



The collaboration between auditors and IT-auditors - The effects on the audit profession

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Abstract

The development of information technology has significantly transformed the work of auditors and has presented new audit challenges. Organisations are more frequently using complex IT-systems which require that an IT-audit is performed. Since the auditors do not have sufficient knowledge regarding IT-audits, the audit team increasingly includes an IT-auditor. This study sets out to explore the effects of the collaboration between the auditor and IT-auditor and the related implications of this for the audit profession. Using semi-structured interviews, the findings suggest that the traditional authority enjoyed by auditors is being challenged by IT-auditors. The collaboration promotes commercial interest at the expense of weakened control and understanding among the financial auditors regarding the IT-audit. Also, the findings suggest that the communication between auditors and IT-auditors is limited which can create gaps regarding what the auditors have ordered and the material received from the IT-auditors. These findings can be argued to impair the audit opinion and thus challenge the future of the audit profession.

Keywords: Auditor, collaboration, information technology, IT-audit, IT-auditor, professionalism.

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1. Introduction

The chapter begins with a background of the topic which is followed by a discussion of the problem that will be addressed in the study. The chapter is concluded by stating the aim of the study and the contributions.

1.1 Background

Due to previous accounting scandals, attention has been drawn to the limitations of the audit profession (Humphrey et al., 2009). According to Humphrey et al. (2009), the audit profession is facing severe challenges and its continuing existence and power in society are dependent on its response to these challenges. Power (1996) argues that audit has been institutionalized as a provider of comfort and legitimacy. Since the audit profession should act as a guardian of the public interest (Freidson, 2001), confidence and trust need to be reinstalled in the audit profession (Flowerday and von Solms, 2005). The complexity in business transactions and environment has increased and previous research has highlighted the difficulty for auditors to be able to provide assurance (Christensen et al., 2012). The increased complexity has led to an increased difficulty for auditors (*auditor* will throughout this study refer to external, financial auditors) to feel and be in control of their own expertise (Smith-Lacroix et al., 2012). With the rapid development of IT in society, the auditor's role is increasingly transformed and the audit profession is facing new challenges (Kinney, 2005; Kotb et al., 2012).

During the past two decades, IT has been widespread in the global business environment (Abou-El-Sood et al., 2015). The development of IT has allowed firms to automate business and information processes (Kinney, 2005; Lennartsson, 2014). Organisations are more frequently using complex IT-systems in their operations. The general technology development as well as new regulations have resulted in a growth in IT-audits and have become an important part of the financial audit (Lennartsson, 2015; Singleton, 2011). IT-audit is a certain part of the financial audit which focuses on the IT-risks in a company. Further, IT-audits are performed to observe the operations, controls, effectiveness and security of critical systems in order to identify opportunities for improvements and weak areas (Stoel et al. 2011). The IT-audits should provide safety that automated processes and systems are meeting its objectives (Stoel et al., 2011).

According to Stoel et al. (2011), the attention to IT-audit has been motivated by two main reasons. The first reason is increased spending and dependency on IT for business operations. The second reason is new legislation and professional requirements related to the audit of these operations. However, Le Grand (2013) stresses that IT-systems and the frequent use of them in businesses have led to increased pressure on the auditors and their knowledge. According to Broberg (2013), IT-systems can facilitate for the auditors to provide assurance. However, previous research states that auditors lack knowledge about how the systems work and the assumptions embedded in new procedures (Broberg, 2013; Humphrey and Moizer, 1990; Power, 1996). This is in line with Vendirzyk and Bagranoff (2003) who stress that auditors lack the right expertise to be able to fully understand the complex systems that IT entails. This is due to that IT has not been a significant part of auditors' education or training (Kotb et al., 2012).

With regards to the IT development, the auditor is facing challenges to keep up with the rapid changes in the business environment (Kotb et al., 2012). The computerization of clients' systems and the growth of IT-audits present new audit challenges (Kotb et al., 2012). Due to the auditor's lack of sufficient knowledge regarding IT (Vendirzyk and Bagranoff, 2003; Le Grand, 2013), the auditor has limited understanding and control of the IT-audit. This may have created an expectation gap concerning the auditor's ability and responsibility to create trust. If there is an ambiguity regarding what auditors actually can take responsibility for and what is expected from the public (Sweeney and Pierce, 2011), this could harm the protection of stakeholders and impair the auditor's ability to create trust in society (Humphrey et al., 2009; Friedson, 2001).

1.2 Problem discussion

Previous research has shown that the rapid IT-development in business environment increasingly has transformed the audit profession (Kinney, 2005; Kotb et al., 2012). According to Abbott (1988, p. 86), the system of professions can be affected by changes in technology, both in the sense of creating, destroying and reshaping professions. The introduction of IT can be regarded as an external source affecting the audit profession. The increased use of technology in business environment and the auditors' limited understanding of IT has resulted in that the auditors are not always able to perform the audit entirely by

themselves (Vendrzyk and Bagranoff, 2003). Instead they have incorporated various experts in order to control the expansion of knowledge (Smith-Lacroix et al., 2012).

According to Power (1996), auditability is a function of agreement about the limits of auditor expertise and the credibility of other specialists. This is because the auditors only can check the calculations to agreed procedures but they cannot check the procedures themselves (Power, 1996). The increased representation of experts in the audit process has been discussed as a concern. Smith-Lacroix et al. (2012) stress that the auditor's work is increasingly transformed and consider whether the pervasive reliance of accounting on other experts is to be feared. Further, Smith-Lacroix et al. (2012) argue that the auditor's increased dependency on other experts leads to that the auditor's control over their own jurisdictional work is increasingly eroding. With regards to the IT development in businesses, the audit team increasingly includes an IT-expert to perform the IT-audit (Le Grand, 2013). However, the collaboration does not decrease auditors' responsibilities. The auditors still remain ultimately responsible for the audit opinion (Smith-Lacroix et al., 2012). This implies that the auditor is responsible for the expert's work. It can be questioned whether the auditors can fulfill their responsibilities if they are responsible for areas in which they do not have professional knowledge. Previous research has shown that monopoly of knowledge is an essential characteristic of a profession (Abbott, 1988). With this in mind, it can be argued that the collaboration with experts affects the auditors' knowledge and jurisdiction. Further, this might affect the auditors' independence since the auditors cannot perform the entire audit by themselves. Since the auditors' main purpose is to create trust to society (Christensen et al., 2012), the auditors' limited control and understanding of the expert's work can be argued to impair auditors' ability to fulfill its purpose.

Previous research investigating the presence of experts in the audit process has focused on experts such as financial valuers. Since previous studies have highlighted the difficulty for auditors to provide assurance when collaborating with experts (Smith-Lacroix et al., 2012; Christensen et al. 2012; Power, 1996), this motivates a study of another kind of expert, in this case IT-auditors (*IT-auditor* will throughout this study refer to an expert performing the IT-audit), in order to further investigate the auditors' dependency on experts. In addition, Stoel et al. (2012) and Abou-El-Sood et al. (2015) have highlighted a need for further research regarding IT and the audit process. Therefore, it is relevant to investigate experts such as IT-auditors since they have an important role when it comes to IT in the audit process. Also, the

growth of IT in business operations (Kinney, 2005) makes it relevant to investigate the impact IT might have on the audit profession. This leads to the following research question:

How does the collaboration between auditors and IT-auditors affect the audit profession?

1.3 Aim

The aim of this study is to investigate the collaboration between auditors and IT-auditors and the related implications of this for the audit profession. The study will focus on the effects on the auditors' independence, jurisdiction and knowledge. These three components are central in professional theory as well as for the audit profession.

1.4 Contribution

This study provides a theoretical contribution to the existing literature on IT and auditing. The study further aims to contribute to professional theory and how the audit profession gets affected by the collaboration with IT-auditors. This is important in order to give indications concerning the future and development of the audit profession. This study also contributes in a practical sense to knowledge regarding the audit profession and its practice, namely how the work between auditors and IT-auditors is constructed. Previous research argues that the increased use of IT in the audit process leads to changes in the audit practice (Kotb et al., 2012). Power (2003) stresses that further research is needed regarding auditing in practice. Furthermore, Brazel (2008) states that there is limited research regarding the interaction between auditors and IT-auditors. Therefore, this study is desirable since it will contribute with information regarding how auditors work and act in the collaboration process with IT-auditors. By conducting interviews with auditors and IT-auditors, this study will contribute to a better understanding of the auditors' work and the audit process. The results might be particularly relevant to auditing professionals, regulators and academia on the audit process and profession.

1.5 Disposition

The first chapter of the thesis presented a background to the research problem which led to the research question and aim of the study. The second chapter presents the theoretical background and the conceptual framework. In the third chapter, the chosen methodological approach to answer the aim and research question is presented. This chapter is followed by a presentation of the empirical findings and related analysis. The final section draws conclusion from the findings and presents suggestions for future research.

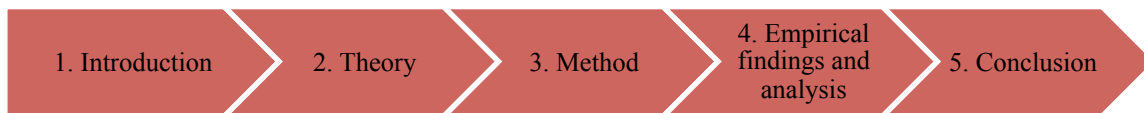


Figure 1. Summary of the disposition. Self-made.

2. Theory

This section presents the theoretical background and the conceptual framework. First a description of professions is presented followed by a section of the audit profession and collaboration. This is followed by a section about IT-auditors. Further, the concepts independence, jurisdiction and knowledge is presented in the conceptual framework. The section is concluded by a theoretical summary.

2.1 Professions

Professionals in modern society have been described by Abbott (1988, p.8) as “exclusive occupational groups applying somewhat abstract knowledge to particular cases”. Further, Abbott (1988) describes important aspects of professions to be the control of knowledge, skills and working tasks. This is in line with Freidson (2001) who stresses that professionals have monopolies of knowledge. Further, Freidson (2001) discuss professionalism as a logic that is independent and autonomous from both the state and the market. Abbott (1988) is on the same line and highlights independence as a core professional value. Another attribute of professionals is that they often have a higher education and typical careers with longer training periods and more fixed forms (Abbott, 1988). Frowe (2005) describes that professions are considered to be characterised by the possession of knowledge or abilities not generally available to the general public and the existence of these provides the basis for offering a service.

