

Looking Forward

The new controller role

Abstract: This thesis is aimed at generating a portrait of the modern-day controller, focusing especially on the business and financial controller functions. A critically important business function subject to fast-developing recent contingencies, the present-day controller must adapt to his environment or risk losing his *raison d'être*. A profile of the modern controller is sketched using his skills, tasks and sub roles as its contours, and his developing environment as its background. The business controller is found to be the link between business and finance, developing to a general advisor role capable of detecting, collecting, and processing all sorts of information relevant to running a business. The financial controller is found to be an independent guardian to the quality of financial information, who sees technological advancements make his classical role much easier to perform. These developments force his role to find new responsibilities. Important external developments include new ways of doing business, a growing stakeholder orientation but above all rapid technological advancement.

Master's Thesis

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PREFACE

This thesis presents my research into present and future profiles of business and financial controllers. It is also the epitome of my studies at the Radboud University, where I followed a bachelor's course in Business Administration and a Master's course in Economics, being Accounting & Control.

During the process of writing this Master's thesis, there are several people who have supported me. First of all, I would like to thank my supervisors; Koos Wagensveld of the Radboud University and Erik Kolthof of the NBA, who not only provided me with this profoundly interesting topic, but also aided me in my set-up, sparred with me, and somehow stuck with me even as I let the completion of my thesis delay into excessive amounts. Having started my job and post-master's education into Accountancy in September 2017, I have steadily kept encountering instances in which this thesis and the wisdom of its respondents have returned to me, and paid out for me in all sorts of situations and problems that I encountered.

I secondly would like to thank all of these respondents and participating NBA members for providing such an open, cooperative and friendly source of information, especially considering that I dealt with people at the very end of the chain on which I have only just begun.

Last, but definitely not least, I would like to take the opportunity to thank my parents for all the financial and mental support they have given me over the years. With this thesis, as with all things in life, they have helped me get through the most difficult moments to get me to the place I am now.

I have personally found my topic and the work that I have been able to do on it to be incredibly exciting, and I hope you will enjoy reading this thesis.

Arnhem, November 2017

Laurens Frenay

SUMMARY

The following document describes my research into the changing role of the modern controller. I have conducted an exploratory, qualitative research into the profile of the current Dutch business controller (BC) and financial controller (FC) functions, and how they are expected to change in the coming 5 years. Attending several NBA forums on the subject, researching modern literature, analyzing 60 recent controller job openings and conducting 13 expert interviews, I have come upon the following conclusions:

The modern BC reviews, analyzes, and predicts business performance based on financial and nonfinancial data to support management decisions. The BC collects external information for internal purposes. He has financial and operational knowledge of the workings of his organization and works well with management and finance. He has deep analytical and good communicative and persuasive skills. Developments that influence the operation of the company, such as technical opportunities and threats, changing and expanding requirements on the company from sustainability perspective, social requirements and regulatory changes will be important to the business controller role. This means that the BC will be expected to collect, model and forecast internal and external data of all types and use this information to support business decisions and to judge their outcome. This means that the BC will have to be analytical, creative, communicative and convincing, (information) tech-savvy and linked to the contemporary formal and social information networks. The BC will need a deep understanding of his organization's processes and critical characteristics, and at the same time have a deep understanding of the company's relations with various stakeholders. He will need a sound ethical basis and understand both his responsibility to his business, and his business' corporate social responsibility. Financial expertise may not even be a qualification for BC's in the future.

The modern FC safeguards the quality and reliability of financial information and reports on the financial performance of the company. The FC uses internal financial information for external reporting. He has deep knowledge of financial processes and systems, analytical and reporting skills, and is independent and accurate. He will ever have to be on guard for regulatory changes. Technological developments are having a big impact on the FC function, as his administrative duties have been made much easier since the advent of information systems. This means that the FC function will have to expand to the performance of other duties, such as management, the provision and reporting on non-financial information, and IT tasks, or his role will cease to exist for anything but the largest organizations.

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1 INTRODUCTION

With this thesis, I present the results of the research that I have done for my master's degree in economics for the RU (Radboud University) Nijmegen and the Royal NBA (Nederlandse Beroepsorganisatie van Accountants). The research centers on the changing role of the controller, and concerns an exploratory view into its future prospects.

This chapter will deal with the lead-up and background to the research in [section 1.1](#), after which I will discuss the premise in [section 1.2](#), the research goal and research questions in [section 1.3](#) and [section 1.4](#), and the overall thesis outline in [section 1.5](#).

1.1 LEAD-UP AND BACKGROUND

I was approached for this research by the NBA, who, in cooperation with the Dutch universities, seek to be leading in the development of knowledge concerning the financial professional. In line of this, I was asked to develop a sketch of the modern and future controller roles, basing myself on earlier NBA research into the role of the modern financial professional. The role of the modern financial professional is quickly changing in response to recent developments in society. In order to stay afloat in the evolving modern business environment, the financial professionals of today have to adapt to a variety of social and technological changes. Evidence for this can be seen all around the financial world. A 2008 report by Ernst & Young recited a shocking 82% of financial controllers to have believed their profession's challenges to have vastly increased in the early 2000's. Among the increasing challenges were many legal issues, such as the embeddedness of the Sarbanes-Oxley act (2002), and IFRS regulation increase. Society's changing trends and technology, such as social media and big data development were also found to have a large influence on the life of financial professionals, as a continually increasing global reach and complexity of business lead to more exposure for financial professionals and a higher demand for quality information. Lastly, professionals seemed to have to contend with a lot of trends in business life itself, having to deal with a move from efficiency to effectiveness, the use of shared service centers, outsourcing, and the maturing of technical systems.

Evidence of this evolutionary trend can also be seen in scientific literature. At the turn of the century, we have seen a lot of research into the changing role of accountants and other professionals resulting from the changing technological environment (Anastas, 1997; Scapens & Jazayeri 2001; Caglio, 2003). The 'bubble bursting', as Howell (2006) calls it, leading to the SEC stepping up its requirements for "fair disclosure" and clarity of financial reporting, has garnered considerable scientific interest (Cohen, Dey and Lys, 2008; Barth, Landsman and Lang, 2008) and can be called one of the most important influences on the roles of financial professionals of the last decades. The

trend of globalization can also be seen, as well as an increased focus on intellectual capital and knowledge intensity (Adler, 2001). Other developments that have garnered the interest of the scientific community are the renewed focus on organizational stakeholders, the appreciation of environment and sustainability (Clarkson, Yi, Richardson and Vasvari, 2008; Hahn and Kühnen, 2008; Simnett, Vanstraelen and Chua, 2009) and alternate forms of exercising control (Segal and Lehrer, 2012; Wigger and Buch-Hansen, 2012). These all seem to have a profound impact on the financial profession.

Much of this research has seen the financial professional take up new responsibilities as an answer to these developments. Howell (2008), for example, who chronicled the changing role of the chief financial officer from its ‘conception’ in the 1930’s, noted that the role had evolved from an internal accounting and control job to an extraordinarily broad and complex profession. Controllers seem to have made a similar step, as they have been seen to be involved with the business side of organizations more and more over the last decades. Colton already called for controllers to start contributing to the general management of organizations back in 2001, calling the traditional controller, the ‘old controller’, a necessary evil, a bean counter and the corporate-cop. The new controller was to be a business partner with a competitive attitude oriented towards business acumen and strategic perspectives. In 2007, a study by Laura Zoni and Kenneth Merchant found that most of the contemporary controllers were indeed getting involved in management decision processes, sometimes even to high degrees. A series of studies has since originated that devotes itself to determining the extent, breadth and effectiveness of controller involvement with management. Many of these studies found that controller involvement with management was positively associated with organizational performance (Ten Rouwelaar, 2015). The controller role then seems to have gone through an impressive evolution over the last decades.

1.2 PREMISE

With such a turbulent but interesting recent history of developments, I was drawn in to write my thesis on the changing role of the financial professional - particularly on the business and financial controller roles, which had piqued my main interest as they are the most dominant roles in modern organizations. My assignment came down to joining NBA members in discussing the financial professional of tomorrow, whilst conducting my own research into the development of the controller role. As the business and financial controllers of today constitute a sizable part of the financial profession, these objectives overlapped on several occasions. It is for this reason that I reference the meetings on the future of the financial professional and their outcomes as a source in this document.

In describing the role of the financial professional, the NBA characterized the financial professional's role by *core activities*, *personality*, and the *external developments* that currently weigh heavy on the day-to-day life of such a professional (Figure 1). This was presented in the 2014 vision model on the financial professional.

Core activities	Personalities	External developments
<ul style="list-style-type: none"> • performance management • finance operations & reporting • governance risk and compliance • strategic management 	<ul style="list-style-type: none"> • finance leadership • integrative power • developmental orientation • moral compass • business & contextual awareness 	<ul style="list-style-type: none"> • Big Data • regulation pressure • disruptive innovation • organizational formats • society • environmental • sustainability • globalization social media

Figure 1: NBA characterization of the financial professional

The 2017 update of NBA's Vision on the financial professional, based on the NBA meetings in which I participated, was drafted in parallel with the development of this Thesis. The graphic representation of the updated model is presented in Figure 2.

