where the standard report won't do the job for them and there would then be needed to support those scenarios as well.

Furthermore, as regards adaptability, there were also instances when the interviewees themselves have initiated various digitalization and automation of processes, unlike the cases where organizations put forward the new tools or systems. In such cases, they mentioned that they made such initiatives so that they don't have to focus on the repetitive tasks, but could do the *"fun part"* as was referred to by an interviewee, that is doing the analysis and control, where there is a need of judgment and value addition.

> *"OK, this is taking too much time. Now I am just not the kind of person that likes to do repetitive and non-added value stuff. Yes of course. I mean, even if it's small things that are easy to perform. I mean what's the point of taking time doing it every day if you can just like get it right away in just no time, so it's more like to save my own time, to do fun stuff instead. Yes, so like skipping the boring stuff that doesn't add anything."*
>
> (Business Analyst, SKF)

Similarly, another management accountant also mentioned that:

> *"..., because I make things more efficient, there's always something you have to look at…. I always tend to take on more things. There are always more things to explore and more things to analyze. And more things to learn. So whenever possible I make it easier for myself, I find something new."*
>
> (Management Accountant 2, SKF)

Summary of findings:

The findings comprise of the current digitalization phase in which examples can be seen of companies wherein the digitalization phase has commenced, and they are suggesting that without automation, it would be difficult to maintain uniformity and efficiency in the companies. We can also see the roles before digitalization wherein the accountants have come a long way and adapted to the roles with new digital tools. In current expectations from the role of the accountants, we can see the different managers as well the accountants' view on the new roles of accountants and accounting expertise is required even after digitalization to monitor the automation process. Also having an open attitude towards learning and change is required rather than having digital expertise. In the accountant's adaptability

towards the new roles, it can be seen how the accountants interpret the expectations from their role passed on to them and also their expectations and adapting accordingly to fit in the role.

Discussion & Analysis

The findings suggest that the new digitalization tools, when implemented in the organization in our case at the accounts department, has led to change in the role of the accountants. Consequently, how do the accountants behave in the changing role and create an identity for self, by making interpretations of the context that has changed due to new digital tools will be discussed hereunder.

As mentioned above by (Knudsen, 2020), standardization of the repetitive task is one of the areas of the current third phase of digitalization in accounting. In our study, we saw in the responses received from the GPMs of Volvo Cars that the current roles of the accountants are basic roles like monitoring file transfer, checking manual entries, and sorting of emails. One of the GPMs also mentioned that some of these are no-brainer activities but with digitalization coming in place, these repetitive tasks are standardized and automated so that the accountant's role will change, and they will have more critical and analytical roles. A similar scenario can also be viewed in SKF where many of the processes needed to be standardized, there are systems already introduced and the accountants are mainly working with troubleshooting activities. Further, digitalization provides a vast range of data that should be utilized appropriately. This refers to the opinion of one of the GPMs of Volvo cars and also the management controller and senior analyst and HR VP in SKF that the major aspects of the accounting will be automatized and the data will be visible for review in the dashboard automatically. This would also not require additional employees as the data will be extracted from software directly with higher accuracy resulting in the increased expectations of the managers. Further, Knudsen (2020) mentioned, that such digitalization would lead to change in the professional domain of the accountants and one of the GPMs states his view that, going forward the accountants will have multi-dimensional roles including finance and IT. Even though digital expertise is not required as they have separate IT teams to manage the IT specifications but still basic digital background in the accountants is preferred. While interviewees both from Volvo cars as well as from SKF added that having a flexible attitude and openness towards change is preferred to having a digital background. It would be incorrect to say that the professional role will change completely, as mentioned by one of the interviewees that the knowledge of the accounting policies is essential to check if the system is working properly but at the same time having basic digital knowledge is preferred. As mentioned by Knudsen, (2020) and Moll and Yigitbasioglu (2019), the increase in digitalization will also render some of the roles obsolete while one of the GPMs declined to comment on the number of employees reduced owing to digitalization. The other GPM mentioned that the outsourced work of Volvo Cars consisted of basic routine work and since these tasks are now automatized those outsourced employees' numbers will be reduced. Lastly, as mentioned by Knudsen (2020), digitalization entails changing power relations, thereby giving more power in the form of access to information to the lower-level employees and external stakeholders. It allows giving more meaningful roles to the accountants. Our findings summarized can give us an optimistic view about the accountants' role and shows that the standard tasks can be automated and then there remains only the need of supervision by the accountants. However, there should be a clear distinction to define the boundaries of tasks that can be automated and others in which human intervention is necessary.