According to Suddaby et al. (2009), professionalism can be regarded to cover two contradicting value clusters. The first component includes values where the professional is described as a guardian of the public interest (Friedson, 2001). Professional values are thought to overstep commercial interest and professionals construct identities that are independent from consumers and the state (Suddaby et al., 2009). According to Suddaby et al. (2009), professionals introduce themselves as being above insignificant commercial interest since they serve a higher social function and advocate values of autonomy and independence (Suddaby et al., 2009). The second component is commercialism, since the professionals have to generate revenue and are in an advantageous position to do so. These two contradicting value clusters represent different ways in which discourse constructs professionalism (Suddaby et al., 2009).

According to Abbott (1988, p. 86), professions seek to control valuable jurisdictions. Jurisdictions are exclusive and can be regarded as the link between the profession and its work. This means that a move of one profession affects others. Abbott (1988) describes that the professions interact in a system in which they compete with each other. The system of professions can be disturbed by external and internal sources which in turn result in the creation of new tasks or destroying or reshaping old task. This might create possibilities for some professional groups to acquire new jurisdictional claims at the expense of another professional group. Through a process of transformation, jurisdictional disputes can be resolved and stabilized. However, the extent of stabilisation can vary and it does not necessarily result in the claim of a fully new jurisdiction. According to Abbott (1988, p. 69-76), the claim of a fully new jurisdiction is one of six possible outcomes of a jurisdictional dispute. A second possible outcome is subordination of one profession under the other. This is the case with medicine and nursing, where the latter can be regarded as subordinated the former. Another solution is that professions can form a final division of labour that splits the jurisdiction into two interdependent parts that are structurally equal. Another form of settlement is called intellectual jurisdiction, where a profession retains control of knowledge but allows competitors access. Alternatively, a profession can allow another profession an advisory control over certain aspects of the work. This is the case when one professional group may seek the right to interpret or modify actions undertaken by another professional group. The last form of settlement is when professions divide their jurisdictions according to the nature of client. This is a workplace settlement where the professionals get organized into distinct groups. Further, Abbott (1988, p. 92) argues that changes in technology is one of the main sources that reshape the system of professions. New technology creates potential jurisdictions both rapidly and often (Abbott, 1988, p. 92). With this in mind, the general IT development in businesses environment can be regarded as an external source affecting the audit profession.

2.2 The audit profession and collaboration

According to Abbott (1988) and Hines (1989), auditors have been considered to belong to a profession as they give the appearance of having a unique body of knowledge. This is in line with Freidson (2001) who stresses that the audit profession possesses a knowledge base and expertise, which enables it to act in the public interest. According to Power (1996), audit has been institutionalized as a provider of comfort and legitimacy. Due to the previous accounting

scandals, confidence and trust need to be reinstalled in the audit profession (Flowerday and von Solms, 2005). The auditors thus take place as an independent party that can strengthen shareholders, market and society's confidence in the companies' financial information and management (Quick, 2012). According to Pentland (1993), the basic problem of auditing is that the numbers do not speak for themselves. The auditors' responsibility is thus to ensure that the numbers are free from material misstatements in order to reduce the operators' uncertainty by building trusts and in some cases mistrust to the companies' financial information (Free et al., 2009; Larsson, 2007). This is agreed by Pentland (1993), who stresses that the signature of the auditor is the final signal for society that the audit is trustworthy. However, the ability of the auditing profession to deliver the audit service demanded by society has been doubted (Humphrey and Moizer, 1990). In addition, there are economic, regulatory and political pressure of change on the audit profession (Power, 2003). Higher demands have been put on the audit profession to take more responsibility and have more expertise and knowledge (Power, 2003). According to Humphrey and Moizer (1990), doubts about the audit profession seem inevitable and concerns have been raised about deprofessionalisation of the audit profession. This is due to concerns about an expectation gap where the issue is to what extent auditors serve other interest, such as creating revenues, rather than wider societal interests (Humphrey and Moizer, 1990).

The development of IT has resulted in that the auditors are not always able to perform the entire audit by themselves (Vendrzyk and Bagranoff, 2003). Instead, the audit team often includes an expert to perform the IT-audits. The reliance on experts in the audit process is not a new phenomenon (Smith-Lacroix et al., 2012; Power 1996). Power (1996) argues that auditability is accomplished by reliance on other experts. This is because the auditors only can check calculations to agreed procedures and not the procedures themselves. Also Abbott (1988) stresses that in practice, work that is formally dedicated to a profession sometimes gets executed by another group. This can be due to that the profession is lacking the right expertise (Abbott, 1988). Further, Power (1996) argues that the auditor cannot be expected to possess detailed knowledge and experience of specialists in other disciplines. Though, the auditor must make judgments regarding the objectivity and competence of the specialist (Power, 1996). The objectivity is normally indicated by technical qualifications or membership of an appropriate professional body. Also experience and reputation should be taken into account (Power, 1996).

Even though experts have been present in the audit process for several years, Smith-Lacroix et al. (2012) raise concerns regarding the consequences of auditor's increased dependency on other experts. Smith-Lacroix et al. (2012) discuss whether the reliance on experts is a threat to the auditors. The increased complexity drives collaboration between auditors and other experts, since auditors cannot realistically master all areas of their profession. Though, the presence of experts in the audit process does not decrease the auditor's responsibility to provide assurance. Auditors are "ultimately responsible for all of the work related to the audit engagement, including that which is subcontracted" (Smith-Lacroix et al., 2012, p. 43).

2.3 IT-auditors

The growth of IT-audits has resulted in that the audit team increasingly includes an IT-auditor. Traditionally, IT-auditors are defined as specialists in computer and information systems (Tackett and Wolf, 2011). According to Tackett and Wolf (2011), IT-auditors should investigate the IT-risks related to the business operations. Further, the IT-auditors should control procedures and review electronic security in order to detect fraud and find errors (Moeller, 2010; Donathan, 2012). The technical characteristic of IT-auditing can be challenging when there is a constant need to learn the latest hardware and software updates (Tackett and Wolf, 2011). It has also become increasingly required that IT-auditors have at least a general familiarity with the rules and regulations for storing, securing and transmitting digital business information (Tackett and Wolf, 2011).

Within complex IT-contexts, Brazel (2009) states that auditors should consider assigning one or several specialists in IT for collaboration. This in order to perform and design tests of IT controls, create an understanding for the controls and determine the effect that IT has on the audit. According to Brazel (2008), IT-auditors have become a main source of audit evidence. When creating control risk assessment, auditors are dependent on IT-auditors' test of system access control. Further, Brazel (2008) stresses that the use of IT-auditors will grow as the IT development continues. This will lead to an increased need for IT-auditors to expand their knowledge and skills within IT and Internal Auditing Standards (IAS) field to perform efficient and effective audits (Brazel, 2008).

Previous research on the interaction between auditors and IT-auditors is limited (Brazel, 2008). However there are a few studies that have investigated the relationship between

auditors and IT-auditors. According to Bagranoff and Vendirzyk (2000), auditors are concerned about the competence of IT-auditors. This is because the competency level of IT-auditors can affect the effectiveness and efficiency of the audit. Further, previous studies have shown that the competency level of IT-auditors can differ in practice (Brazel, 2008). This can be due to different educations, background and IT expertise. According to Brazel (2008), to achieve the most productive relationship between the auditor and IT-auditor, both of them should possess some competence related to the company's IT system, not only the IT-auditor. However, Hunton et al., (2004) stress that the auditors can be reluctant to consult with IT-audit specialists due to economic reasons. That is, by including IT-audit specialists, financial audit teams can incur increased overall audit costs since specialists' building rates can be higher than non-specialists' rates. In this way, the auditors can minimize audit costs if they do not bring in an expert (Hunton et al., 2004).

2.4 Conceptual framework

The section below presents the conceptual framework of this study. The conceptual framework consists of three components that are central in professional theory as well as for the audit profession. These three components are independence, jurisdiction and knowledge. In addition, these components are important for the auditors to be able to act in the public interest and sign the audit.

2.4.1 Independence

Abbott (1988) highlights independence as a core professional value. This is in line with Power (1999) who stresses that audit would be meaningless without independence. Recent financial scandals have suggested a failure of the assurance provided through independent audit (Sweeney and Pierce, 2011). This is in line with Church et al. (2015) who stress that financial scandals and audit failures often occur due to a lack of independence in the performance of the audit. If the auditor does not remain independent, it is less likely that the auditor reports irregularities which in turn can harm the audit (DeAngelo, 1981). It has been argued in the literature that if auditors' independence is threatened, they cannot provide a reliable opinion (DeAngelo, 1981; Humphrey and Moizer, 1990; Snell, 2011). This is in line with Carrington (2010) who stresses that a lack of independence results in that the auditors cannot provide trust to stakeholders.

Independence encompasses two components, objectivity and autonomy. Objectivity refers to when auditors do not let their judgment get influenced by extraneous circumstances, for example a relation to a client. Autonomy is on the other hand that auditors by themselves can decide the focus and scope of the assignment. In the literature, independence has primarily been discussed in relation to the auditor and the client, namely objectivity (See for example Sweeney and Pierce, 2011; McCracken et al., 2008; Hellman, 2011; DeFond et al., 2002; Tepalagul and Lin, 2015). There is limited research regarding independence in relation to a third party such as experts in the audit process. According to Power (1996), the auditors need to collaborate with other experts in order to obtain auditability. Therefore, it would be of interest to investigate how the independence aspect is affected when the auditors collaborate with IT-auditors. This study will focus on the autonomy aspect of the independence concept since it is regarded to be the most appropriate for this study. This is because this study will not investigate the auditors' relation to the client but instead investigate independence in relation to the auditors' work.