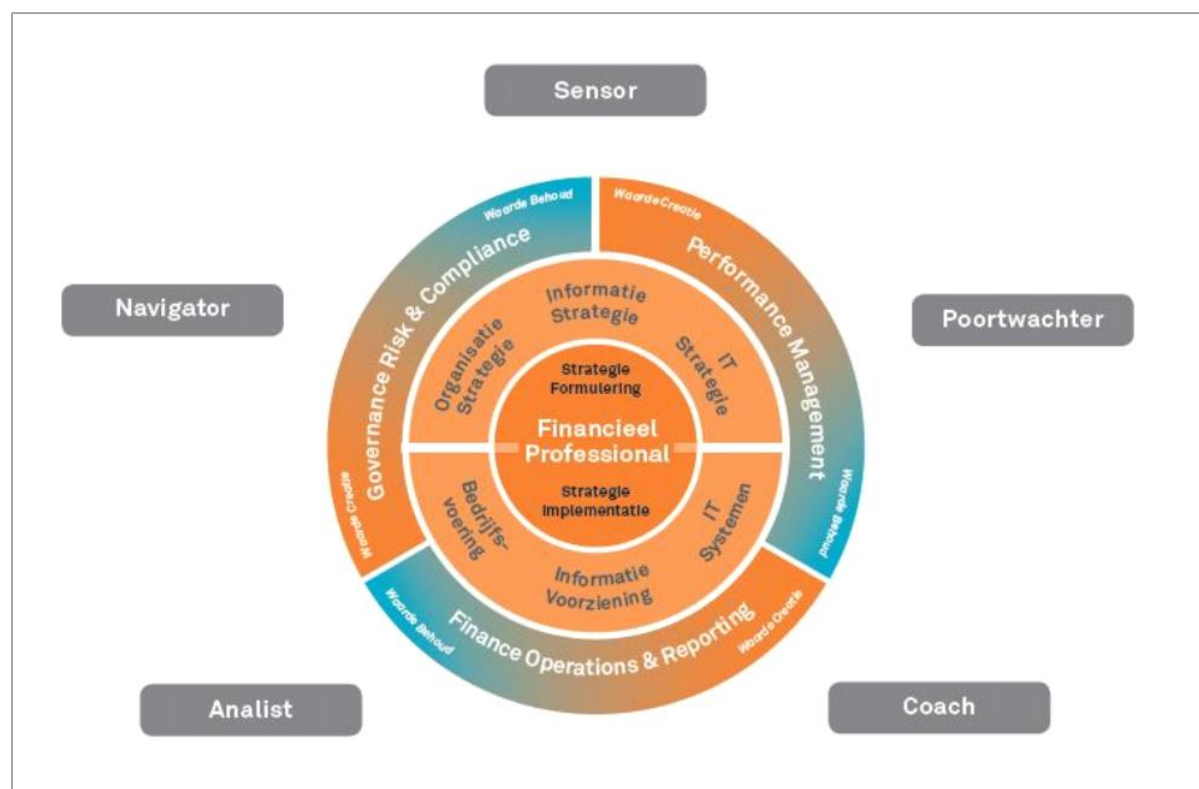


Figure 2: Graphic representation of NBA's vision on the financial professional (2017)

This model differs from the 2014 version in that it shows a split between strategy formulation and implementation, and has a bigger accent on the recently increasing development of IT and technology – themes that returned in the development of this Thesis as well.

In continuation of this line of thinking, my thesis goals were to describe the *external developments* important to the controller of today and to the controller of the future and the subsequently resulting *tasks, skills* demanded of them today and in the future. During the project, it also became apparent that controllers can be described as having various *sub roles*, such as being a ‘moral compass’, ‘sensor’ or ‘navigator’. I have searched for elements of these sub roles as well, and incorporated them in my final conclusions.

The most important goal of the thesis was to shape an image of the future controller. This future prediction aspect was aimed at the year 2022. The thesis is therefore aimed firstly at describing the current role of the business and financial controllers, secondly at exploring which external developments will drive change in it in the coming years, and thirdly at shaping an image of the eventual controller role of 2022. I make note of the fact that there is a classic division between the *financial controller* and *business controller* roles, and thus describe them as being essentially different. In being practically in line with NBA posture, I adopted the integral control framework (Vaassen, Meuwissen and Schelleman, 2009) as a main theoretic perspective. I have also borrowed elements from the much used role theory and contingency theory perspectives in order to understand controller role.

To gather data for this assignment, I have addressed several different sources, which I will describe in detail in the upcoming chapters of this thesis. Firstly, I have taken up notes of my involvement in several NBA member meetings on the future of the financial professional, and analyzed them in conjunction with NBA insights. Secondly, I have drawn upon current job opening texts and recruitment files in order to shape an image of requirements for the present-day controller. Thirdly, I have conducted 13 interviews with people considered to be experts on the topic of controller role. Finally, I have assessed current scientific and managerial literature and brought their overall conclusions together in a literature analysis. In doing so, I have adopted a qualitative and exploratory posture of research.

1.3 RESEARCH GOAL

I first took two steps in describing the current controller role and the drivers of change for controller role in the coming years. A third and final step was then to assess a profile of the future controller. The main goal of this thesis is thus to create an image of the business and financial controller roles, and to describe a profile of these roles anno 2022. This image is characterized by four main sorts of contours: skills, tasks, sub roles, and external developments that the controller must take into consideration.

1.4 RESEARCH QUESTIONS

In line with the thesis goal, I have formulated my main research question as follows:

RQ: *“What are the contours of the Business Controller and Financial Controller roles of 2022?”*

I have divided the main research question into three different sub-questions, in line with the three steps I took to come to my conclusion. Describing the current profile of both controller roles was vital as a starting point. This current profile serves as a baseline for comparison with the future image and as a guideline for present-day controllers. The first sub-question addresses the description of this current profile:

SQ 1: <i>What is the current role of the controller professional?</i>	
SQ1.1: <i>What is the current role of the business controller professional?</i>	A. <i>What are current business controller tasks?</i>
	B. <i>What are current business controller skills?</i>
	C. <i>Which sub roles does the business controller have?</i>
	D. <i>Which external developments must the business controller currently take into consideration?</i>
SQ1.2: <i>What is the current role of the financial controller professional?</i>	A. <i>What are current financial controller tasks?</i>
	B. <i>What are current financial controller skills?</i>
	C. <i>Which sub roles does the financial controller have?</i>
	D. <i>Which external developments must the financial controller currently take into consideration?</i>

Figure 3: Thesis sub-question 1

The second thesis aim is to establish which elements will drive change in the controller role in the coming years. These are reflected in part in the external developments important to the current controller role, though I found that there is a difference between external developments that require the attention of a controller and external developments that change the controller role.

The second sub-question is:

SQ 2: <i>Which external developments will drive change in the controller role in the coming 5 years?</i>	
SQ2.1: <i>Which external developments will drive change in the business controller role in the coming 5 years?</i>	
SQ2.2: <i>Which external developments will drive change in the financial controller role in the coming 5 years?</i>	

Figure 4: Thesis sub-question 2

The third and final aim, and off course the overall thesis goal, is to create an image of the business and financial controller roles anno 2022. The third research sub-question is:

<i>SQ3: What is the role of the controller professional anno 2022?</i>	
<i>SQ3.1: What is the role of the business controller professional anno 2022?</i>	<i>A. What will business controller tasks anno 2022 be?</i>
	<i>B. What will business controller skills anno 2022 be?</i>
	<i>C. Which sub roles will the business controller anno 2022 have?</i>
	<i>D. Which external developments important to the business controller of 2022 can be identified?</i>
<i>SQ3.2: What is the role of the financial controller professional anno 2022?</i>	<i>A. What will financial controller tasks anno 2022 be?</i>
	<i>B. What will financial controller skills anno 2022 be?</i>
	<i>C. Which sub roles will the business controller anno 2022 have?</i>
	<i>D. Which external developments important to the financial controller of 2022 can be identified?</i>

Figure 5: Thesis sub-question 3

1.5 OUTLINE

The remainder of this thesis is structured as follows. Chapter 2 centers around the review of scientific literature on the controller role, and discusses the theoretical model used. I discuss the methodological approach in chapter 3, describing data collection and data analysis methods. The next chapters center around the answers found for the research questions in their proper order, with chapter 4 illustrating the current controller role, chapter 5 going over external developments that drive change in controller role in the coming years and chapter 6 discussing the controller role anno 2022. I will conclude and reflect upon the thesis in chapter 7.

2 LITERATURE AND THEORY

This chapter provides a theoretical basis for the thesis. In order to adequately describe the contours of the controlling professional of the future, there must first be a clear understanding of what the role of the professional controller is, and how it evolves in response to its changing environment. To this end, I have conducted a review of recent scientific literature on the controller role. In the first half of this chapter, I will discuss this review, first by addressing the definitions of controllers in literature in 2.1.1, then by addressing the different roles they are perceived to have in 2.1.2, and finally by addressing the way that researchers have found these roles to change recently in 2.1.3. In doing so, I make a start in creating an image of the present-day controller.

The scientific work on controller roles is grounded two different theoretical perspectives. The second paragraph will provide a summarization of the history, workings and intricacies of these two perspectives, discussing role theory in 2.2.1 and contingency theory in 2.2.2. The model used by the NBA to describe the financial professional's areas of expertise, the integral control framework, is discussed in 2.2.3. I explain which elements from these three perspectives I use in my thesis.

2.1 THE CONTROLLER ROLE

The controller role cannot be exactly described, as there are many different controllers with varying responsibilities. I discuss varying definitions of controllers as well as their roles and document controller role change over time.

2.1.1 Definitions of Controllers

There is no one single 'right' definition of the modern controller. In the English-speaking world, the term 'controller' is usually intermixed with the terms 'management accountant' or 'comptroller' (Ten Rouwelaar, 2015; Zimmerman, 2005). The Cambridge dictionary defines the management accountant as 'an accountant who helps managers decide how to make profits or save money by examining information relating to the costs of running a business and analyzing how much profit different parts of the business are making'. In Dutch, the Van Dale dictionary defines a controller as being the 'financial expert in a company'. In practice, I have found that controllers' tasks and accompanying skills vary from organization to organization, as different factors such as organizational size, organizational type and management preference all influence the actual role that a controller plays. The term controller is thus found to be applicable to many different professions in practice, ranging from a simple accountant responsible for collecting balance sheet data to a financial specialist that assists top corporate management in coordinating financial planning and control (Van Gorp, 1994). Ten Rouwelaar (2015) finds that there is a further distinction between corporate controllers working at

headquarters, controllers working within departmental areas and business unit controllers who actually support management at business level.

The review of literature reflects this variety, as different textbooks and researches have come up with different definitions of the profession. One of the most important definitions of the term comes from Vijay Sathe (1983, pg. 31-32), who published the earlier works of the management sciences concerned with controller role. Sathe finds the controller to have two major responsibilities:

The controller is part of the management team responsible for the relevant organizational unit; he or she typically reports directly to the executive in charge of the unit. The controller's two major responsibilities are: (1) To help the management team in the business decision-making process, commonly referred to as the management-service responsibility, and (2) to insure that reported financial information pertaining to the relevant organizational unit is accurate and that internal control practices conform to corporate policy and procedures- in short the financial reporting and internal control responsibilities.

In more recent works following up on Sathe, Ten Rouwelaar (2006) and Zimmerman (2013, pg. 664), maintain the following, supposedly widely used, definition:

"The controller is the person in charge of both management accounting and financial accounting in an organization; usually the chief accountant. Also called 'comptroller'."

A third example can be found in Verstegen et al (2007, pg. 11):

"A controller supports and advises the management of an organization in realizing their economic, public and/or financial goals"

Alternately, Anthony and Govindarajan (1998, pg. 106) base their definition of a controller upon their setup and handling of a management control system, noting that the controller is:

'The person who is responsible for designing and handling the management control system'

Finally, Paffen and Roemen (2011) find that the controller can be said to be active in three main areas:

1. Internal and external financial information supply
2. Internal control, MCS, performance measurement and management
3. Advising role in the management decision-making process

Paffen and Roemen moreover note that the controllers' main task is one of strategic control: being a guardian of continuity and value creation. In order to fulfill their responsibilities, Paffen and Roemen find that controllers need specific sets of *hard skills* and *soft skills*; respectively referring to elements of knowledge and elements of character.