Defining of role

As claimed by Biddle (1986, 2013) it is also observed in our findings that there exist commonalities in the various categories of role theories as presented by Biddle (1986) and this can be portrayed as follows:

Functional role theory: there are specific norms attached to the social position of an accountant and they have been passed on for that role from generations. The norms such as knowledgeability of accounting policies, about accounting processes. Therefore, all the interviewees holding the position of the accountants follow a patterned behavior, of pursuing and applying the knowledge of accounting.

Symbolic interactionist role theory: The accountant and accountants' managers and system developers expressed that there have been communications regarding the new tools, which can be seen as interactions between the various groups, conveying the expectations from the role with the use of new digital tools. The accountants interpret from these communications that they are now required to perform more monitoring than actual processing of invoices, payment proposal, etc. Thus, by interactions about the tools and the expectations from the role as communicated by the managers, the accountants identified their task of monitoring and troubleshooting for the role.

Structural role theory: In this case, the GPMs or the managers were perceived as social structures of the organizations and are viewed as stable organizations which will provide a set of behaviors and rules necessary either for introducing or implementing the digital change. It is generally directed towards the others set of persons i.e., the accountants in this case. Also, it was mentioned by one of the interviewees in our findings that the role of the GPM has not changed much but the Operational manager's role will be modified and they will spend more time monitoring activity rather than checking manual entries.

Organizational role theory: The accountants' role is associated with the positions and norms of the organizations and it varies from individual to individual also depending on the companies. The GPMs and managers have certain expectations from the accountants' new role after the implementation of digitalization. The knowledge of accounting principles is mandatory and basic digital background is preferred. However, having openness and a flexible attitude towards change is required. Further accountants are expected to perform multi-dimensional roles including finance and IT. These expectations from the new roles of the accountants often lead to role conflict thereby causing stress and strain to the accountants that need to be resolved either through providing the accountants training in the digital area so that the organization can function smoothly.

Cognitive role theory: The accountants in SKF could be seen taking initiative for asking for new tools and accepting the tasks of the troubleshooter. This shows us that the accountants have interpreted that they have to adapt to the new situation where they should be able to work with new tools and perform tasks that are now more related to being knowledgeable about the accounting processes and policies. This would help identify if there are any issues in the flow of the work which the systems have undertaken. They have interpreted that they need to be well versed with accounting knowledge and be a quick learner as is expected from them to fit into the changing requirements of the role.

All these perspectives together provided us to understand that the role adapting and identity constructions by the accountants are based on *patterned behavior, parts or identities that are assumed by the social participants, and the expectations of the behavior that are understood by the performers* as claimed by Biddle (1986).

Role assumed and identity constructed by the accountants

Drawing upon the assertions of Barley (1989) that role and identity are opposite sides of the same social coin and that there exists a relation between the two we can in our case analyze how the accountants behave and how they assume the role of the accountant. They do this based on the norms attached to the social position of an accountant, the expectations of the organization, and also the identity that they construct based on the expectations and the contextual environment. For instance, it was observed that the accountants in SKF are performing as troubleshooters and they are performing so, as the organization has implemented a digital tool called "E-invoicing", which does all the processing of invoices, but what is expected of the accountants is to address the issues, that may arise in case the invoices does not get processed through, the organization set such expectation from the accountants (of troubleshooters), as the accountants should be aware of the process based on the experience that they have gained before such tool was in place and that this knowledge is more of a norm passed on to the accountants as they belong to that social status. Further, in the identity work, on which the role is based, an individual creates "self-narratives" to cope with complex, ambiguous, and changing scenarios using their previous experiences as was mentioned by Alvesson et al. (2008). This is apparent in SKF also, where the accountant is formulating their identities as troubleshooters which is the requirement of the context due to the introduction of new digital tools and this is done using their previous experience as an accountant, where they even use to process the invoices and know where in the process of booking an invoice, the problem may occur. Thus, providing meaning to their actions and behavior as troubleshooters