2.4.2 Jurisdiction

According to Abbott (1988), professions seek to control valuable jurisdictions. Jurisdiction can be regarded as a professional's claim to have monopoly on expert knowledge and performing specific tasks. According to professional theory, jurisdiction gets affected by external sources, such as changes in technology. Since jurisdictions are exclusive, this means that a move of one profession affects others. According to Abbott (1988), the goal of jurisdictional disputes is to obtain full jurisdictional control. A full jurisdictional claim is based on the power of the profession's abstract knowledge to define and solve certain problems (Abbott, 1988). Hines (1989) argues that auditors give appearance of having exclusive knowledge. However, it has also been suggested that professionalism in auditing can concern behaviour, conduct and professional appearance rather than knowledge (Grey, 1998; Cooper and Robson, 2006; Anderson-Gough et al., 2000, 2001, 2002). This is in line with Carrington (2010), who stresses that the exclusive knowledge base in auditing is less clearly defined compared to other professions. This is due to that auditors are typically not in a position to challenge tax and finance specialists in their area of expertise. The knowledge base that auditors can claim exclusive ownership of can therefore be argued to be limited to the practice of assurance and auditing (Carrington, 2010).

Previous research investigating jurisdictional conflicts within the accounting profession has focused on when there is conflict of jurisdictional claims between two different professions (Samuel et al., 2005; Kurunmaki, 2004). Smith-Lacroix et al. (2012) investigate the jurisdictional effects of auditors' dependency on financial valuers and argue that the collaboration with other experts made it more difficult for auditors to feel and be in control of their own expertise. The collaboration transformed the auditor's work and resulted in that the auditor's control over their jurisdictional work was increasingly eroding (Smith-Lacroix et al., 2012). Since Abbott (1998) claims that jurisdictions get affected by changes in technology, it is of interest to investigate whether the growth of IT-audits and collaboration with IT-auditors have affected the auditors' jurisdictional control.

2.4.3 Knowledge

According to Abbott (1988), professionals control abstract knowledge. Freidson (2001) states that the special kind of knowledge ascribed to professions is believed to require the exercise of discretionary judgment and a grounding in abstract theory and concepts. Further, Freidson (2001) states that the audit profession possesses a knowledge base which enables the auditors to act in the public interest. Frowe (2005) is on the same line and states that the certain knowledge that professionals possess conveys professional trust. However, Abbott (1988) argues that the public mistakenly believes that the academic knowledge of a profession is continuous with practical professional knowledge. In practice, the use of professionals' knowledge is rather symbolic than practical. Further, Abbott (1988) states that the academic knowledge legitimizes professional work. Legitimation establishes the authority of professional work and justifies both what professions do and how they do it. Auditors acquire legitimacy by following culturally valued norms of behaviour such as efficiency and probity (Abbott, 1988).

Abbott (1988) argues that changes in knowledge can affect the professions. Further, the knowledge of a profession is strongly linked to the jurisdiction. The academic knowledge of a profession accomplishes legitimation which provides a fundamental for jurisdiction. An absence of legitimacy provides a central line for attack. For a profession to sustain its jurisdiction lies in the power and prestige of its academic knowledge. According to Abbott (1988), the rapid transformation of knowledge has increased opportunities for competition among professions.

The auditors should express an opinion on the annual accounts based on the audit. With the introduction of IT, previous research has argued that the auditors are facing challenges to keep up with the rapid changes in business environment (Kotb et al., 2012). According to Le Grand (2013), the change in technology developments and implementation are increasing. Further, Le Grand (2013) stresses that new technology tools cross traditional boundaries which creates new risks for the auditors. Since the auditors do not have enough education and training in IT, they are often reluctant or unable to perform all parts of the audit (Kotb et al., 2012). Further, Kotb et al. (2012) argues that auditors have been and are likely to be increasingly faced with the need to adopt new audit techniques and knowledge. The lack of knowledge could result in difficulties for the auditor to be able to sign the audit. Even though the auditors delegate the work to the IT-auditors, they must themselves be adequately competent in the field in order to express an opinion on the delegated work (Kotb et al., 2012). If the auditors do not have knowledge regarding the work of the IT-auditors, it can be argued that the auditors do not completely understand the material from the IT-auditors. This might impair the auditors' ability to sign the audit and thus provide trust to society.

2.5. Theoretical summary

The development of IT has significantly transformed the work of the auditors and has presented new audit challenges (Kinney, 2005; Kotb et al. 2015). Due to the rapid development of IT in society, the financial audit often includes an IT-audit (Vendrzyk and Bagranoff, 2003). This results in that the auditor collaborates with an IT-auditor who performs the IT-audit. This dependency on experts might have affected the audit profession. According to professional theory, systems of professions get affected by changes in technology (Abbott, 1988). The growth of IT in businesses operations is regarded as such a change which has resulted in a growth of IT-audits and an increased presence of IT-auditors (Le Grand, 2013).

Furthermore, independence, jurisdiction and knowledge are central concepts in the professional theory (Abbott, 1988). According to professional theory, jurisdictions and knowledge get affected by external sources, such as changes in technology (Abbott, 1988). Previous research has shown that auditor's jurisdiction has been eroding when collaborating with other experts (Smith-Lacroix et al., 2012). Further, it has been argued in previous research that audit would be meaningless without independence (Power, 1999). If auditors' independence is threatened, they cannot provide a reliable opinion and cannot provide trust to

stakeholders (DeAngelo, 1981; Humphrey and Moizer, 1990; Snell, 2011). Since these three concepts represent central parts of the professional theory as well as important parts of the audit profession, these three concepts will be used to investigate how the audit profession is affected by the collaboration between auditors and IT-auditors. This conceptual framework can be connected with the interview guide and the themes that are used during the interviews.

3. Methodology

In this section, the chosen methodological approach and strategy is discussed. This is followed by a presentation of the information and data collection as well as the operationalization. The section is concluded by a discussion regarding method considerations.

3.1 Research approach and strategy

This study will have a qualitative research strategy since it aims to develop a richer theoretical perspective regarding how the collaboration between auditors and IT-auditors affects the audit profession. A qualitative approach is preferable when the aim is to get a deeper understanding of the problem addressed (Saunders et al., 2016). The thesis will primarily have a deductive approach since it originates from professional theory. Also, the data collection originates from the theory and the conceptual framework includes theoretical expectations. However, according to Bryman and Bell (2011), there is always an element of induction in the deductive approach. The inductive approach is present in this study since the interviews will be used to get a deeper understanding of the problem and preferably generate new theory.

The epistemological assumptions concern what knowledge can be regarded as legitimate (Saunders et al., 2016). This thesis will have an interpretivistic approach since it will regard knowledge as attributed meanings rather than observable phenomena (Saunders et al., 2016). This consideration is preferred since this study will investigate perceptions by auditors and IT-auditors in order to answer the research question and aim. In this manner, the respondents are supposed to express how they perceive their surroundings. As stated by Duval (2013), the collaboration between the auditor and IT-auditor may change over time due to the developing role of IT-auditors. In that sense, the empirical study of this thesis is conducted from the condition that the practice of auditors is in constant change and affected by the collaboration between them and the IT-auditors. According to Bryman and Bell (2011), this is consistent with adopting a constructive consideration. The constant change makes it important to provide up to date research in order to understand and follow the development of the addressed problem.

3.2 Pilot study

Before the interviews were conducted, a pilot study was performed in order to investigate if auditors were able to answer and understand the interview questions. The pilot study was done

with one financial auditor from one of the Big 4 firms. One respondent was considered to be enough in the pilot study because it revealed whether the respondent understood and could answer the questions or if there was a need for improvement or change. This respondent was further included in the study. In addition, the pilot study was performed in order to investigate if the questions could lead to relevant results. The pilot study entailed the possibility to add or eliminate questions. A few questions were eliminated because they were similar and provided similar answers. In addition, some questions were reformulated to be more easily understood and to clearly submit a relevant answer.

3.3 Interviews

This study uses primary data which have been collected from interviews. In order to capture a more detailed understanding of how auditors perceive the collaboration with IT-auditors, interviews were considered to be the most suitable research design. It was desirable for this study that the respondents were able to speak freely but at the same time within the scope of the research area. This study therefore used semi-structured interviews because it enabled interaction and adaptation of questions during the interviews. This means that the interview themes were set but were prepared to vary the order in which questions were asked and to ask new questions depending on the research situation (Saunders et al., 2016). The follow up questions were adapted to the answers that were given by the respondents and also, their role and experience. The interview questions were primarily open-ended which enabled the respondents to formulate their answers freely (Bryman and Bell, 2011). In turn, this enabled the interviews to follow alternative patterns. However, criticism towards semi-structured interviews is the lack of standardisation. To avoid this, it was ensured that all the questions were answered and all topics covered. In the interview guide (Appendix 1), 18 questions were formulated to the financial auditors and 12 questions were formulated to the IT-auditors. Throughout the interviews, the questions have been adapted with regard to the research question and the theory.

3.4 Respondents

The study consists of eleven interviews whereof eight were with financial auditors and three were with IT-auditors (Table 1). Eleven interviews were considered enough because an increased understanding of the problem was contained and a pattern could be identified among the respondents. Also, since the purpose of a qualitative study is not to generalize, additional

interviews were not considered necessary. The participating respondents in the study were chosen using a convenience sample. According to Saunders et al. (2009) a convenience sample is gained through contacts. These contacts were external auditors and IT-auditors employed in the Big 4 companies in Sweden. Since the aim of the study was to understand the effects of the collaboration between auditors and IT-auditors, both financial auditors and IT-auditors were asked to participate in the study. This was done in order to get a deeper understanding of the collaboration and find out how they perceived the collaboration. However, the focus was on the financial auditors since the aim of the study was to investigate how the audit profession is affected by the collaboration.

The participating respondents worked at departments within the Big 4 firms that audit large organisations. Large organisations often have complex IT-systems and therefore IT-auditors are included in the audit process of these organisations. Since the research question is focused on how auditors in their profession are affected by collaborating with IT-auditors, it is important to consider the respondents' education and experience when collecting and analysing the data. This is important due to that these considerations could have an impact on the answers. Furthermore, a reason for the choice of interviewing respondents working for the Big 4 firms is that these firms have similar educations for their employees and similar working routines which allows comparison of the respondents' answers.