Considering these works, my main conclusion is that a controller is a financial expert in today's business life, in charge of information supply (financial and management accounting), internal control, and managerial advice. The actual definition of the profession depends on the responsibilities and roles that are fulfilled in practice.

2.1.2 Controller roles

Much has been written about the different roles of controllers in the past years (Sathe, 1982, 1983; Van der Meer-Kooistra, 1999; Hopper, 1980; Jablonksy & Barsky, 2000; Granlund and Lukka, 1998; Merchant and Van der Stede, 2007, Verstegen et al., 2007). Riedijk et al. (2002) found that a controller's role is dependent on the overall tasks for which he is responsible – the role thus being defined by responsibilities. Verstegen et al. (2007) found that personal characteristics and experience determined the way in which individual controllers were sorted among two different possible roles. Most research tends to agree that there are two different sets of controller responsibilities with two different controller role types accompanying them; the first in being an advisory partner for management (management service or support role), whose task is to help managers and other business-related functions with their decision-making, and the second in being a controller for the organization (control role), whose task is to actively manage internal operations and reporting to be in the best interests of the organization. Even though most research agrees on this dichotomy, a lot of scientific works have come up with their own names for these 'support' and 'control' roles. The detailed list of tasks for which each role is responsible also differs from research to research.

One of the first examples of this lies in the earlier years of controller research, where Hopper (1980) found the management accountant/controller to indeed have two opposing roles, calling them *book-keeper* and *service-aid*. The book-keeper's task was to implement and administrate financial systems, enabling higher management to measure and manage performance of subordinates. The book-keeper would report to higher management, believing in a hierarchical and mechanistic method of control. The service-aid had a contrary role, identifying lower and middle management as the major clients of accountants. This role believed in personalized and horizontal communications, analysis of problems with peer and subordinate managers, and the provision of a broad range of information.

Several years later, Sathe (1982; 1983) found the most important tasks of a controller to be divided among a support responsibility and control responsibility;

1. Aiding the management team in their decision-making process (support responsibility)
2. Ensuring that reported financial information is accurate, and that internal control are aligned with corporate policies and procedures (control responsibility)

In actively pursuing these responsibilities, however, Sathe found four different roles for controllers. The first role was called *the involved controller*, which had a primary emphasis on the support of

management-decision making. For controllers in this role, active involvement in and with the management decision-making process was desirable. A second role lay with the financial reporting and internal control responsibilities. This role was called the *independent controller* role. This role emphasized independence and objectivity when dealing with management, rather than involvement. This was because independence and integrity were more important in creating financial reports. Seeing these two as the ‘two extremes’ of the controller role, Sathe concluded that there were two additional roles to be found in splitting and joining both responsibilities. The *split controller* referred to assigning each responsibility to a different individual, namely the *internal controller* and the *external controller*. A split was considered to be advantageous in that both areas of responsibility would gain extra attention. It was also considered disadvantageous in that a split would convolute the areas of responsibility, as well as create friction between management and internal control. The *strong controller* held that a single individual would hold on to both responsibilities (Sathe, 1983; Van de Ven, 2014).

Within this *strong controller* role, Van Veen-Dirks and De Loo (2010) found another dichotomy, distinguishing two different types of strong controllers:

1. A controller that mainly concerns himself with strategic planning, internal reporting and stakeholder concerns, as opposed to involvement with management control systems and change management.
2. A controller mainly involved with management control systems and change management, as opposed to strategic planning, internal reporting and stakeholder concerns.

The advantage of the *strong controller* setup was that a controller would have access to all required information, and be much more involved with all necessary processes, thereby enabling himself to be more independent and integrated. The downsides of this setup were the high demands on the individual controller, and the danger of fading borders between staff and line responsibilities. Van Veen-Dirks and De Loo (2010) note that a strong controller might suffer from role conflict when he is responsible to local management and business as well as higher management and reporting.

Much of the past research, however, holds to the idea of separation of roles and the division of tasks between two persons. Jablonksy and Barsky (2000) distinguish the corporate policeman and business advocate roles, considering both to have the same basic financial skills but differing responsibilities within an organization. The business advocate role is comparable to the ‘support role’, as its responsibilities lay with the provision of financial order to business operations, being a part of the management team and overseeing an integral way of doing business. The corporate policeman was more comparable to the ‘control role’, as its responsibilities lay with oversight over the proper disclosure of financial information, speaking on behalf of the administration and enforcement of corporate compliance.

This classical division between roles can be said to take place on all levels of an organization. Ten Rouwelaar (2015) found that the division at business unit level created a split between business controllers, who were concerned with fulfilling the support role, and financial controllers, who fulfilled the control role. At divisional level, these split roles were the divisional controller (support role) and the compliance accountant (control role). At corporate level, the chief performance officer (CPO) fulfilled the support role, whilst the chief accounting officer (CAO) fulfilled the control role. Whilst most organizations might find themselves in these categorizations of the controller role, the scientific community has come up with a variety of other names and distributions. Rather than discussion these in great detail, I have summarized those I found most significant in Figure 6.

Author(s)	Roles perceived
Burns & Baldvinsdottir (2005)	<u>1. Finance manager</u> : Involved with product and strategy <u>2. Finance analyst</u> : Involved with daily operations
Merchant & Van der Stede (2007) and Maas (2005)	<u>1. Fiduciary role</u> : Creator and overseer of a complete and accurate financial reporting process <u>2. Oversight role</u> : Controller of employees and agent of the different stakeholders of an organization <u>3. Management service role</u> : Aids management in decision-making
Verstegen et al. (2007)	<u>1. Information adapters</u> : Gather and analyze data and are involved with organizational change processes. <u>2. Watchmen</u> : Involved with scorekeeping and risk control
De Loo, Verstegen & Swagerman (2011)	<u>1. Reporting business analyst</u> : Overseer of internal and external reporting <u>2. Business system analyst</u> : Overseer of management control systems

Figure 6: Additional categorizations of controller roles

What was clear to me is that the literature presents two main roles for the controller: the support role, which helps managers with decision-making, and the control role, which ensures that everyone in the organization behaves in the interests of the organization and its owners (Sathe, 1982; 1983; Van der Meer-Kooistra, 1999). As Ten Rouwelaar (2015) already indicated, the two roles respectively tie in with the business controller and the financial controller professions at the business unit level. I therefore found that the definition of business controllers had to do with financial experts affiliated with the ‘support role’, whereas the definition of financial controllers had to do with financial experts affiliated with the ‘control role’. I concluded from my literature review that the controller profession could be said revolve around the production, provision and use of financial information in organizations. I have consulted additional sources in order to define the two professions, which I will further discuss in [Chapter 4](#), before drawing a final conclusion on what the definition of the controller is in [Chapter 7](#). Before that, I wish to illustrate how the literature has seen controller roles develop in the past years.

2.1.3 Controller role change

The last decades of research have seen a new trend in the division of controller roles: hybridization (Burns & Vaivio, 2001). The effectiveness of accounting systems such as Enterprise Resource Planning (ERP) systems, the decentralization of jobs associated with the support role and increasing personal competencies among individual controllers have caused a shift in tasks and responsibilities among accountants (Caglio, 2003; Järvenpää, 2007; Scapens & Jazayeri, 2003; Lippolis & Romanazzi, 2005). Burns and Baldvinsdottir (2005) found management accountants to be less concerned with *score-keeping* and *corporate policing* than they were a decade before, instead drawing themselves much more to the ‘business side of things’ - involving themselves with strategy formulation and change management. Granlund and Lukka (1998) found the role of the management accountant to have changed from historian to watchdog, then to adviser/consultant, and then to a member of the management team. They too found that the modern management accountant shifted towards the business side of things, noting that the management accountant had to supplement his skills in financial analytics with business skills, communicative skills and a general knowledge of the organization’s surroundings. Caglio (2003) found that most of the routine controller tasks, such as financial reporting, consolidation and tax accounting, could now be done by ERP systems. The rise of ERP systems was found to have two main effects on the controller role; firstly taking away what was once the classic controller job, but secondly expanding controllers’ capacity to process information. Controllers were able to spend more time involving themselves with strategic decision-making, business management and IT initiatives. This meant hybridization between the controller roles.

Research has subsequently focused on the change of the controller role (Zoni and Merchant, 2007; Ten Rouwelaar, Bots and Vanamelsfort, 2008; Ten Rouwelaar, 2015) toward a more business oriented profession. Studies have found that increasing controller involvement in management, or CIM, has signified an increasing importance for the support role, with importance for the control role dwindling (Burns and Vaivio, 2001). Maas (2005) found management accountants and controllers to be more and more involved with the classical ‘line manager’ work. Traditional controller tasks such as budgeting and planning didn’t necessarily become less important due to this trend; automation had simply made these processes less time consuming. De Loo, Verstegen and Swagerman (2011) also found that the classical separation between roles had become less prominent. This did not mean that the classical ‘control role’ would cease to exist, however. Internal control and ‘score keeping’ were still found to be active controller responsibilities. The actual degree of hybridization and the tasks and roles of management accountants were found to depend on organization type and market environment.

Conijn and Ten Rouwelaar sketched the controller future of 2020 back in 2011. They expected three main trends to be of importance:

1. Generational differences: Conijn and Ten Rouwelaar (2011) saw the rapid technological developments lead to differences in generations, and predicted that the Y-generation and the following Z-generation (also called the M-generation) might clash over different customs and perspectives. The Z-generation was expected to be accustomed to the internet and mobile communication and prioritize their own development, family and friends above their careers.
2. ICT-developments: Conijn and Ten Rouwelaar (2011), seeing the rapid technological advancements of 2011, predicted ICT to keep developing and changing the controller role like it had in the early 2000's. They did, however, not expect the controller role to fade because of this; controllers were still expected to be needed due to their analytical and interpretive skills.
3. Uncertainty: Conijn and Ten Rouwelaar (2011) finally noted that rapid developments meant that no future was to be predicted with any certainty, and that controllers would be best off dealing with these uncertainties by analyzing them, forming scenario's and adapting when possible.

Overall, rapid technological advancements seem to have made organizational life more complex at every turn. Whilst several of the following trends would seem to abolish some classic controller work, it would also seem that controllers are increasingly needed to provide a voice of reason in organizations; one of experience, analysis and interpretation. Ten Rouwelaar (2015) notes that the role of management accountants as the 'economic conscience of the organization' has become more important as well, due to changes in reporting requirements and an increased liability for controllers for their role in advising business in decision-making. Regel (2003) notes that controllers that embrace intuitive and common-sense elements of decision-making functions will better carry out their support role, as quantitative analyses are no longer their only source of information.