Further, it was in the study observed, the several accountants in SKF took initiatives for digital systems or tools that may reduce their repetitive tasks and allow them to do the value-added tasks for the organization. This can be related to Barley's (1989) claim, that while creating identities, the actors embrace the experience from the role, here the experience they have gained, about the monotonous task they need to do daily and thus create a base for developing a commitment to change the role based on the available resource in the digital environment and give themselves a logic that they belong to the digital age, where there are solutions which may help them perform better and broader tasks, enhancing their roles. Thus, taking such initiatives can also be presented as a coping mechanism, that the accountants have used to create and modify their existing identity based on the context they are situated in i.e., of digitalization, which can be related to the claims of Alvesson et al. (2008).

Furthermore, it has been observed that, on implementation of any new tool or system, there has always been resistance, and as was expressed by the Sr. Analyst and HR VP of SKF, that *"change initiated by ourself we like but those initiated by other we don't"*, this represents the "role conflict" as mentioned by Biddle (1986, 2013), wherein there are too many expectations attached to the role of the accountants and then the accountants have self-expectations and when these both vary, there is stress and strain caused to accountants, that make them resist the change and accepting the new system/tool. We can

see another instance of role conflict in our findings, one of the GPMs of Volvo Cars mentioned that most of the new employees welcome change and accept digitalization but the ones who have been within the system for more than a decade resist change as they do not want to leave their comfort zone. Another example is from the document analysis of (KPMG, 2017) in which the Head of the Accounting mentioned that unless the employees are motivated and made to realize that there are sufficiently high-quality tasks still available for them that cannot be taken over by robots and they have been given the feeling of security there is bound to be conflicts in the roles and the expectation from their roles. Also, the Finance lead from Advectas mentioned that rather than the selection of tools it is the process of implementing the change that is difficult. Thus, since it is important to resolve the "role conflict", the accountants experience for smooth functioning of the organization, the managers and seniors in the hierarchy in the organizations believed in consensus, that such role conflicts can be resolved by proper communication, training, and providing an understanding to the accountants about their future role, thus providing them logic to relate to.

Identity worked upon by accounts within the context

Identity work as stated by Vough et al. (2020) is a continuous process of creating, modifying, and maintaining an understanding of one's self, and additionally as mentioned by Beech et al. (2008), this construction of identity is a continuous process by taking into consideration the context. This was visible when the accountants in the case companies began to edit their identities based on the cues from the environment. This can be exemplified by the situation when new tools were implemented such as E-invoicing, they switched to work as a troubleshooter and not the processor of the invoices anymore. Another instance in the case was where the accountants took initiative for new tools based on the context and knowledge of the fact that resources are available for them to get such tools to make their work efficient and provide value addition to the organization. It can be seen, that the accountants with the existing identity of just processing the invoices, or preparing a manual payment proposal, or buying office supplies without purchase orders, or even using just the excel tool for analysis and controlling and not the modern tool of Power BI, they took indications from the surrounding and made interpretations that they have new tools at their disposal, that can reduce their monotonous work and instead help them perform some valuable jobs. This, along with the narratives provided by the managers who communicated the change and helped them understand their future roles, led to accountants modify their identities, creating a new one. Further, the accountants on maintaining such new identity that was created, interpret the changed situation, when some other new tools are introduced and thus then reconstructed and redefined their roles and identity. These actions of the accountant also clearly depict that as dynamic the context is, the identity work of the accountants is also dynamic, as they are constantly adapting to the new digital tools such as payment factory, e-invoicing, and Ariba. They have been thinking and understanding, what can be their requirements and thus initiating new tools that they need for efficient working. Thus, continuously restructuring, and redefining their role, and behaving accordingly.