Respondents	Work experience within the firm	Date of interview
Auditor 1	7 years	2016-04-06
Auditor 2	2 years	2016-04-07
Auditor 3	2 years	2016-04-09
Auditor 4	4 years	2016-04-11
Auditor 5	3 years	2016-04-11
Auditor 6	2 years	2016-04-12
Auditor 7	4 years	2016-04-19
Auditor 8	4 years	2016-04-25
IT-auditor 1	1 years	2016-03-23
IT-auditor 2	8 years	2016-04-06
It-auditor 3	5 years	2016-04-08

Table 1. Presentation of the respondents.

3.5 Data collection

The respondents were initially contacted through email. A short description of the study was presented and a question to participate was asked. The reason for the introductive first email was to inform the respondents about the aim and the subject of the study. It was of importance to ensure that the respondents had knowledge within the area and also to give the respondents an opportunity to decide if they wanted to participate in the study or not. After a potential acceptance, some of the questions that were intended to be asked during an interview were sent out to the respondents. This was done in order to give the respondents a possibility to prepare before the interview and facilitate and enhance the effectiveness of the interviews. The interviews were recorded after an approval from the respondents. This in order to reduce the risk of missing out on valuable information. The interviews lasted approximately 40 to 60 minutes. Further, the interviews were transcribed and sent back to the respondents in order to make sure that everything had been understood correctly.

3.6 Operationalization and analysis

The conceptual framework has been used as a base when formulating the interview questions and themes. Below, the operationalization of the conceptual framework is presented which is linked to the interview guide that has been adapted during the interviews (Appendix 1). The interview questions intended to answer how auditors perceive that their profession gets affected by the collaboration with IT-auditors. Since the respondents were both financial auditors and IT-auditors, the questions have differed to a small extent. However, they have followed the same themes. The questions posed to the IT-auditors were asked to understand the IT-auditors perceptions of the collaboration. Since the focus of this study is on auditors, the operationalization will primarily focus on the questions posed to the auditors.

The first section of the interview guide (question 1-4) aimed to gain an understanding of how the collaboration between the financial auditors and IT-auditors is constructed and appears in practice. The reason behind this was to provide a base for further understanding of the other three themes. The questions in this section were formulated relatively open. The reason for this was to enable the respondents to highlight and talk about parts that they considered the most important aspects. In this way, it was possible to capture information that otherwise might have been neglected and could have been of importance for this study. The IT-auditors were asked similar questions. This was done in order to get an understanding of both their

perceptions regarding the collaboration process and investigate if their views differed. In addition, the IT-auditors were asked about their education, experience and if there were any specific requirements to become an IT-auditor. This was made in order to get a deeper understanding of the IT-auditors. In addition, these questions were posed in order to understand if the IT-auditors had the same background and competence as the financial auditors or if the IT-auditor should be regarded as a kind of expert. The auditors were asked if they were familiar with any requirements to become an IT-auditor. Since the auditors collaborate with IT-auditors and let the IT-auditors perform certain parts of the audit, it was of interest to find out if the auditors had knowledge about their collaboration partner. This was done to get a deeper understanding if different educations among the IT-auditors would affect the collaboration.

The second section (question 5-11 for auditors and 5-8 for IT-auditors) consisted of questions related to independence. These questions were developed in order to understand how big part of the financial audit that constituted of the IT-audit. This indicated how big part of the audit the financial auditors do not perform by themselves. If the IT-audit constitutes a significant part of the entire audit, it can be argued that it becomes more difficult for the auditors to remain autonomous. Further, both the auditors and IT-auditors were asked about the collaboration and decision-making in order to understand their work relationship better and be able to analyse whether the auditors seemed autonomous. Also, a question regarding the auditors' own perception of their profession was posed to the auditors in order to understand how the auditors perceive themselves and what characteristics they believed were the most important ones for their profession. Lastly, questions regarding their perception of independence were asked to the auditors. This was done in order to get more specific answers regarding their perception of the independence aspect and whether they perceived it to be of importance.

The third section (question 12-15 for auditors and 9-10 for IT-auditors) consisted of questions related to jurisdictional control. These questions were developed in order to investigate if the financial auditors had knowledge and understanding of the IT-auditors' work. A lack of understanding regarding the IT-auditors' work could imply that the auditors' control over their jurisdiction is eroding. Since the IT-audit is a part that is included in the entire audit, the auditor is responsible for the IT-audit. It can then be argued that the auditor is losing control over its jurisdiction if they do not have control regarding a certain part of the audit. Therefore,

questions were asked about the auditor's knowledge and understanding of the IT-auditor's work, the IT-systems and their possibility to perform the work of the IT-auditor. A similar question was asked to the IT-auditors to hear their opinion. In addition, the questions in this theme can be linked to independence since a lack of understanding and knowledge can make it more difficult for auditors to be able to be autonomous.

The fourth section (question 16-18 for auditors and 11-12 for IT-auditors) focused on the auditors' knowledge and ability to understand the material from the IT-auditor. If the auditors lack sufficient knowledge to be able to understand the material it can be argued that it might be difficult for the auditors to be responsible for the IT-auditors' work. In order for the auditor to be able to sign the audit and create trust to society, the auditor must have knowledge and be able to understand the material from the IT-auditors to be able to express an audit opinion. The question regarding their ability to understand the information from the IT-auditor was therefore regarded important since a lack of understanding could indicate an inability to provide trust. This question was asked to both the auditors and IT-auditors. Also, the question to the auditors regarding IT-audit education was linked to their knowledge. It is of importance that the auditors understand the material from the IT-auditors and are able to make decisions based on that. The last question regarding suggestions of improvements was asked in order to find out if the auditors see any shortcomings with the collaboration, which in turn could indicate gaps of knowledge and a difficulty to provide trust. The last question was also asked to the IT-auditors.

The interviews were being transcribed in order to facilitate interpretation and analysis of the respondent's answers. When the transcription was finalized, the obtained information was interpreted and categorized based on the themes in the interview guide. The predetermined themes facilitated the analysis since the empirical findings could be linked to the theoretical background. In addition, the predetermined themes assured that all the desired themes were covered in the empirical findings and analysis. First, the answers of the auditors' and IT-auditors' perceptions were being analysed separately. After that, a weighted opinion based on these results was conducted. By taking both the auditors' and IT-auditors' perceptions into account, the possibility to answer the research question regarding how the collaboration affects the audit profession was enhanced.

3.7 Trustworthiness and authenticity

Bryman and Bell (2011) state that there are two main criteria for assessing a qualitative research: trustworthiness and authenticity. The trustworthiness of this study is considered to be enhanced through transparency regarding the collection of data and analysis of data. However, there is always a risk that researchers interpret data incorrectly. Though, since the respondents got the possibility to correct potential misunderstandings of the interpreted answers from the interviews, this indicates that the perception of the respondents has been perceived correctly. This in turn indicates that the result of this study is trustworthy. Also, by interviewing both auditors and IT-auditors, a more objective and accurate view of the problem has been obtained compared to interviewing only one of the parties.

The authenticity criteria concerns if the study represents what it was set out to represent. Since this study uses semi-structured interviews, this led to the possibility to ask follow-up questions which enabled getting answers regarding what the study was intended to investigate. This is considered to enhance the authenticity criteria. In the interviews, many open-ended questions were used to prevent conductive questions and to reduce the risk of the respondents being affected by any perceptions during the interviews. This is referred by Saunders et al. (2009) as interviewer bias. Other researchers may not reach the same result as in this study if trying to perform similar studies with other respondents and at a different time. This due to the continuing development of IT-auditing (Duval, 2013) and that the role of IT-auditors will change and in turn might affect the auditors' role as well. Also, the respondent's answers will differ depending on the specific situation and circumstances (Saunders et al., 2016). However when performing a qualitative study, replicability is not desirable (Bryman and Bell, 2011). In addition, the study focused on the auditors' and IT-auditors' perception of the collaboration. In this way, the result of this study is based on the respondents' perceptions and therefore might not reflect an objective view. Thus, other researchers can use this study as a base when referring to similar situations and judging if the findings from the present research is applicable to their research (Bryman and Bell, 2011). Also, according to Suddaby et al. (2009), the Big 4 firms' work procedures are repeatedly used as a template or example for work procedures for other firms. This indicates that the results could to some extent be applied to firms outside the Big 4 companies.

3.8 Method considerations

In the study, ethical consideration has been taken by sending out emails containing information and a short presentation of the study. The respondents were informed about the intention and purpose of the study as well as how the interviews would contribute to the study. By explaining the purpose of the study and how the answers from the interviews would be used, the respondents were able to choose whether they wanted to participate in the study or not. Further the respondents were allowed to be anonymous in regards to name and employment of firm. This was enabled by presenting the respondents by their professional role followed by the number of the interview order.

In order to fulfill the aim of this study, it was important to get a nuanced view of the collaboration between the auditors and IT-auditors. Though, there was a risk that the auditors and IT-auditors did not feel comfortable to speak openly about potential problems that might exist between the auditor and the IT-auditor. In order to enhance that the respondents felt comfortable and were able to speak freely, the respondents got the possibility to choose time and location where the interview should be held. Also, the interviews began with some neutral and general questions in order for the respondents to feel more comfortable during the interview.

According to Saunders et al. (2009), a risk with interviews is that the respondents get affected by the interviewers. This is according to Saunders et al. (2012) referred to as interview bias. In order to reduce the risk of affecting the respondents, the interviews began with neutral and general questions concerning auditing and IT-auditing. Also, during the interviews leading questions were avoided. As far as possible the interview questions were asked in the same order and in the same manner.

4. Empirical findings and analysis

This section begins with a presentation of the empirical findings which are based on the themes from the conceptual framework and interview guide. These are followed by an analysis of each theme.

4.1 Collaboration in practice

All the respondents agreed that IT has become an increasingly important part of the auditors' work. In addition, the respondents described that IT-audits have grown during the past years. The IT-audit was expressed by all the respondents to be a standardized process containing certain parts. The main parts were planning, reviewing and reporting. According to the respondents, the financial auditors make a plan for the audit and an order for the IT-auditors of what the IT-audit should comprise. This is based on the identified risks in the specific company. Then the IT-auditors perform the review of the company based on the instructions from the auditors. When finished, the IT-auditors present and discuss the findings with the auditors. In this part of the audit, the auditors consider whether the review is sufficient or if the IT-auditors need to perform additional reviewing. Even though these three parts were expressed to always constitute the base for the IT-audit, the three parts could differ to a great extent depending on the size of the company, industry and maturity of the company. It was expressed by all the respondents that the collaboration between auditors and IT-auditors primarily occurred during the planning and reporting part. However, if anomalies occurred during the IT-audit reviewing, additional collaboration and communication could be of interest. This was especially common when there were comprehensive engagements since there were more things that could occur during the audit.