2.2 THEORETICAL PERSPECTIVES

As is apparent from the previous paragraph, the literature on controller role is quite extensive. The different approaches in the scientific literature are a result of different scientific perspectives. The modern scientist is forced to reflect upon the research process and the knowledge it produces. The adoption of a framework or paradigm by a researcher means the embracement of its core theoretical ideas, assumptions, language, conventions and methods of analysis.

Overall, two important perspectives have mainly been used in the scientific literature on controller role; the role theory and contingency perspectives. I will discuss these in sections 2.2.1 and 2.2.2 respectively. In Section 2.2.3 I will discuss the workings and history of the integral control framework, the theoretical background the NBA uses to understand variations in the roles of financial professionals. I will show which elements of these perspectives aid my thesis in understanding how a future controller role can be shaped. I end the paragraph by providing a summary.

One of the challenges of research into controller role lies in understanding the concept of role. Role theory is a major theoretical perspective used in controller role literature to do just this. The study of role theory is the study of conduct associated with socially defined positions, rather than the individuals occupying these positions (Solomon, Surprenant, Czepiel & Gutman, 1985). The theory is based on the basic view that people behave predictably, based on his or her context, social position and other factors. It studies the degree to which a particular ‘part’ is acted out appropriately in the eyes of actors and observers. Each role can be said to be a mixture set of expectations, norms, rights and duties that a person has to face and fulfill. Seen today as one of the most popular ideas in the social sciences, some of the fundamental works of the theory have their roots in the early 1930’s (Biddle, 1986). The theory began its life as a metaphor for theatrical life, as theater performances were noted to be differentiated and predicable as a result of actors performing scripted parts. The link between these performances and actual social life was made in that social actors were also assumed to perform differently and predictably according to their social identities and situation. Role theory centers around roles as being characteristic behavioral patterns (Biddle, 2013), and explains them by presuming that persons are members of social positions and hold expectations for their own behaviors and those of other persons.

Among the users of role theory in controller role literature are Sathe (1982) and Roozen and Steens (2006), who developed frameworks for controller behavior. Role theory is important to my thesis in understanding what a ‘controller role’ constitutes, and how it changes over time. I can use role theory as a background for explaining both the first and third research questions – meaning that I can understand how controller roles are defined and what changes them inherently. Role theory literature into controller roles has focused on controller involvement with management (CIM), and found that controllers’ roles vary depending on three different factors (Verstegen et al., 2007; Roozen & Steens, 2006):

- Personal characteristics: Controllers’ own motivations and personalities;
- Internal environment: Controllers’ relationship with management and management expectations;
- External environment: External factors and the environment in which the controllers’ companies operate.

The role theory perspective thus makes it clear that there are many different variations of the controller role, each influenced by its own surroundings and expectations. Nevertheless, external influences may (and indeed: do) exist which impact each and every controller, and thus drive a global change in controller roles.

2.2.2 The “Contingency theory” perspective

The second major perspective used in controller role literature is contingency theory. The contingency theory as a major theoretical lens was originally used to study the structuration of organizations (Donaldson, 2001), but as of today, contingency-based research has also got a long tradition in the study of management control, management control systems and their design (Evans et al., 1986). As a branch of systems design, contingency theory proposes that the design and structure of an organization depend – are contingent on – environmental conditions (Scott & Davis, 2015). Otley (1980, pg. 413) gives an overview of the basics of contingency theory as follows:

“The contingency approach to management accounting is based on the premise that there is no universally appropriate accounting system applicable to all organizations in all circumstances. Rather a contingency theory attempts to identify specific aspects of an accounting system that are associated with certain defined circumstances and to demonstrate an appropriate matching”

Contingency theory is thus guided by the hypothesis that an organization whose main internal features match the demands of their environment will achieve the best adaptation; a fit between organization and environment. The great challenge for the contingency approach adopters is to be clear about what constitutes ‘internal features’, ‘external demands’, and most importantly the ‘match’ and ‘fit’ between the two.

As I discussed in the role theory paragraph, the controller role is influenced by a variety of factors that can be categorized into external, internal and personal factors (Verstegen et al., 2007). Important external developments to the controller role that have been identified by the literature are the development of technology and ICT systems (Anastas, 1997; Caglio, 2003; Järvenpää, 2007; Lippolis & Romanazzi, 2005; Scapens & Jazayeri 2001), developments in management accounting & control (Van der Meer-Kooistra, 1999), market conditions and developments (Cohen and Paquette, 1991; Friedman and Lyne, 1997) and legal developments (De Loo, Verstegen & Swagerman, 2011).

The contingency perspective is important to my thesis in that it shows how controllers face different sorts of external factors to which they must show matching behavior. This is important to understanding and answering the second research question, with which I seek to identify which external developments will be important to controller roles in the next 5 years.

2.2.3 The Integral Control Framework

As I concluded earlier in this chapter, the controller profession can be said revolve heavily around the production, provision and use of financial information in organizations. Researchers have very much been concerned with the question of how to align organizational demands, such as strategy and business targets, with the provision of information by the organization. There has furthermore been a

growing attention for information and communication technology in organizations, as the dependency on these technologies for information delivery grew ever greater (Abcouwer et al., 2006; Venkatraman, 1994; 1996).

In order to study how modern financial professionals deal with problems in uniting business, information and IT, the NBA has maintained a framework by Prof. Dr. Eddy Vaassen as a theoretical model for understanding the changing role of the financial professional. The NBA framework is an adaptation of the “Integral Control Framework” developed by Vaassen et al. as a generic framework for the description, analysis and solution of any business problem, as illustrated in Figure 7.¹

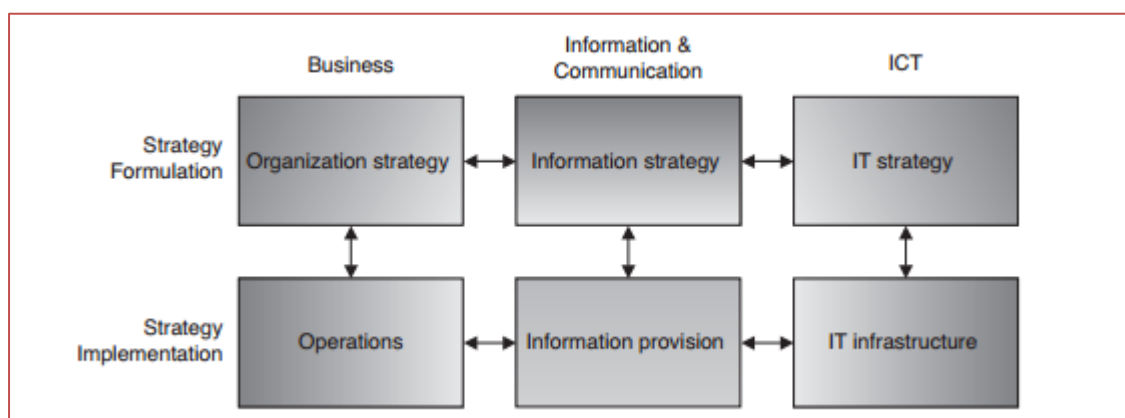


Figure 7: Integral control framework (Vaassen, Meuwissen and Schelleman, 2009)

The integral control framework was based on the strategic alignment model (Henderson & Venkatraman, 1993) and Maes’ (1998) model for information management. It is two-dimensional, with the first dimension seeing strategy formulation divided from strategy implementation, and the second dimension separating business, information and communication and IT. Within the first dimension, the strategy formulation side shows the externally oriented business part of an organization. Strategy must be formalized in order to gain a competitive advantage. In order to realize this strategy, the internally focused strategy implementation domain represents an organization’s effort to structure and operate the business so that the intended strategy can be realized. In basic terms, one could call a distinction between thinking and doing.

The second dimension concerns the 3 areas in which this is to be done. The business domain is the object of all information provision – it is where the business is done and decisions are made. The second domain is the service of information. Information provision can never perfectly represent reality, because data collection, recording and processing take time. Much of this is in turn dependent on the IT systems of an organization, which is the third domain. A continuous alignment and balancing of all elements of the two dimensions is key to a healthy organization.

¹ Note that in this 2009 original picture by Prof. Vaassen the IT/ICT terminology is ambiguous

The framework can be seen as a map for an organization, in which describing any business problem is possible (Vaassen, Meuwissen and Schelleman, 2009).

This model was then adapted by Vaassen to represent a field of work for financial professionals. A new distinction between functional and technical elements of the second dimension was made to better represent an overview of areas of financial expertise.

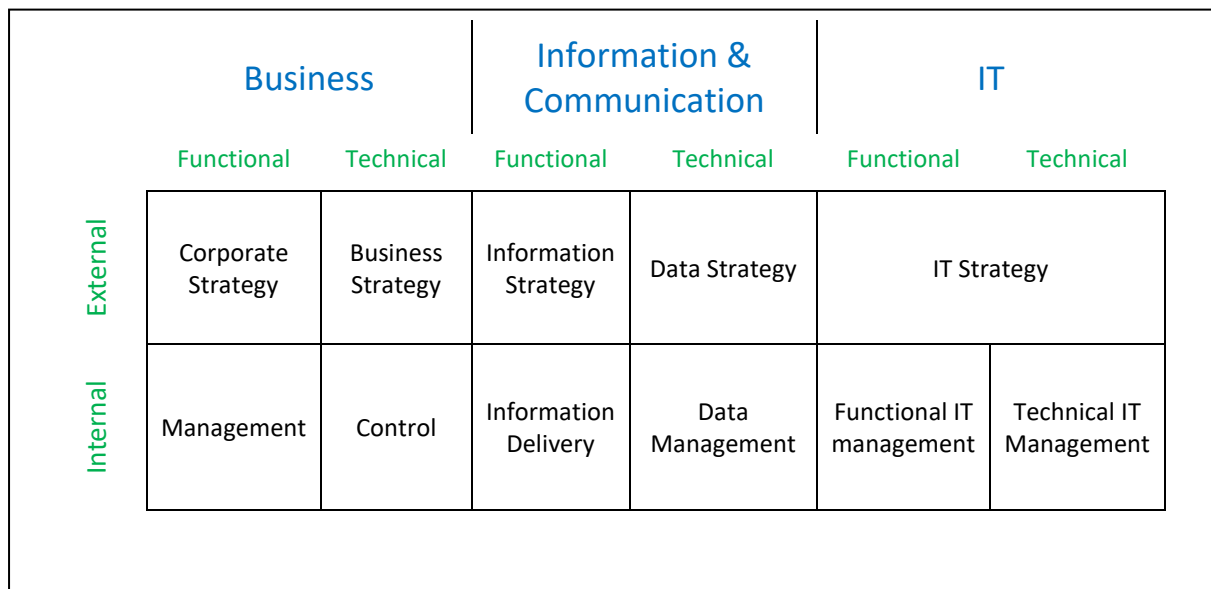


Figure 8: Internal control framework adapted for NBA (Vaassen 2014, re-rendered)

This model is important for my thesis as a vantage point of the areas in which financials can be active. The role of the controller can be described according to this model -- it has often been said that the controller's role can rest on the business side or on the information supply and control side (Sathe, 1983). I have used the model in the interviews to ask interviewees how they saw the current controller according to this framework, as well as how they thought it would shift.