From the above, it can be argued that digitalization in accounting processes, does have an impact on the role of the accountants and giving them more analytical and monitoring roles, also leading to change their existing roles into multi-dimensional roles including finance and IT. This results in a change in their behavior, leading to the construction of new identities, and then maintaining the new identities in the digitalization phase. Thus, it can be observed that the relationship between

digitalization and the role of accountants is complex (Andreassen, 2020). Further, it would be appropriate to mention that the observations and analyses of our case study may not be generalized due to the variations that may persist between the types of organization in our research and others.

Conclusion

It can be observed from above how digitalization has replaced many manual tasks with robotics and automation processes in the case of companies such as E-invoicing, payment factory, Ariba, Power BI. Thus, the study presents that this automation in accounting processes has led the accountants to change their identity to fit into their dynamically changing role. The accountants have adapted to the situation and constructed their identity as troubleshooters or as ones monitoring the processes performed by systems rather than doing it. Hence, it can be observed that the accountants are constantly processing the information they receive from the management, to edit and redefine their role. They even take the initiative and consider the work they will be able to do, as the fun part of their roles, if they are availed with digital tools. The accountants have come a long way from doing tasks manually to just addressing the issue, thus, formulating, changing, recreating identities from number-crunching to troubleshooters and data analysts. The accountants have thus, constructed this identity in the new role by interpreting the context, by embracing the expectations from the social status they belong i.e. of accountants and the expectations others have from this position i.e. the organization. Further, this process of identity construction led to change in behavior based on the expectations. Lastly, the process of identity construction for the role was continuous and ongoing.

Further to summarize our findings, standardization of repetitive tasks is one of the key areas of the third phase of digitalization in accounting. It has also been mentioned that the accountant's role will change, and the no-brainer activities will be replaced by more analytical and judgmental roles. The dashboard for visualization of data such as Power BI will be updated automatically and would not need many dependent people to update it on a timely basis. Such data will be available readily and with higher accuracy. The managers need not spend further time verifying the data as machines are considered to be error-free as compared with humans. Further, the role of the accountants will require the knowledge and experience of accounting policies, but it would not be only restricted to it and would include more multi-dimensional roles including finance and IT. However, knowledge of accounting principles is necessary to monitor whether the automatic transactions in the system are being processed correctly. Having digital expertise is optional. Rather managers prefer having a flexible and open-to-change attitude with a little bit of digital background. Also, it was observed that the process of implementing the digital change is considered the critical part rather than the selection of tools and such changes should be implemented in a bidirectional way and open communication is generally preferred.

Future research:

As we present above, accountants are now performing more meaningful roles instead of monotonous activities, and the accountants are also optimistic and mostly accepting of new roles, but this scenario mostly prevails in large companies, since our case companies include large MNCs that implement new digital tools to increase efficiency. However, a question arises as to whether the smaller organizations

are also able to implement such new digital tools and influence the accountants working to redefine their role and be so optimistic about the change in the role. Thus, it's difficult to generalize our findings and hence there prevails a research gap for which it is suggested that there should be more future research on smaller organizations to understand the identity construction in the changing roles of the accountants, by the accountants.

Further, a disaster could occur if the human labor i.e., accountants are prematurely replaced with automation without a thorough understanding of the automized tasks and without the proper recognition that human and computer intelligence is different (Korhonen et. al, 2021). As mentioned by Korhonen et. al (2021), humans must also determine the purposeful division of labor between humans and machines and how the change toward this division will take place. Thus, it is further stated that additional research is required to answer whether and how accounting processes are “clearly defined and understood” for automation (Bolander, 2019; Moller et al., 2020). Also as rightly referred by Korhonen et al. (2021) to the works of Emmanuel et al. (1990) & Autor et al., (2003) that there is a need to decide whether accounting tasks are adequately programmed, or routine (Korhonen et. al, 2021). Hence, it would be interesting for further research to study the aspects that are relevant to humans when compared to technology and that cannot be outsourced, and thus human intervention is necessary.

Abbreviations:

ACCA - Founded in 1904, the Association of Chartered Certified Accountants is the global professional accounting body offering the Chartered Certified Accountant qualification. ACCA's headquarters are in London with the principal administrative office in Glasgow.

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