It was expressed by the IT-auditor respondents that the IT-auditors on their departments had different educations and experiences. All of the IT-auditors expressed that IT-auditors usually have an education in business. However, some could have an education in system analytics or engineering and a few had an education in auditing. According to all of the IT-auditor respondents there was no specific education required to become an IT-auditor. However, it was expressed by IT-auditor 2 that it was possible to do a CISA-test (Certified Information Systems Auditor) in order to become a certified IT-auditor. Though, IT-auditor 1 and 3 stressed that all IT-auditors were given the same education in the beginning of their

employment and that internal education was continuously given to the IT-auditors at the firm. However, the main part of learning occurred at work. In addition, IT-auditor 1 and 3 said that the IT-audit team is composed of people who have different education and experience. In this way, IT-auditor 1 stressed that the team members support each other and can perform their working tasks. When asking the auditors about their knowledge regarding requirements to become an IT-auditor such as education and competence, none of the auditors knew about any requirements. Auditor 1, 5 and 6 expressed that it was preferable to have an IT-auditor with competence regarding the companies in the industry which they audited. Otherwise, Auditor 1, 5 and 6 stressed that they “took who was available”.

4.1.1 Analysis of collaboration in practice

The auditors’ and IT-auditors’ perceptions of their collaboration seemed to be consistent regarding the main parts of the IT-audit. Also, they seemed to agree regarding in what parts of the process the collaboration took place. However, regarding the question concerning the requirements of IT-auditors, the answers of the auditors and IT-auditors differed to some extent. The answers of the IT-auditors revealed that the education and experience of the IT-auditors can vary a lot. This implies that the IT-auditors competence can differ. This finding is in line with Brazel (2008) who stresses that IT-auditor’s competence and knowledge can differ in practice. IT-auditor 2 stressed that it was possible for the IT-auditors to perform a CISA test. This can be regarded as a way to make the competence among IT-auditors more homogenous. However, this seemed not be very common which further adds to the conclusion that the IT-auditors’ competences differ.

According to Bagranoff and Vendirzyk (2000), auditors are concerned about the competence of IT-auditors. However, this is not in line with the result of this study where it was shown that the auditors lack knowledge about if there were any requirements to become an IT-auditor. Also, it did not seem to be of high importance which IT-auditor the auditors were given, even though they expressed that they would prefer someone with knowledge in the same industry as the auditors themselves were reviewing. In this way, it can be argued that the auditors did not seem too concerned about the competence of the IT-auditors. Instead, their answers indicated that they did not have any interest to know this. The finding is in line with Power (1996) who stresses that auditors cannot be expected to possess detailed knowledge and experience regarding specialists in other disciplines.

In addition, the auditors' answers indicated that the auditors believed and expected that all of the IT-auditors had the same knowledge and competence. This is concluded since the auditors expressed a disinterest for the background of the IT-auditors and mentioned that they took what was available. However, the findings showed that the education and competence of the IT-auditors differed. Accordingly, this indicates that the auditors have an expectation that all the IT-auditors have almost the same competence which might not be the case in practice since the IT-auditors described that they had different educations and experiences. With this in mind, it can be claimed that the IT-auditors might have different competences. This can affect the collaboration since different competences among the IT-auditors could result in different outcomes of the IT-audit. Further, the different competences might affect the audit opinion and thus the auditors' ability to create trust to society. On the other hand, it can be argued that the auditors are correct in their expectations and that the IT-auditors' competence is equal. This is because of the internal education that the IT-auditors are attending in the beginning of their employment as well as continuously during their employment. These educations might be enough to ensure equal competence among IT-auditors.

4.2 Independence

On the question regarding the main characteristics of the audit profession, the auditor respondents highlighted social skills, ability to communicate and flexibility as the most important characteristics. Regarding the question about independence, the auditor respondents did not express any worries about the independence aspect of the collaboration. Auditor 2 stressed that he believed he was autonomous since he was able to decide how to design the audit and what tasks to perform. In addition, Auditor 1 and 4 expressed that either you can regard the audit team as autonomous or you can regard the whole firm as an autonomous unit. Auditor 5 stressed that it was not important to be autonomous. Instead, Auditor 5 stated that it was of higher importance to be able to connect good competence to your team rather than having knowledge of everything by yourself. Further, Auditor 7 stressed that it was hard to be completely autonomous since it was not possible to be an expert in everything. Auditor 7 stressed that if the auditors should do everything in the audit by themselves, the quality would probably be worse. In addition, Auditor 7 stressed that it was comfortable for the auditors to delegate the work and to some extent the responsibility to someone else. In addition, a majority of the auditor respondents expressed that the delegation of work to the IT-auditors made the audit more effective.

When the respondents were asked to estimate how big part of the audit that constituted of the IT-audit, not all the respondents could give an answer. A majority of the respondents said that it was too hard to give an estimation. All the respondents agreed that the extent of the IT-audit was dependent on the size of the organisation, operating industry and the number of previous engagements of the client. If it was the first or one of the first audits of the client, a larger amount of time and resources were spent on the IT-audit in order to understand the organisation in comparison to a more established client relationship. In addition, Auditor 1 stressed that the extent of the IT-audit depended on what type of conditions there were to rely on the systems. Auditor 3 did not believe that the IT-audit constituted a big part of the financial audit. Auditor 7 and Auditor 8 stressed that the IT-audit never exceeded the time spent on the financial audit. Further, Auditor 2 expressed that the only collaboration they had with the IT-auditors was when they needed help with data files in order to be able to do some analysis. Even though some of the auditor respondents implied that the IT-audit does not constitute a significant part of the financial audit, a majority of the respondents stressed that it is a fundamental base for the entire audit.

“IT is something that holds everything together in an organisation and therefore becomes highly important.” - IT-auditor 3

However, two of the auditors and one of the IT-auditors gave an estimate of how big part of the financial audit that constituted of the IT-audit. According to IT-auditor 2, the IT-audit constituted 5-80 percent of the entire audit. The wide scope was told to be due to differences in primary industry and size of the company. Auditor 8 expressed that the IT-audit could consist of 10-35 percent of the entire audit. Auditor 1 who gave an estimate said that the IT-audit constituted a maximum of 20-30 percent of the entire audit. This was told to be due to economic reasons. It was not desirable to spend more resources and time on the IT-audit since the auditors primarily wanted the focus and payment to be linked to the financial audit.

Auditor 1, 3, 7 and 8 stressed that in small engagements where the resources were limited, IT-audits were not always performed. In these cases, the reviewing was made by the auditors themselves. However in larger engagements, IT-audits were always performed. In general, the decision whether to include an IT-auditor or not was a matter of auditor judgment. IT-auditor 1 stressed that in smaller companies, there might be less significant risks related to IT

compared to a larger company. Therefore, it might not always be regarded as necessary to perform an IT-audit in smaller companies. However, Auditor 8 stressed that since the work becomes more digitalised, IT-audits will probably grow in the future.

The division of work between the auditors and IT-auditors was expressed to be quite separated. IT-auditor 2 said that this was due to practical reasons. It was more effective for the IT-auditors to take responsibility for their part of the work instead of that the whole IT-audit and financial audit team would visit the client together. All the auditor respondents described that the two of them met in the beginning of an engagement and planned the scope and areas of the IT-auditor's work. After this, the practical work between the auditors and IT-auditors was separated and they did not have much communication. The financial auditors did not participate in reviewing process of the IT-audit. However, all the auditors stressed that if there were any ambiguities during the reviewing part, the auditors and IT-auditors had more communication and discussions. Also, if the IT-auditors found areas they believed needed more investigation, additional discussions and communications could occur. The communication was primarily through email or telephone. The collaboration depended on how much problem that had occurred during the reviewing part. If there were a lot of problems, there was more collaboration regarding how to solve the problem. This was in order for the auditor to be able to sign the audit. However, the signing auditor did not have any direct contact with the IT-auditors. Instead, it was the auditors on manager level who had the primary contact and communication with the IT-auditors. Further, all the respondents stressed that the auditors and IT-auditors worked a lot separately. In the end of the engagement, the auditors and IT-auditors met and discussed the findings from the IT-audit.

According to Auditor 4, the auditor was the one who decided when they perceived that they had got what they had ordered and accordingly when the IT-audit was finished. Auditor 7 stressed that since the auditors are the ones deciding the deadline of the IT-audit, and have the ultimate responsibility of the audit, they are the ones deciding when the IT-audit was finished. However, Auditor 4 stressed that the IT-auditors are the ones deciding when they perceive that they have performed enough to fulfill the order. This perception was supported by the other auditor respondents, even though a majority of the auditors highlighted that they were the primary decider. Auditor 8 stressed that it was both the auditor and IT-auditor who made the decision together. When asking the IT-auditors about who decides when the IT-audit is finished, IT-auditor 1 stressed that it is the IT-auditor who decides when the order is fulfilled.

IT-auditor 2 stressed that it is the auditor and IT-auditor in consultation who decides when the IT-audit is finished. However, all the IT-auditor respondents argued that it was primarily the IT-auditor who made the decision since the IT-auditor is the expert and is the one in control of the IT-audit.

4.2.1 Analysis of independence

Previous research stresses that independence is a main characteristic of professionals (Abbott, 1988), especially for the audit profession (Power, 1999; Church et al., 2015). However, when asking the auditors about what they believed were the main characteristics, none of them mentioned independence. Instead, they highlighted social skills, ability to communicate and flexibility as the most important characteristics. This implies that the auditors seemed to perceive other characteristics to be of more importance. However, when asking about autonomy specifically, the respondents had different views on the autonomy aspect. In general, the auditors did not seem concerned about the autonomy between themselves and the IT-auditors. Instead, some of them talked about the importance of autonomy of the firm rather than of the individual.