2.3 SUMMARY

In this chapter, I have discussed preceding literature on controller roles. I first discussed the contents of this literature, going into the multitude of interpretations for the definition of a controller. The fact that there were so many different interpretations for this definition showed the diversity of the interpretation of controller role, even among scientific literature. The subsequent discussion of controller role interpretation revealed the same thing, although a general dichotomy between two roles could be found (Sathe, 1982; 1983):

1. Aiding the management team in their decision-making process (support responsibility)
2. Ensuring that reported financial information is accurate, and that internal control is aligned with corporate policies and procedures (control responsibility)

Literature also agreed that rapid technological advancements had a great effect on the modern controller role. Some of these advancements would seem to abolish some classic controller work, though controllers seem to find new areas of work in turn. They are increasingly needed to provide a voice of reason in organizations; one of financial experience, analysis, interpretation and guidance to management.

I secondly discussed the perspectives taken in literature on controller role. Scientific literature mainly uses one of two perspectives: the social role theory perspective, which mainly concentrates on the way in which controllers involve themselves in management matters, and the contingency theory perspective, which concentrates on identifying external developments that influence controller role. I lastly discussed the integral control framework, which is used by the NBA to represent the field or work for financial professionals. I explained how I used elements from all three of these perspectives in understanding controller role and its change.

3 RESEARCH DESIGN

In this chapter, I address the design of my thesis' study: An exploratory research utilizing interviews and job opening analyses supplemented by some field experiences with the NBA. In research, the planning and outlining of a research strategy and setup is essential in preventing different kinds of research mistakes (Boeije, 2008; Yin, 2013). A proper research design limits the chance of finding the wrong answers as much as possible (Robson, 2002). Having a research design described is moreover important in understanding the position of the researcher and the interpretation that the researcher gives to the subject material.

I start off by discussing the controller role case that had been presented to me by the NBA in [paragraph 3.1](#), which led to my choosing an exploratory setup. I then discuss the research perspective and methodology in [paragraph 3.2](#). In [paragraph 3.3](#), I discuss the data collection method I use in this thesis, and describe the interview and literature information collection. In [paragraph 3.4](#), I discuss the data analysis methods. Throughout the chapter, I note some examples of research approaches used in the preceding literature about controller role. I end the chapter by providing a summary.

3.1 THE CONTROLLER ROLE CASE

As I have discussed in [chapter 1](#), the controller role case was laid before me by the NBA. In consultation with both the NBA and the RU Nijmegen, I decided to conduct an exploratory study into the controller role in order to suit the NBA's desire for more information on the future of the financial professional. I found that I also had to use descriptive research elements in exploring and describing the modern-day role of the controller.

Research can for that matter globally be seen as either exploratory, explanatory, or descriptive, depending on the goal the research serves (Saunders et al., 2011). These denominations are called the research types or research strategies, and follow directly and logically from the research goal and research questions (in Dutch: *de probleemstelling*) (Elliott & Timulak, 2005). In this light, my thesis has an exploratory goal, with descriptive parts of research to it.

Descriptive research:	Exploratory research:	Explanatory research:
Accurately depicting persons, situations or events	To find out/gain new insight into what is happening or to judge events, persons or situations from a new perspective	Studying a problem or situation to explain the different connections between the research variables

Figure 9: Research types (Saunders et al, 2011)

I have used the modern-day controller's role a vantage point to build toward an indication of the future controller role. This is a distinctly descriptive part of research - describing an event, object, or person in its real-life context. In modern scientific literature, descriptive research has always had a large part in controller research, mainly in describing the different controller definitions and roles (see [chapter 2](#) for examples).

My main goal was to seek out both external developments important to controller role change and predictions about the controller role of 2022. This is the distinctly exploratory part of the thesis. An exploratory study is done when the researcher knows little about an area, so that he/she is yet unable to form any hypotheses (Blumberg et al., 2005). The exploratory data then typically provide either a summation of data or general statistics that can later be analyzed in more detail by other research. Examples of exploratory researches into controller role are Hopper (1980), Granlund and Lukka (1997), Verstegen et al. (2007) and Ahrens and Chapman (2000).

Although I do not conduct anything in the way of explanatory research, I consider it noteworthy to shortly touch upon this field in order to demonstrate the differences with the other two strategies. An explanatory research would go beyond descriptive and exploratory strategies, and attempt to explain objects and variables that have earlier been observed. Theories and hypotheses normally play a major role in these kinds of studies. Blumberg et al. (2005) note that exploratory research is mainly used to create new knowledge, whilst the other two research types are used to test or describe existing knowledge or theory. Examples of explanatory research into controller role include Maas (2005), but also Zoni and Merchant (2007).

3.2 RESEARCH METHODOLOGY

My thesis is written from a constructivist/interpretive perspective (Schwandt, 1994). This means that I have assumed reality as we know it to be socially constructed through the meanings and understandings developed socially and experimentally (Mertens, 2005). In the words of Butler (1998, pg. 294), the perspective means the following in terms of ontology and epistemology:

“In ontological terms, the [interpretive] perspective posits that realities are constructed from multiple, intangible mental constructions that are socially and experientially based, local and specific in nature, and dependent on their form and content on the individual persons or groups holding the constructions.”

“In epistemological terms the investigator and the object of investigation are interactively linked so that the 'findings' are literally created as the investigation proceeds.”

Understanding this research perspective is essential to understanding how this thesis is done. A blind man and a deaf man can perceive and describe the same object in different ways, so I find that

understanding the perspective I have chosen to take is important to understanding the conclusions that I have drawn. This need to explain perspective is seen throughout all modern research (Clegg, Hardy & Nord, 1996).

Generally speaking, research lends itself to one of two different perspectives: the mainstream/positivist (empiric-analytical) perspective and constructivist/interpretive perspective (Vennix, 2010; Boeije, 2008). The mainstream perspective is usually associated with quantitative research, which seeks out regularities and observes, measures, and describes reality (Vennix, 2010). The interpretive perspective, also called the constructivist perspective, is usually associated with qualitative research (Boeije, 2008; Merriam, 1998). Qualitative research is often used to examine a wider (e.g. social) context, in order to facilitate the development of further quantitative research initiatives. In the mainstream perspective, hypotheses are formed and tested, and conclusions are deducted. In the interpretive perspective, the researcher makes his own interpretation of results.

I have made the choice to use the interpretive perspective following my goal to explore insights into the current and future controller roles. I found that the exploratory nature of the thesis as well as the subjective nature of role interpretation and future prediction did not lend themselves to the mainstream perspective. My use of role theory, contingency theory, and control frameworks, even enriched with NBA contributions, did not result in the construction of any hypotheses, and the NBA as major stakeholder in this thesis requested an open approach rather than the validation of earlier expectations, which led to the Research Question as described in section 1.4. Thus my research focused on collecting and interpreting insights, and not on collecting and testing data.

This also led me to choose a qualitative methodology in my thesis (Boeije, 2008; Ahrens & Chapman, 2006). A methodology is a general approach to the study of the research topics, in which ‘methods’ refer to specific research techniques, such as interviews, observations or experiments (Ahrens & Chapman, 2006). There are two important methodologies in modern research: the quantitative methodology and the qualitative methodology (Saunders et al. 2011). The quantitative and qualitative approaches differ mainly in style and technique. The different sorts of researches use different sorts of data and ask different sorts of questions. The qualitative methodology finds that reality is socially based, subjectively created and objectified through human interaction (Ahrens & Chapman, 2006). It therefore assumes a large role for human interpretation of objects, facts and ideas (Golafshani, 2003; Patton, 2005). Strauss and Corbin (1990) define qualitative research as research that produces findings by means other than statistical procedures or quantitative methods. Interviews, observations and document analyses are important methods of qualitative research (Boeije, 2008; Bowen, 2009; Wester & Peters, 2004). Thus, using the qualitative methodology as best fitting for my Research Question, this thesis relies mainly on ‘expert interviews’, participation in NBA meetings and the gathering and analysis of job openings.

Alternately, a quantitative methodology would have seen a focus on the comparison and testing of hypotheses. This approach quantifies data and generalizes results from samples to larger populations (Vennix, 2010). Methods of research are usually comparatively structured, with the quantitative experiment, structured survey and repeated questionnaires being examples (Swanborn, 2010). These methods would not have answered the Research Question, nor would they have been able to satisfy the main stakeholder's requirements.

The choice for an interpretive perspective usually leads to a qualitative research methodology (Merriam, 1998). The quantitative methodology usually accompanies the mainstream perspective (Vennix, 2010). This is certainly not always the case. I have seen perspectives and methodologies be used interchangeably in controller role literature. Qualitative research into controller role has sometimes used a main perspective (Hopper, 1980), and quantitative research has sometimes used an interpretative one (Albu et al., 2008). This thesis, however, follows the majority, and combines the interpretive perspective with a qualitative methodology.

3.3 DATA COLLECTION

I have used three sources of evidence for my conclusions: three meetings with NBA members, interview data, and job openings. By using these sources, I intended to increase the viability of my research by using what has been variably called 'multimethod approach', 'convergent validation' or 'triangulation' -- combining data drawn from different sources and at different times, in different places and from different people (Campbell & Fiske, 1959; Flick, 2004; Jick, 1979). I have used the NBA meetings as a starting base and a supplement, and the job opening texts for the description of the current controller role. The interviews have provided the main evidence for my conclusions.

3.3.1 NBA meetings

The beginning of my thesis saw three meetings with senior financials from the profit, non-profit and scientific sectors organized by the NBA. The subject of these meetings was the development and future of the financial professional. Controllers are regarded to form an important part of this group of financial professionals, and the development of all financial professions was in this case seen as generally coherent, so the meetings provided a good basis for gaining first insights into the controller role and its development.

During but mostly after these meetings, I wrote down notes on what I perceived had happened. These notes, my experiences and the NBA's vision documents on the financial professional provided the primary data source to analyze. The meetings did not provide much in terms of raw data for analysis, but they did provide an important first insight into the controller role situation.