The two contradicting value clusters of professionalism mentioned by Suddaby et al. (2009) can be discussed in relation to the findings in this study. The first one is the view that the professionals serve a higher social function and advocate values of autonomy and independence. The other value component is commercialism since the professionals have to generate revenue and is in an advantageous position to do so (Suddaby et al., 2009). The fact that the IT-auditors performed a significant part of the entire audit did not seem to concern the auditor respondents. The auditors did not seem to perceive this collaboration and division of work as a problem. Instead, the auditor respondents expressed that this division of work made the audit more effective. This is in line with Brazel (2008) who stressed that IT-auditors can improve the effectiveness and efficiency of the financial statement audit. The fact that the auditors did not seem concerned about the loss in autonomy and instead focused on the revenue aspect is in line with Suddaby et al.'s (2009) argument that professionals can have commercial interests in mind. Further, Auditor 3 argued that the auditor could not put too much time and resources on the IT-audit since there was a maximum amount of money that could be charged of the client and the main part should cover the financial audit expenses. This is in line with Hunton et al. (2004) who stress that the auditors can be reluctant to consult with IT-audit specialists due to economic reasons.

The interview answers indicated that the IT-audit seems to be an important part of the financial audit and a fundamental basis for the financial audit. However, it seemed to be difficult for the respondents to estimate how big part of the entire audit that constituted of IT-audit. In addition, the auditors and IT-auditors seemed to have different perceptions of how big part that the IT-audit constituted. It was contradictory that IT-auditor 2 stressed a maximum of 80 percent while Auditor 1 said a maximum of 20-30 percent. This can be argued to add to the conclusion that the auditor and IT-auditor have limited understandings of each other's work. Also, the explanation of their different perceptions might be due to that the auditors wanted to be regarded as more autonomous than what really might be the case. Even though it was hard for the respondents to estimate *how* big part the IT-audit comprised, the IT-auditor respondents' answers indicate that IT-audit is a very important part of the entire audit since IT is the base in many companies. If the IT-audit constitutes a significant part of the entire audit, it can be argued that it becomes harder for the auditors to remain autonomous.

Based on the interviews, the auditor respondents did not seem to believe that their autonomy had been significantly affected by collaborating with IT-auditors. This conclusion is based on the fact that all the auditors stressed that they were the ones deciding the scope and areas of the IT-audit. A majority of the auditors further stressed that they were the ones deciding when the IT-audit was finished, even though some of the auditors admitted that it was a decision made in agreement with the IT-auditors. However, all the auditors perceived that they were the primary decider since they were the one deciding whether they had got enough material and whether the order was fulfilled or not. When asking the IT-auditor respondents, the IT-auditors stressed that they had most of the control since they were the ones knowing when the reviewing had been completed. With this in mind, it can be questioned whether the audit profession's autonomy has been affected by the collaboration. If the IT-auditors are the one deciding, it can be argued that the auditor's autonomy is weakened since they cannot decide the focus and scope of one part of the audit, namely the IT-audit.

Further, it can be argued that if the IT-auditor is the ones deciding most of the IT-audit, the auditors do not control a part of the audit that is very important. In addition, it means that it is a significant part which the auditors do not perform themselves but still are responsible for. This can question whether the auditor can create trust when being responsible for an area which they do not have control of. Accordingly, it can be argued that the auditor has lost some

of their autonomy since they delegate the IT-audit to IT-auditors instead of performing the entire audit by themselves. On the other hand, the auditors expressed that they are the ones deciding the scope and focus of the IT-audit engagement. This can be argued to strengthen their autonomy since they still are in control of what should be reviewed and when they perceive that they have got enough material to be able to make a decision.

4.3 Jurisdiction

The auditors perceived that they had knowledge regarding the basic purpose and parts of the IT-audit. However, a majority of the auditor respondents expressed that they had limited understanding and knowledge regarding how the IT-auditors performed the IT-audit. This was also shown when Auditor 1 mentioned the tasks that he believed that the IT-auditor performed.

“Unfortunately, I am not an expert in IT that can check codes and therefore I feel comfortable to have an IT-auditor that can help me with this kind of stuff.” - Auditor 1

However, when asking the IT-auditors about their work, IT-auditor 2 mentioned:

“The IT-audit is about understanding the systems and related risks and checking access to the systems rather than complex technical processes.” - IT-auditor 2

These two quotes represent two relatively different views regarding what IT-auditors do. A majority of the auditors expressed that they believed the IT-auditors worked with much more complex technical difficulties than what the IT-auditors told they did. Further, Auditor 1 expressed a desire to gain more knowledge and understanding of the IT-audit process. Auditor 1 and 6 stressed that it would be good to know more about IT-audits but that the time was not enough to be able to gain knowledge about everything.

“Either you become a generalist in everything or you become an expert in a specific area. You cannot know everything.” - Auditor 1

Further, Auditor 1 described that there are many regulations to learn within the auditor’s area of expertise, so only keeping up with the regulations is tough. Also, Auditor 1, 3 and 6 expressed that if there was more time and not that much to keep up with, further education

about IT and IT-auditing would have been of interest. Since the IT-auditors are experts, a majority of the respondents perceived that the work became safer and more effective. Also, a majority of the auditor respondents expressed that they communicated and discussed during the IT-audit which decreased potential uncertainties and questions between the auditors and IT-auditors. Though, Auditor 1, 5 and 6 expressed that in general, the extent of communication between the auditors and IT-auditors was limited. In addition, a majority of the auditor respondents expressed that the communication with the IT-auditors often was limited to email.

A majority of the auditor respondents expressed that the IT-audits was a separate part of the audit. Auditor 1, 4 and 7 stressed that the IT-audit was a support function to the financial audit. Further, Auditor 7 described that the IT-audit becomes a complement and a support to the entire audit. Regarding the question concerning how complex the auditors perceive the IT-systems to be, all the auditors agreed that they would like to have better knowledge about them. Auditor 2 had no knowledge regarding the complexity but believed that the IT-systems must be complex since IT-audit is an own department. In addition, Auditor 2 stressed that it would be possible to perform some parts of an IT-audit if instructions and guidance were provided. Auditor 3, 4 and 7 stressed that they did not think that they would be able to perform the work done by the IT-auditors. According to all of the IT-auditors, the complexity of the systems could vary a lot. IT-auditor 1 described that it is hard to say how complex the systems are and that it is up to the client to explain how their systems work and how they cover the risks. However all of the IT-auditors explained that one learn over time how the systems work. In addition, IT-auditor 2 and 3 highlighted that there are not that many different systems to learn. IT-auditor 2 stressed that it is not difficult to learn 5 to 6 systems in one year. Furthermore, the IT-auditors said that all the IT-auditor employees were given education regarding how to review the systems.

4.3.1 Analysis of jurisdiction

Abbott (1988) stresses that jurisdictions can get affected by changes in technology. With the introduction of IT-audits, the findings suggest that the auditors' jurisdiction might have been affected. The auditors expressed a common opinion that they do not have the time to learn about IT and IT-audits. The fact that some of the respondents stressed that they focused on "more important areas" indicates that the auditors did not perceive IT-audits as an area consistent with a lot of risks. Instead, their answers indicated that there are other areas which

they prioritize to a greater extent to learn and would not consider delegating to an expert. Also, a majority of the auditors stressed that they did not perceive their work to have become more difficult with the presence of IT-auditors. With this in mind, the auditors did not perceive that the delegation of work to the IT-auditors was problematic. According to Singleton (2011) IT-audits have become an important part of the financial audit. However, the answers of the auditor respondents indicated that the auditors seemed to experience the IT-audit function as a separate part in relation to the financial audit. Also, the auditors did not perceive the IT-audit to be such a significant part of the financial audit as the IT-auditors perceived. Since auditors need to be ensured about the IT-risks in order to sign the audit, it is interesting that the auditors did regard the IT-audit as a separate part of the entire audit. The fact that the auditors regard the IT-audit as a separate function can be regarded as an explanation to why the auditors do not perceive that the delegation of work to IT-auditors has affected their jurisdiction.

The respondents' answers showed that the auditors' knowledge of the IT-auditors' work was limited. Even though they knew the very basic purpose and parts of the IT-audit process, they lacked knowledge regarding what the IT-auditors actually did. The findings are in line with Power (1966) who stresses that since the auditor is not an expert, the auditor cannot check the procedures of the expert. This was the case with auditors and IT-auditors, namely the auditor had limited knowledge regarding the procedures performed by the IT-auditors. The auditors seemed to believe that the IT-audit was much more about technical issues than actually was the case. This adds to the fact that the auditors had limited knowledge and understanding about how the work of the IT-auditors was performed. Due to the fact that the auditors are responsible for the whole audit, including the IT-audit, it can be argued that the auditors have lost some control over the audit process since they do not have knowledge and understanding regarding the IT-audit. This indicates that the auditors' control over their jurisdiction is eroding. This is in line with Smith-Lacroix et al., (2012) who stress that dependency on other experts makes it more difficult for auditors to feel and be in control of their own expertise. On the other hand, a few of the auditors expressed that they might be able to perform certain parts of the IT-audit if they were given instructions and education. In this way, it can be argued that the auditors can retain control over their jurisdiction since they can learn about IT-audits. However, this requires that the auditors have more time and resources to be able to perform the IT-audit by themselves.

According to Abbott (1988) professions interact in a system where they compete with each other and where the goal is to obtain full jurisdictional control. The result of this study indicates that the auditors did not seem that concerned about the collaboration with the IT-auditors. This is due to that the auditors expressed the delegation of work as something that enhanced the effectiveness. In addition, the auditors expressed that they took the IT-auditor that was available. This indicates that the auditors did not feel threatened by the IT-auditors. In this way, it can be argued that the auditors did not perceive it important to possess full jurisdictional control. With the result of this study in mind, theory and practice is not consistent regarding the importance of obtaining full jurisdictional control.

According to Carrington (2010) the auditor's claim of exclusive knowledge base is limited to the practice of assurance and auditing. Though, with the introduction of IT, it can be questioned if the auditors still can claim to have exclusive knowledge base of assurance and auditing since they cannot perform the entire audit and therefore cannot provide assurance without the help from the IT-auditors. Also, it can be doubtful if the auditors are responsible for parts of the audit of which they do not have sufficient understanding and knowledge. In this way, it can be regarded that their jurisdiction has been affected by the collaboration since they lack control of the knowledge and working tasks of the IT-auditors' work. This can question whether the auditors can fulfill their purpose and create trust when being responsible for areas where they do not control the knowledge and tasks. On the other hand, it can be argued that due to communication, the auditors retain their control over the IT-audit and thus retain the control over the entire audit. The auditors perceived that the communication compensated for their absence of participation in the IT-audit. However, the auditors' answers indicated that the communication was limited and insufficient. With this in mind, it can be questioned whether the communication actually is sufficient for the auditors to retain their jurisdictional control.

4.4 Knowledge

All the auditor respondents stressed that they had enough knowledge to be able to understand the material from the IT-auditor. However, they expressed that there could be some uncertainties related to the understanding of the material. It was not uncommon that the auditors returned to the IT-auditors with questions regarding the material. Auditor 7 stressed that due to limited communication, problems often occurred. Auditor 3 stressed that it was not

unusual that the auditors were unsure regarding what they had ordered or what they wanted to order which in turn resulted in that they did not know what they got. Further, auditor 3 explained that the IT-auditors assume that the auditors know what they want and what they order. This is in line with Auditor 7 who stressed that the auditors do not always set a clear scope of what they want the IT-auditors to do. It was expressed that this could result in that the IT-auditors interpret the order in a certain way and deliver something that the auditors do not completely understand. In this way, the initial order and the final product could differ a lot. However, in general all of the auditor respondents described that they could understand the material from the IT-auditor.

This perception was not in line with the IT-auditors who described a different experience. The IT-auditors stressed that it existed a lack of knowledge about IT among the financial auditors.

“They are afraid of IT and think that it is difficult, complex and something new”

- IT-auditor 2

IT-auditor 2 expressed that the IT-auditors' responsibility was to try to translate and explain the result from the IT-audit review into understandable financial language for the auditors. Auditors 7 agreed with this view, and stated that the financial auditors did not understand all the material from the IT-auditors. Instead, the IT-auditors needed to translate the material in order for the auditors to understand. Further, IT-auditor 2 stressed that the auditor is very focused on the financial statements, income statement and balance sheet. IT-auditor 2 illustrated this by giving an example:

“If I say that it is a hole in the firewall, I need to explain to the auditor how this impact on the income statement and balance sheet” - IT-auditor 2

Accordingly, the IT-auditors needed to explain how the technical findings from the IT review affect the auditors and their work. This is in line with IT-auditor 3 who stressed that especially financial auditors in lower levels that are recently employed hardly know what IT is. On the other hand, IT-auditor 3 stressed that the longer you work and the higher you climb as an auditor, the more you learn. This was explained to be due to the fact that ways got crossed and the auditors had participated in more discussions with IT-auditors and accordingly had gained more experience regarding IT-audits.

Further, the auditor respondents were being asked if they got education regarding IT-audits. All of the auditor respondents stressed that they got a varying amount of education regarding IT and IT-audits even though it was relatively rare. In addition, all the auditors expressed a desire to have more education and training in order to get further knowledge and understanding of the IT-audit. Auditor 8 expressed that it was necessary for the auditors and IT-auditors to strengthen the understanding of each other's work between them. The reason for the auditors' desire of further education and training was the perception of a general gap related to the orders that the auditors sent to the IT-auditors.

“Sometimes we think that we order something and when the IT-auditors deliver it, it is not what we meant or wanted either because we made the wrong order or that IT-auditors delivered the wrong order” - Auditor 4

Both IT-auditor 1 and 4 agreed that it would be preferable if the auditors were given more education regarding IT-audits. IT-auditor 2 stressed that this was desirable in order for auditors to better understand the work of IT-auditors. Also, IT-auditor 1 and 3 expressed a desire that the auditors needed more education in order to better understand what to order. This was desirable so that the auditors would be able to make the correct order to be able to get material to perform a good audit and thus sign the audit.

To improve the collaboration, all the respondents stressed that an increased knowledge and understanding of each other's work would be desirable. Also, additional meetings where the auditor and IT-auditor were able to communicate and discuss the assignment during the audit were expressed to be desirable. Some of the engagement started with email contact between the auditor and IT-auditor which often resulted in that the audit encompassed areas that had been audited the last year. These areas might not be the areas that were most appropriate to audit the current year. Therefore, communication was desired in order to avoid that the same areas were up for review also for the current year. Further, IT-auditor 1 expressed a suggestion for improvements to be able to better link the findings from the IT-audit to the financial risks. Since the purpose of the IT-audit is to find IT-risks related to the business operation, it is of importance that both auditors and IT-auditors can understand the relation between the IT-risks and its impact on the financial statements.

4.4.1 Analysis of knowledge

According to Freidson (2001), the audit profession possesses a knowledge base which enables the auditors to act in the public interest. In order for the auditors to be able to act in the public interest and provide trust to society, it is of importance that the auditors have knowledge and understand the material and information from the IT-auditors. Even though the auditors delegate the work to the IT-auditors, they must have enough knowledge in the field in order to come to a view on the delegated work (Kotb et al, 2012). The findings suggest that there might be some uncertainties related to the auditor's knowledge and understanding of the IT-audit material. Even though all the auditors stressed that they could understand the material, there were some indications that this might not always be the case. The fact that the IT-auditors stressed that auditors do not have knowledge regarding IT-audits indicates the opposite of what the auditor respondents expressed. According to the IT-auditors, the auditors did not have knowledge regarding how technical anomalies affected the financial statements. Instead, the IT-auditors needed to translate the findings from the IT-audit into understandable financial information. With this in mind, it can be argued that the auditors do not have sufficient knowledge to be able to completely understand the material from the IT-audit.

On the other hand, the IT-auditors translated and explained for the auditors what impact the technical anomalies could have on the financial statements. This indicates that the auditors can assimilate the knowledge of the IT-auditors and be able to understand the material. However, it can be questioned if the IT-auditors actually can translate and explain everything since it was no requirement that the IT-auditors should have an education in auditing. In addition, the answers showed that it was unusual that the IT-auditors had an education in auditing. This indicates that the IT-auditors might not be able to understand what impact all the technical findings from the IT-audit have on the financial statements and thus are not able to translate and explain everything to the auditors. Further, the auditors had no knowledge about the IT-auditors' education and experience. Instead, the auditors seemed to expect that the IT-auditors had the same competence. The fact that the IT-auditors often do not have an education in auditing and that the auditors expect the IT-auditors to have sufficient knowledge to be able to explain and translate, might have created an expectation gap.

According to Smith-Lacroix et al. (2012), the presence of experts in the audit process does not decrease the auditors' responsibilities. The auditors are still responsible for the entire audit, including the work performed by the experts in the audit engagement (Smith-Lacroix et al,

2012). The answers indicate that the auditors lack sufficient knowledge to be able to understand the material. This is in line with Kotb et al. (2012) who stress that auditors are not able to perform the entire audit by themselves because they lack education and training within IT. It can then be argued that it might be difficult for the auditors to be responsible for the IT-auditors' work due to their limited knowledge and understanding. Furthermore, this can question the auditors' ability to provide trust to society.

All the auditors expressed a desire to gain more knowledge regarding the IT-audit. Some of the auditors described the reason for this to be the ability to make correct orders and accordingly get the right material for the audit. The answers from the IT-auditors and the auditors indicated that it was not very unusual that the auditors did not get the correct or the sufficient material, sometimes without knowing. This can be regarded as a problem if the auditors do not receive the correct material. This might result in an insufficient audit which can impair the auditors' ability to give a reliable audit opinion. Thus, the auditors' limited knowledge regarding IT-audits can question the auditors' ability to provide trust to society when they choose to collaborate with experts in order to enhance the effectiveness. It can also be questioned if the auditor's ability to create trust should have been enhanced if they performed the IT-audit by themselves and had more knowledge regarding the IT-audit.

According to Abbott (1988), the rapid transformation of knowledge has increased opportunities for competition among professions. If the rapid development of IT continues, the IT-audit function will grow and become increasingly important. This might result in an increased pressure on the auditors' knowledge. The growth of IT and IT-audits could affect the audit profession. One possible outcome is that the auditors are demanded to gain more knowledge regarding IT. One other possible outcome is that the auditors delegate more work to the IT-auditors and that the IT-audit will become the main part of the audit. This adds to Abbotts (1988) theory that external changes can create new tasks, reshape tasks and destroy tasks. In turn, this could result in that the IT-auditors become an own profession. The transformation of knowledge in the audit profession towards IT can be argued to have increased opportunities for competition between auditors and IT-auditors. However, the result of this study is not completely in line with Abbott (1988). The results indicate that the transformation in knowledge have not created much competition among the auditors and IT-auditors. Instead, the auditors expressed that it was advantageous that the knowledge was

divided among the two parties rather than to learn and have knowledge about everything themselves.

4.5 Summary of analysis

According to the auditor respondents, the collaboration with IT-auditors has not significantly affected their autonomy. This is concluded since the auditors believed that they are still in control of the scope and areas of the engagements since they are the one placing the order. The auditors further perceived that they were the ones primarily deciding when the IT-audit was finished. In addition, the auditors did not perceive that the IT-audit constituted a significant part of the entire audit which adds to the conclusion that they did not believe that their autonomy had been significantly affected. However, when considering the answers of the IT-auditors, it can be argued that the auditors' autonomy has been affected to some extent. This is due to that the IT-auditors stressed that they were the one deciding when the IT-audit was finished. Also, the fact that the auditors lack knowledge of the work performed by IT-auditors can be argued to impair the auditors' autonomy.