Date	Activity	Contents
21-03-2017	Premier Session Future of Financial Professional	A three hour long meeting with 30 NBA members which included a presentation, a discussion, and a brainstorming session on the development of a new model for the profile of the financial professional
22-05-2017	Secondary Session Future of Financial Professional	A much smaller group of members refining the crude findings of the first session
16-06-2017	Debate session ‘Financiële functie rijp voor disruptie’	Debate session with a large group of NBA members on the impact of technological developments on financial functions

Figure 10: Meeting sessions NBA

The first of these sessions concerned a 3 hour long conference on the development of a new model for the profile of the financial professional. In this meeting, I joined 30 NBA members in a discussion about the renewal of the 2014 NBA-VRC model of the financial professional. We discussed new external developments, drew up a list of perceived current tasks and responsibilities, and discussed the order of importance of our common findings. The members of discussion were explicitly selected as experts on the subject by the organizing NBA members. I was involved as young professional, and took part in the discussions.

The second session saw a smaller group refining the contents of the first session. A preliminary model had already been created, which we discussed in an open group. The session lasted 2½ hours, and involved a dozen NBA members, again selected by the organizing NBA members. Some of these had not attended the first meeting, providing new views into earlier discussed matters. I again took part in the discussions.

The third session concerned a debate on the influence of technology on the financial functions in the Netherlands. Over 3 dozen NBA members attended, this time on voluntary basis. The 2017 paper ‘*Financiële functie rijp voor disruptie*’ by the NBA and VU Amsterdam played a central role in this session. In three hours’ time, three introductory presentations were held by experts on the subject, which were then followed up by another debate session. I also took part in this debate. Documentation on this debate session can still be found online on www.NBA.nl.

3.3.2 Job openings

I have also researched job openings for current controller positions as part of describing the current controller profile. The main sources of these job openings were www.jobdigger.nl and www.nationalevacaturebank.nl. In order to differentiate my sources, I also found about 5 job openings from both <https://www.vacatures.nl/> and www.jobbird.com. Through direct access by the main sites, I also touched upon a number of smaller tertiary websites.

To again keep my sources diversified, I also decided that the primary lists should be gathered at various times, and drafted two lists of job openings by consulting the internet on the 15th of June, the 20th of July, and the 25th of July, 2017. Searching for all job openings younger than 10 weeks, the oldest openings I initially found were from the 6th of April. This resulted in 435 openings for a search on ‘business controller’, and 270 for a search on the term ‘financial controller’. This number disparity (61.7% vs. 38.3%) can be considered to be notable – considerably less job openings for the financial controller could be an indication of the supposed decline of the financial controller role. An earlier thesis on controller job openings (Wondergem, 2014) found 96 job openings for the business controller (61.1%), against 61 openings for the financial controller role (38.9%).

As the analysis of 705 job openings was deemed too much for the span of time for my thesis, I performed a secondary selection. In comparison with Wondergem (2014), who analyzed 131 controller job openings as the single research object of a thesis, I needed to restrict the workload in order to leave sufficient time for interviews, desk research, analysis, consolidation and interpretation of my findings. Based on a rough calculation it appeared feasible to select and process 60 job openings for comparison. I found 40 job openings on the 15th of June, 10 on the 20th of July, and 10 more on the 25th of July, each time using the most recent ones available. The oldest job opening was from the 12th of June, whilst the newest was from the 25th of July itself. Although the workload substantially exceeded my estimates, I eventually included 60 job openings in my analysis.

3.3.3 Interviews

I conducted 13 semi-structured expert interviews, focused on creating an optimal representation of viewpoints in the finance function across all sectors, whilst remaining diverse so that information could be gathered from people with different angles. The final list of interviewees is as follows:

Interviewee description	Type of contact
1. Head of finance, semi-public organization	NBA contact
2. Professor of economics	Personal contact
3. Financial manager start-up company	NBA contact
4. Controller in large innovative organization	NBA contact
5. Managing partner at intermediary/consultancy company	NBA contact
6. CEO of a small innovative company	Personal contact
7. CEO of a small innovative company	Personal contact
8. Auditor at a large auditing firm	Personal contact
9. Head finance business analyst & IT banking at a large bank	NBA contact
10. Business development manager finance in intermediary organization	NBA contact
11. Manager Finance & Control at large insurance company	NBA contact
12. Double interview: - Head of corporate control at a large Dutch municipality - Cluster controller at that same municipality	NBA contact
13. Information architect and requirement engineer in non-profit organization	NBA contact

Figure 11: Final interview list

The selection of respondent types was predetermined in consultation with my NBA supervisor. In this consultation, we determined that the viewpoints most valid to my research goal should come from all corners of society that had a relevant view on the development of the business and financial controllers. This meant selecting respondents from the main operating areas of these controllers in insurance, banking and productive organizations, for example, but also selecting people that worked with controllers, such as CEO's and auditors. Moreover, a passive selection criterion lay in selecting respondents from innovative and rapidly developing organizations, as these were deemed to have a greater and more valid future-oriented view. Finally, the distinction between profit and non-profit organizations as well as private and public organizations was made, and a scientific expert on the subject was also deemed a valuable asset. All in all, the selection of respondents is representative not of the general population of financial and business controllers, but of categorically valid opinions on the development of their roles.

Whilst most respondents were arranged via the NBA, I made sure to include several non-NBA affiliated sources. Almost all of the people interviewed had experience in finance positions, which may not show from their current occupation. Some people were chosen because they frequently dealt with controllers, without actually having experience being a controller. Past occupations and experiences with control were touched upon in the introductory part of each interview.

Two of these interviews, namely numbers 11 and 13, were done by telephone because personal contact was deemed difficult. All other interviews were done in person and thereby recorded for further written analysis.

I have opted to use semi-structured interviews because of the qualitative and exploratory nature of the subject and research. I created a topic list based on the research questions, which I discussed and subtly adapted after discussing it with an NBA representative. Chapters 4 to 6 provide a more detailed description of what was discussed in the interviews. The original (Dutch) checklist of points to address in the interviews presented in Appendix A.

3.4 DATA ANALYSIS

After collecting the data, I have prepared it for modification. For the NBA meetings, this meant ordering my notes on the meetings and the resulting meeting documents by the NBA to create a good representation of what had happened. By writing out the interview data and bringing order into all data, I increased my ability to overview it (Boeije, 2008). In all cases, this meant coding the gathered data along the lines of the research questions. Upon this modification and coding, data could be interpreted and analyzed. I discuss the different data sources and the ways in which I have analyzed them in chronological order.

3.4.1 Meetings

I have used both my notes of the NBA meetings and documents written in preparation or in aftermath of the meetings for analysis. I divided these documents along a code tree based on the research questions, denoting skills, tasks, sub roles and external developments important for the modern and future controller. As the material was limited and the experience relatively biased from my point of view, I have used these notes as an introductory section to the other analyses. The resulting work can be found in [section 4.1](#).

3.4.2 Job openings

For the job openings analysis, I have maintained a similar method of analysis to a 2014 job openings analysis of business controllers and financial controllers (Wondergem, 2014). Adopting this same method has allowed me a fairer way of comparing my results to this previous study, which I found important in that I could draw a triangulated conclusion on what controllers' job openings show about the controller role, whilst also giving insight into how they changed in 3 years' time.

The analysis is based on Wester's (2006) 8-step plan for analyzing documents. The plan is set-up in order to create favorable outcomes concerning replication and triangulation. The 8-step plan, adjusted to my own thesis, was as follows:

Step	In my analysis
Step 1: Reading the job opening documents	I have gathered 705 job openings, of which I have selected 59 different job openings for analysis.
Step 2: Describing the global subject of the matter	The subject matter concerns job openings for a controller position. I have a distinction between business controllers and financial controllers.
Step 3: Summarize the documents	A summarization of my findings can be found in chapter 4.
Step 4: Read every document, and mark relevant selections of text with a marker	<p>In my coding schematic, I have followed the same codes that I used to describe texts of the NBA meetings.</p> <p>I have based my coding mainly on research question 1, to which the job openings analysis is relevant, and the NBA's vision of dividing the image between skills, tasks, sub roles and external influences.</p>
Step 5: Creation of an overview of all relevant text	I have created an overview of each text pertaining to one of the general features of controller role.
Step 6: Interpretation and analysis	I have analyzed and interpreted the texts according to the methodology I set up in chapter 3.
Step 7: Comparison of texts	I have compared the findings for business controllers and financial controllers with each other.
Step 8: Comparison between different sources	I have compared my finding in the job openings analysis to both an earlier job openings analysis, literature study and my results from the interviews, and integrated the outcomes in chapters 4 and 6.

Figure 12: 8-Step analysis

In step 6, in which I performed the analysis and interpretation of the text I found, I applied several quantitative methods in analyzing the word composition of the text. As can be seen in [section 4.2](#), I analyzed the most common words, and how they were spread among the different job openings. I felt that this gave support to my interpretation and conclusions. A proprietary Excel model was used to perform the analysis, the outcomes were checked manually. The data resulting in the graphs presented in this report are grouped in Appendix B. The full model, including data, formulas and graphic presentation, is available in electronic format only – presentation in a static textual appendix would make little sense.

3.4.3 Interviews

The interview analysis process can be roughly subdivided into four different steps (Baarda, De Goede en Teunissen, 2001):

1. Selection of relevant data

In this step, I have unselected all data that did not seem relevant at first glance. In the interviews, this included bits of non-relevant personal information and needless conversation. In selecting the relevant data, I used the research questions as my guideline; anything not adhering to it was deemed insignificant. After I completed my primary analysis, I reviewed these deleted data to ensure they were indeed not relevant or connected to my results.

2. Dividing the relevant data into different fragments

I subsequently divided the remaining data into overseeable fragments according to the following rules:

- Every fragment gave information about 1 subject
- Every fragment must be understandable, even when not in context
- Fragments may have overlap

3. Labeling fragments

After this, I labeled (coded) these fragments with a code relevant to answering the research questions. In order to come up with codes that could be globally applicable to every piece of data, I first set up 6 global themes based on the interview topics.

Interview themes
1. Introduction of interviewee
2. Personal details and experiences
3. Definitions of controller roles
4. The modern-day controller
5. External developments important to controller role change
6. The future role of the controller

Figure 13: Interview themes

I made a first coding list based upon these themes for the first interview. The words the interviewee used were also important guiding points for creating codes (Boeije, 2008), so I used them in an important role as well. I then asked the services of a secondary coder² to code the same interview from his own perspective. We compared his coding schematic with my own, and created a new coding scheme by discussing it. In this manner, I intended to reduce my own subjectivity in coding the interview data (Bauer & Gaskell, 2000). After this, I coded all the interviews along the second and third level codes of this coding schematic. The first level codes, which basically describe data in detail, were unique to each interview. An example of the code tree can be found in Appendix C .

4. Ordering and reduction of codes

I have used three different levels of codes in this thesis in order to reduce the complexity of the coding scheme, and increase the level of overview (Boeije, 2008). I used these data for a qualitative analysis, gathering all the data with the same code and dividing them along the previously constructed themes. After this, I rearranged the data in a more story wise manner (Creswell 2003).