Based on the auditor respondents' answers, the auditors perceive that their jurisdiction has not been significantly affected by the collaboration with IT-auditors. This was due to that the auditors did not regard the IT-audit as a significant part of the entire audit. Also, they did not perceive that the IT-audit was consistent with a lot of risk since they focused to gain knowledge in other areas rather than IT-audits. Further, the auditors did not express any concerns regarding the fact that they did not perform the entire audit by themselves. However, when taking notice of the IT-auditors' answers, it can be argued that the auditor's jurisdiction is increasingly eroding. The IT-auditors stressed that the IT-audit constituted a larger part than what was expressed by the auditors. In addition, the IT-auditors stressed that the auditors did have limited knowledge regarding IT-audits. Nevertheless, the auditors did not seem to perceive that their jurisdiction was eroding since they were aware of that they had limited knowledge and understanding of IT and IT-audits. Also their desire to learn more about IT-audits adds to this conclusion. With this in mind, it can be argued that the auditor and their traditional jurisdiction claim over the audit work are eroding. If the auditors do not have knowledge and understanding of the IT-audit, it can be argued that they do not have control over the entire audit. If the auditor does not have control over the IT-audit, which is an important part of the entire audit, it can be claimed that the auditor is losing control over

their jurisdiction since it might be difficult for them to correctly sign the audit. It can be questioned to what extent the auditor is able to ultimately accept responsibility for the audit opinion.

On the other hand, it can be argued that the auditors' jurisdiction is not eroding when collaborating with IT-auditors. The auditors' lack of sufficient knowledge and understanding is according to the auditors compensated by communication. Accordingly, the auditors perceive that the communication can make the auditors being in control of the IT-audit and thus the entire audit. However, both the auditors and the IT-auditors stressed that the communication was limited and expressed a desire for additional communication. This implies that the auditors do not have sufficient communication to be able to retain control.

According to the auditor respondents, the collaboration with IT-auditors does not seem to have noticeably affected their ability to sign the audit. This is concluded since the auditors perceived that they understood the material from the IT-auditor and also that they had the possibility to ask questions if there was something that they did not understand. Also, if there was insufficient material, the auditors could make additional orders to complement the initial material. However, a problem that both parties described during the interviews was the communication part of the collaboration. On one hand, the respondents' answers indicate that there had been difficulties for auditors to understand the IT-auditors and at the same time for IT-auditors to understand the auditors. Both the IT-auditors and the auditors expressed that they communicate with each other. It was expressed that the communication primarily occurred between IT-auditors and auditors on manager level. Accordingly, the signing auditor did not have any direct contact with the IT-auditors. This lack of communication and control can question the signing auditors' ability to sign the audit and provide trust to society.

The amount of communication between IT-auditors and auditors at a lower level than the signing auditors was expressed to consist of an introductory meeting and continuing email contact. This can be questioned whether it is enough to understand one another. For example, when taking into account the answers of the IT-auditors, they indicated that the auditors did not understand how technical anomalies affected the financial statements. It has been shown that this deficient communication sometimes has lead to wrong orders, misunderstandings and overall problems with the audit. Their limited communication has been shown to sometimes result in gaps regarding what the auditors have ordered and the material received from the IT-

auditors. If auditors and IT-auditors choose to collaborate in order to enhance the effectiveness, the collaboration might result in the creation of gaps of understanding between the auditors and IT-auditors. These gaps of understanding can also emerge due to different knowledge bases, education and competences among auditors and IT-auditors. This can be argued to impair the audit opinion and thus the auditors' ability to create trust to society.

5. Conclusion

This section presents the concluding remarks linked to the research question and aim of this study. Also, suggestions for future research are presented.

According to Abbott (1988), changes in technology can affect the system of profession. The increased use of IT in business environment drives the collaboration between auditors and IT-auditors, since auditors cannot realistically master all areas of its profession. This study aims to answer the research question of how the collaboration between auditors and IT-auditors affect the audit profession. Based on the results of this study, the collaboration with IT-auditors has not been perceived by the auditors to affect them significantly. However, the auditors and IT-auditors' answers indicated that there had been some effects on the auditors' independence, jurisdiction and knowledge. The auditors' lack of knowledge and understanding of the IT-auditors' work can be argued to have affected their jurisdiction and independence since they have limited control of the knowledge and working tasks related to the IT-audits. The findings also showed that the communication between the auditors and IT-auditors could be insufficient and result in a gap regarding what the auditors have ordered and the material received from the IT-auditors. Still, the auditors are responsible for the entire audit, including the IT-audit. The insufficient communication as well as limited control and understanding of the IT-audit might impair the audit opinion and can thus question the auditors' ability to provide trust to society.

The findings from this study show that the collaboration between auditors and IT-auditors has been installed in order to make the audit process more effective. The respondents stressed that even though they perhaps would be able to learn to do the IT-audit by themselves, it was more effective that the parties did what they were good at. Accordingly, the division of work makes the audit function more effective. However, the result of this study indicates that the auditors' independence, jurisdiction and knowledge get weakened by the collaboration. The findings is in line with Humphrey and Moizer (1990) who highlighted concerns about the ability of auditors to serve a public watch-dog function in the face of severe commercial pressures. The collaboration enhances the effectiveness which promotes commercial interest. It can be argued that the effectiveness and commercial interest is prioritized at the expense of independence, jurisdiction and knowledge. Since IT will probably grow in the future, this indicates that the IT-audit function will grow and become an even more important part of the entire audit. It can

then be questioned how this will affect the audit profession and its future, whether the auditors will delegate more to the IT-auditors or whether they will learn more about IT and perform the IT-audit by themselves.

According to Abbott (1988), professionals interact in a system where they compete with each other to obtain full jurisdictional control. The findings of this study suggest that this competition was not very present among the auditors and IT-auditors. The auditors did not seem concerned about the collaboration and delegation of work to the IT-auditors. The auditors did not express the need to defend their jurisdictional space. Rather, the auditors seemed to perceive the delegation of work as a welcoming action. This indicates that there is not always a direct challenge or conflict of jurisdictional space but rather the fact that sometimes an occupational group gets invited into a jurisdictional space. Further, it can be questioned if the auditors' collaboration with IT-auditors results in a deprofessionalisation of the audit profession. Humphrey and Moizer (1990) debate whether auditors are becoming deprofessionalised. With consideration to the auditors' lack of knowledge and skills and also their willingness to delegate the IT-audit to experts indicate that they lose control over one part of the audit. There is a risk that auditors may potentially lose their hard earned jurisdictional space to another occupational group. If they lose this jurisdictional space to the IT-auditors, this could result in a deprofessionalisation of the audit profession. In turn, there is a possibility that the IT-audit profession might develop into an own profession.

5.1 Future research

In order to get a further understanding of how the audit profession is affected by developments in IT, it would be of interest to perform additional research within this field. Further research could benefit from conducting the same study with a larger number of respondents with a quantitative approach in order to enable generalization of the result. Since this study has focused on the perspective of financial auditors, it would be interesting to investigate the perceptions of the IT-auditors more in depth. This can provide a deeper and more nuanced reflection of the collaboration. Since the IT-audit constitutes an important part of the financial audit and is expected to grow in the future, it is of interest to investigate this area further. This study indicated that IT-auditors have varying educations and experience. Therefore, it would be interesting to investigate furthermore about IT-auditors, their background and their work and if there is going to be any demands on IT-auditors regarding experience or education such

as CISA. Also, it would be of interest to investigate the development of IT-auditors and whether it will become an own, separate profession.

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Appendix 1

Theme	Motivation	Questions to auditors	Questions to IT-auditors
Collaboration in practice	Due to the rapid development of IT in society, the financial audit often includes an IT-audit. This results in that the auditor collaborates with an IT-auditor. In this theme, a background to the collaboration in practice is examined.	<ol style="list-style-type: none"> 1. What does the IT-audit look like? What is done in the IT-audit process (is it a standardized process)? 2. What is your perception and experience with IT-audit? 3. How and when do you and the IT-auditor collaborate? 4. Do you know what requirements there is to become an IT-auditor (competence, education)? 	<ol style="list-style-type: none"> 1. What kind of experience and education do you have? 2. What is required of you as an IT-auditor (education, competence etc)? 3. What does the IT-audit look like? What is done in the IT-audit process (is the process standardized)? 4. How and when do you and the auditor collaborate?
Independence	Independence is one of the main characteristics of a profession. Previous research has shown the importance of independence when it comes to the audit profession. In this theme, auditor's perceived independence ability to be independent/autonomous is investigated.	<ol style="list-style-type: none"> 5. How common is it to do an IT-audit? 6. How big part of the financial audit consists of the IT-audit? 7. How does the division of work and the collaboration look like? Do you work in team or independently? 8. Who decides when the IT-audit is finished? 9. How do you perceive your role as an auditor? What are the main characteristics? 10. How important do you think it is that the auditor is independent in their professional role? 11. Do you think that it is possible to be completely independent when collaborating with IT-auditors? 	<ol style="list-style-type: none"> 5. How common is it with IT-auditors in the audit team? When is it necessary to include an IT-auditor in the audit? 6. How big part of the audit consists of the IT-audit? 7. How does the division of work and collaboration look like? Do you work in team or independently? 8. Who decides when the IT-audit is finished?
Jurisdiction	Jurisdiction is a central concept in the professional theory. Previous research has shown that auditor's jurisdiction gets affected when collaborating with other experts. In this theme, auditor's perception regarding their jurisdiction, i.e. control of knowledge is investigated.	<ol style="list-style-type: none"> 12. Do you have knowledge of the IT auditor's work and how he / she contributes to the audit? 13. Do you have any perception how complex the IT-systems is and how difficult they are to review? 14. Would it be possible for you to perform the same work as the IT-auditor with the knowledge and the prerequisites you have today? 15. How and when do you communicate with the IT-auditor? 	<ol style="list-style-type: none"> 9. How complex is the IT-systems and how difficult are they to review? 10. How and when do you communicate with the auditor?
Knowledge	Knowledge is a central characteristic for professions. In this theme, the auditor's knowledge and ability to understand the material from the IT-auditor is examined.	<ol style="list-style-type: none"> 16. Do you believe that you have enough knowledge regarding the IT-audit to be able to understand the material from the IT-auditor? 17. Do you get continuous education regarding IT-audits? 18. Do you have any suggestions of how the IT-audit process and the collaboration can be developed/improved? 	<ol style="list-style-type: none"> 11. Do you believe that the auditor have enough knowledge regarding the IT-audit to be able to understand the material from you? 12. Do you have any suggestions regarding how the IT-audit process can be developed/improved?