As an additional validation of the thus constructed interpretation of the interviews, I have applied the quantitative methods as used for the job opening analyses. Calculating an interview-count per relevant keyword allowed me to search for artefacts in my interpretation.

If the keyword “accuracy” had shown up in most interviews, then it should be visible in the interpretation. On the other hand, if “cybersecurity” was used twice in every sentence - but only by the last interviewee, then that keyword should not have “made the cut”.

Figure 14: Quantitative validation of coding scheme results

As agreed with the interviewees, no transcripts were made from the interviews, with one single exception for documentation of my approach. Initial processing and indexing was based on digital integral audio material. Only relevant fragments were extracted and transcribed for Excel-processing.

Because of the size of the transcript, only a part of it is included with this document as Appendix D. The full transcript and the audio files are available on request for future Research.

² For this “sanity check” I drafted a retired Business Consultant with a degree in Industrial Engineering and experience in Financial Processes from my personal contacts

3.5 SUMMARY

In this chapter, I have discussed my research design, including collection and analysis methods. In light of my research questions, I opted for an exploratory qualitative research set-up. I performed 13 semi-structured interviews with experts on control and controller role change. I researched recent scientific and managerial literature about controller role change, and looked at modern job openings for controller role descriptions. These findings are supplemented with notes and documents from my interactions in NBA member meetings on the subject. I have analyzed the interviews with a 4-step qualitative coding analysis.

4 THE CURRENT CONTROLLER

In this chapter, I discuss the results of my analyses into what constitutes a modern controller. I first discuss the short contents of my NBA meeting notes and the results of these meetings, as part of an introductory [section 4.1](#). I then delve into my analysis of recent job openings for the financial and business controller in [section 4.2](#). I will address the information collected from the interviews in [section 4.3](#). I will then address the context of literature in [section 4.4](#). [Section 4.5](#) will present my Summary Conclusion.

4.1 INTRODUCTORY NOTES: NBA MEETINGS

The NBA meeting notes make up for an introductory course for the results of my thesis. Three meetings of approximately 9 hours in total length, the NBA meetings are a supplementary but nevertheless important part of my thesis. Over the course of these meetings, I touched upon the major themes that would later return in my analysis of the other sources. I discuss these themes to set up an introduction of the analyses that follow.

The first meeting on the 21st of March introduced me to the predicament of the modern financial professional. We met to discuss the 2014 vision document on the financial professional, and how it should be updated according to the years following its conception. Conversation, debate and presentation about the contents of the modern and future role of financial professionals shaped my perception of the controller role puzzle and the pieces that forged it. One of the most important of these pieces was the piece that I have called ‘controller sub roles’. Even though these sub roles were included from the start in the research questions in [chapter 1](#), it was only after the first NBA meeting that I realized that the conundrum of the financial professional’s role went farther than his skills, tasks and possible external developments.

In this meeting, it soon became apparent that one of the most popular ways to describe a profession’s contents was by alluding to the various roles a professional would have. These roles were subsets of tasks, responsibilities and perhaps even identities in which a professional would have to mold himself to perform his job adequately. A financial employee could for instance be assigned the role of ‘police officer’ in that he guarded an organization against the breaking of rules, or the one of ‘navigator’ in that he was assigned to steering the organization in the right direction. Even though I found both the description and the interpretation of the contents of these roles to be highly subjective, I realized that they were an integral part of the overall controller role description process.

In the meetings, we agreed that these sub roles were in fact the best way to describe the personal aspects of the modern controller. A second meeting in May refined our look at things, and by the end of it, we had come upon five controller roles, three main areas of operation and five important external

developments. These and other results from the NBA meetings eventually resulted in the new vision document (“Toekomstvisie op het beroep van de Financieel Professional”), which includes the diagram I have used as Figure 2: Graphic representation of NBA's vision on the financial professional (2017), and the text used in Section 1.2.

We furthermore designated important separations between strategy formulation and strategy implementation, information strategy and information supply, and IT systems and IT strategy. One of the most expected and agreed-upon conclusions of our meetings was that most of these aspects of the financial role had changed due to rapid technological advancement. Technological advancement such as robotization, automation and data analytics would go on to be a recurring theme in my thesis. These technological advancements were in fact the subject of the third meeting I attended.

In this third meeting, we had a three-hour session discussing the impact of technology on the financial functions. One of the main subjects was finding ways to avoid disruption in financial jobs. The session was based on earlier research (Verbeeten, Kolthof & Steenwijk, 2017) that found 5 major concerns for the impact of technology on the financial functions;

1. Robotics and data analytics (big data and predictive analytics) gaining terrain in all core activities of the financial functions
2. More and more organizations adopting processes that increase the speed of technological development and adoption in the financial world
3. Many financial professionals underestimating the impact of technology on their function
4. The urgent requirement for financial professionals to adapt to these developments and adopt new competences.
5. The increase in efficiency and effectiveness that robotics and data analytics provide make for a more effective and lower cost financial function.

In the course of this session, I found that most members agreed upon the fact that the financials' course was set toward the business side of things, rather than toward the adoption of IT skills. They would still have to learn to contend with these technological changes, however, which besides robotics and data analytics included the internet of things, a networked economy, a connected world, dashboard thinking, and a move from hindsight to foresight. I found a lot of people agreeing that financials should not be the technical experts in a company, but should learn to keep adapting to technological changes and keep learning skills and competences to handle new systems.

Though these technological developments seemed the most important driver behind financial role change, they were also the most expected one. Less obvious influences included developments on the social, regulatory and business model fields. One of the developments that made my participation most interesting was that the group established a generational rift to play an important part in modern financial life; owing again to rapid technological developments, the younger generation was found to

have a vastly different skill- and mindset than the older financial generation. This older generation was more focused on the bookkeeping aspect of finance, which was presumed to start withering away as technology took over. The younger generation in turn was found to have the skills of the information age, but a mediocre knowledge of accounting processes and an individualistic mindset.

In chapter 1, I discussed my mission to describe the modern controller based on his skills, tasks and important external developments. With this section, I have added controller sub roles to this list of distinctions. In the following analyses, I have attempted to gather any direct reference to controller sub roles as they were, but must note that interpretation of each sub role is subjective. These roles have not been defined in our meetings, nor have I seen them be defined elsewhere. I therefore gather the references without explicitly asserting that I have one objective definition of them. All in all, several of these references came forward during the NBA meetings. I have created an overview of them, and the other most important themes of the meetings in Figure 15: Meeting themes (unrelated columns). I proceed to use the previously established designations to explain controller role in modern job openings.

External developments	Skills/Competences	Tasks/Responsibilities	Sub Roles
Technology acceleration: robotics, automation, digitalization, internet of things, connected world	Adapting to new technologies and changes	Strategy formulation / strategy implementation area division	Sensor
Convergence: more cooperation in business, networked economy, shared services, outsourcing, joint ventures, fusing or functions	Continuous learning	Information strategy / information supply area division	Director
Compliance and regulation: changing due to globalization, durability	Leadership	IT strategy / IT formulation area division	Navigator
Generational rift: in skills and mindset	System thinking	Performance management	Gatekeeper
Durability: also an overall stakeholder oriented mindset	Reliability	Financial reporting	Analyst
New business: dashboard thinking, move from hindsight to foresight, networked economy	Trustworthiness	Governance, risk management and compliance	Moral/Ethical Compass
	Communicative strength		Interpreter

Figure 15: Meeting themes (unrelated columns)

4.2 JOB OPENINGS

Recruitment is one of the important measures that a company can take in order to bring about change in management accounting culture (Järvenpää, 2007). Much information about the modern view on management accountant/controllers and their function can therefore be found in job openings.

A relatively small analysis of 60 job openings in the business- and financial controller functions show the general features, skills/competences, tasks/responsibilities and sub roles demanded of today's controller.

I have analyzed these job openings according to the 8-step process described in [chapter 3](#) (Wester, 2006). An overview and description of the steps I have taken in the analysis can be found in appendix X - I will use this chapter to concisely describe the results. Though the overall analysis is qualitative and based on my own interpretation, I have utilized several quantitative methods to exhibit the composition of the job openings. I address the overall results for the business controller and the financial controller, and then assess the differences between the two.

4.2.1 The Business Controller



Figure 16: The business controller openings visualized

The business controller is commonly perceived to be involved more with business and analysis, and less with external reporting and compliance (Ten Rouwelaar, 2015). The job openings show the business controller to be involved in financial analysis and internal reporting. The reporting part of the business controller's job often includes gathering information from multiple sources and compiling that information into reports useful for management. These reports are made up of internal and external information, for internal use – they differ from the externally aimed financial reports. An example can be seen in [opening 4](#), which states that the business controller's job is:

'To compile financial reports/analyses concerning revenue/margin development'

and to

'further build up reports with financial and operational KPI's'

Finally,

'You inform and advise management based on these reports, and thereby shape the financial policy'

This support to management is often done not only by making reports, but by calculating different business cases, prize margins, costings and budgets. The business controller translates financial policy to operational execution ([job opening 5](#)), and analyzes internal statistics, market trends and other external developments in order to develop a view and understanding of organizational business plans and propositions. In some job openings, this meant the operation of an ERP system, such as SAP – though not too many job openings mentioned or requested skills in this area.

Although the name business controller seems to allude to performing control functions, and the term control gets mentioned many times in the openings, a detailed analysis shows that the openings that see control as a part of a BC's responsibilities are few. Most of these refer to the BC's responsibility to oversee the control system and find ways to improve control processes. [Job opening 16](#), for example:

'You further support the development and implementation of control methods and financial and operational risk management'

Improvement and implementation of new processes is actually often found to be one of the responsibilities of a business controller, as can be seen in [job opening 1](#):

'You evaluate current processes and initialize and implement improvement processes'

As well as job opening 13:

'You and your colleagues commit to operational processes that lead to financial revenues, and improve these where necessary'

The biggest task of the business controller however remains their function as a translator between commercial interests and planning on the one side, and the organizational numbers reality on the other side. Overall, the business controller can be said to be the link between business and finance.

In order to fulfill this linking function properly, the business controller should have a certain set of skills and competences. Analytical and communicative abilities were the most popular competences in the job openings, followed by proactivity, critical personality and team playing abilities. The business controller has to be analytically minded in order to assess processes and reports and to improve efficiency, whilst he must also be persuasive and team playing because he links two different groups together and is in an advisory position. The skills asked of business controllers parallel these competences, as Excel and language skills are top wanted in the job openings.

There are several references to controller sub roles in the job openings, mostly referring to the fact that business controllers serve as business partners, sparring partners for management and commercial interests, and as a foremost financial expert have a large advisory role in the organization. An example of how these sub roles can be used to uniquely describe the controller function can be seen in job opening 22:

'Above all, you are an involved sparring partner. You know exactly what is going on. You think along, and anticipate events. You are able to use your knowledge and expertise to act and steer (the organization)'

The business controller finds work in many different kinds of organizations, ranging from child care to energy companies and talent recruitment companies. A high level of education (mostly university degree) is demanded of him, as well as at least about 3 years of working experience in the controller role or an equivalent one. The salary, when mentioned, is often around 4000 euros per month, but depends on prior work experience and educational degrees. Secondary benefits are plenty, however, with many openings implicitly or explicitly mentioning training and educational benefits, a company car, laptop or telephone.

I have visualized the word composition of the business controller job openings in Figure 16: The business controller openings visualized, which shows the overall composition of all the job opening text.

A more detailed analysis was performed (using Excel) to graph the usage of key words on the level of Job Opening Sections (condition, company, function, benefits). Figure 17 illustrates the power and possible use of this type of analysis. Figure 18 provides a summary explanation of the technique.

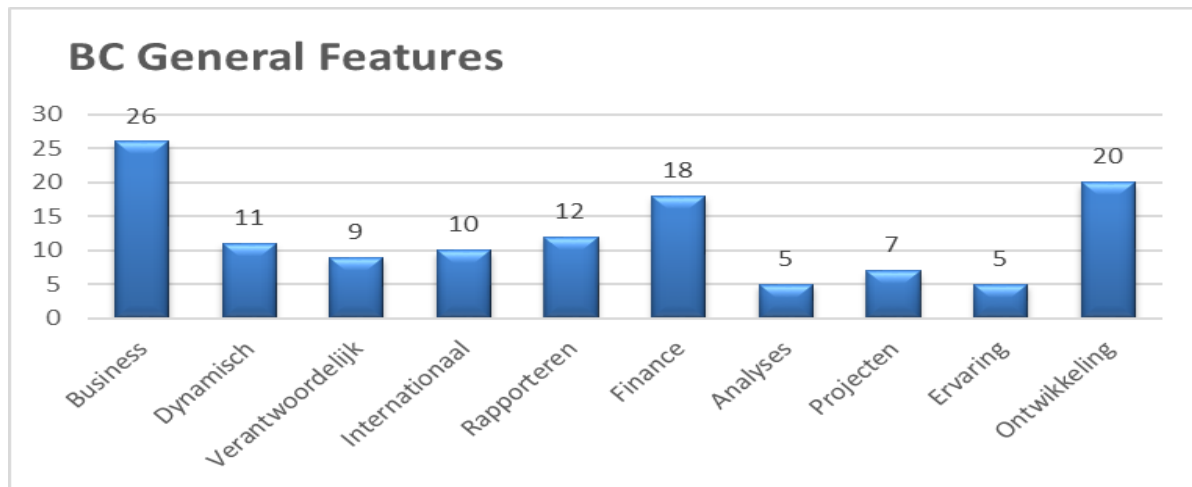


Figure 17: Number of job openings (column size) out of 30 containing selected keywords

Analysis of “General Features” from 30 (Y-axis maximum) Job Openings for Business Controller. From a gross list of word frequencies, 10 subjectively relevant keywords were selected (X-axis, in Dutch). An Excel model was used to calculate and graph the number of Job Openings that use these keywords in their “General Features” section. As expected, nearly all (26/30) General Features sections used the keyword ‘Business’, while ‘Reporting’ (Rapporteren) occurs in only 12/30 Job Openings. Surprisingly “Development” (Ontwikkeling) is mentioned in 20/30 cases; this might be a combination of personal-development, business-development, and other types of development.

Figure 18: Clarification of keyword usage graphs

Although interesting and available for further research, the level of detail of these diagrams would take us beyond the scope of this thesis. The graphs are nevertheless useful as an indicative validation of the qualitative analysis.

The financial controller is commonly perceived to be involved with reporting and compliance (Ten Rouwelaar, 2015).



Figure 19: The financial controller openings visualized

The financial controller codes indicated an orientation toward reporting, administration and analysis. It is mostly described as a function whose role extends to making sure that the financial statements, administration and associated numbers are in order. Based on these numbers, the financial controller often has a role in detecting possible problems or improvements in organizational processes. His main area of operation is the finance department. Job opening 5 describes this as follows:

‘The financial control department (at our organization) is responsible for the financial reports, the reliability of numbers and the testing of financial AO/IC processes. Advice and identification of performance improvements based on these reports and analyses are also functions of this department’

And job opening 30 describes it as follows:

‘The Finance Department is responsible for safeguarding of sound registration as well as monitoring the financial situation and advising the management on budgets and the financial position.’

The tasks he has in these departments thus come down to administration and registration – providing detailed and accurate reports on a periodic basis. These reports could be internally and externally aimed – the financial controller is responsible for both the financial statements and monthly reports to the management team. Job opening 16 describes:

“Concerning management reports, you are responsible for delivering standard periodic management reports (month, quarter and year) to management and supervisors, and going into deliberation with management, controllers and (external) accountants. You are also the contact point and advisor for management”

Job opening 4 describes the following fields of work in this regard:

- *Creation of (consolidated) balances*
 - *End of month closings*
- *Supporting the yearly accountancy and tax controls*
 - *Impairment tests*
 - *Accounting*
- *Checks and balances, balance sheet management*
- *Upkeep and assistance with the implementation of new procedures and accounting regulation*

As mentioned, the financial controllers also analyze the processes with which they work to look for improvement possibilities. They mainly use the financial data and other sources they come across for this end. Job opening 11:

“Analysis and improvement of processes based on own insight, regulation and instructions of the accountant”

And job opening 13:

“Actualizing and improving corporate- and financial processes and procedures, as well as the periodic control of these things”

In performing his duties, the financial controller acts as the financial expert of an organization, often being closely involved with management, and acting as a sparring partner for both management and the rest of the organization. A certain skillset is required of him to properly do his job. The job openings mostly mention a high-level education (applied sciences or higher) and years of experience in the field, preferably within the same area of the organization in the job opening. Some openings mention skills in excel, or experience working with ERP systems such as SAP, though this was only mentioned in about 1 in 3 openings. Language skills, however, were mentioned on more than half of

the openings, with 14 openings demanding fluent skills in Dutch and English, denoting an international side to the job.

The financial controller also has a certain set of competences that are asked of him in the job openings. An analytical and proactive mindset with good communicative abilities is the most common profile. Independency is asked more often of the financial controller than teamwork abilities are, and a result focus is mentioned more often than a customer orientation. As the financial controller has a job in giving away advice on financial matters, persuasive skills are also mentioned to a minor degree. Job opening 6 describes the financial controller's competences as analytical and systemic:

“A feeling for systematics and order in order to extract the right information out of vast quantities of data is important. As a person, you are in the possession of an analytical mindset to supply the management information with administrative and economic analyses”

Whilst job opening 8 can be seen to stress the cultural and sensitive aspects of a financial controller's role:

“You are capable of creating support amongst colleagues from all layers of the company, and are able to bring about change (high organizational and cultural sensitivity). You are also able to independently carry out projects, and carry these out with a hands-on mentality.”

It can be noted that job opening 8 is an example of a minority; most job openings favor analytical, systemic, accurate and structured people. This is true regardless of organization to which the job opening applies, whilst the companies and organizations to which the job openings apply vastly differ, with openings in financial recruitment, industrial, administrative and pharmaceutical companies being examples.

Regarding benefits, 8 openings mentioned training possibilities as part of job benefits. Of the 4 openings that mentioned salary by numbers, ranges of 2500-3100 and 4500 per month were mentioned, as well as 65.000 on a yearly basis - these were dependent on prior experience or education. Others (16 different openings directly describe salary conditions) described the salary as 'good' or 'conforming to market conditions'.

As an indicative validation of these observations, I have (subjectively) selected a set of ten relevant keywords from the Word frequency table, and graphed the number of Job Openings that used these keywords in their “General Features” section. The graph is presented in Figure 20. The clarification as presented in Figure 18 applies, *mutatis mutandis*.

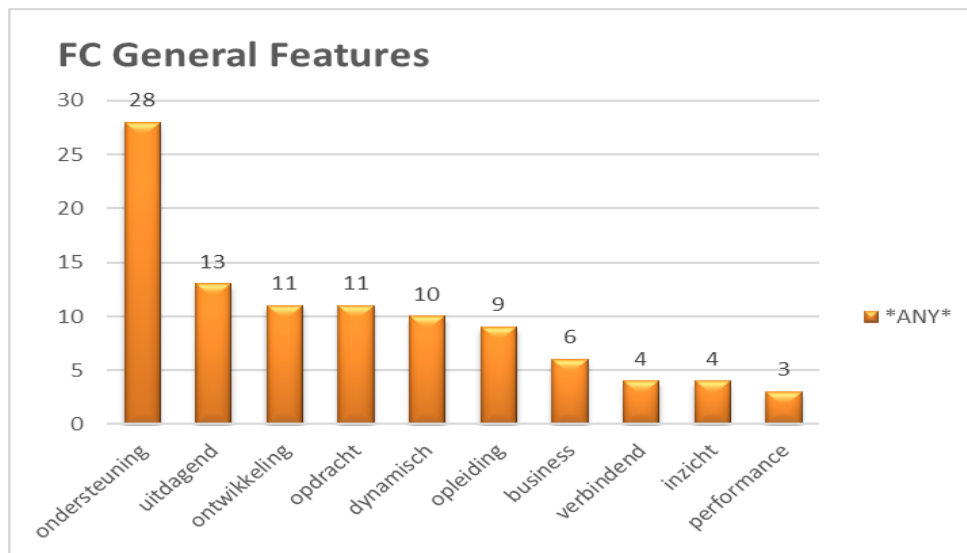


Figure 20: FC job openings containing selected keywords in 'General Features'

4.2.3 Differences & Conclusion

From the previous sections, the overall differences between the business- and financial controller seem apparent. My detailed analysis of the job openings (Appendix B) positions the BC's as (more often) an *Academic* with *Business* and *Communication* skills, which operates in *Dynamic*, *International Projects* in *Business* and *Finance*, focused on *Reporting* and *Analytics*. The FC is an *Independent* actor with *Financial* and *Accounting Knowledge*, who operates in a *Functional Team* in *Finance* and *Administration*, also focusing on *Reporting* and *Analytics*.

Compared to the 2014 “Wondergem” study my 2017 analysis has found more differences in General Features, Skills, and Tasks & Responsibilities. This seems to suggest that the jobs have indeed grown further apart over the last few years, although the size of the population is too small to be statistically significant.

4.3 INTERVIEWS

As described in chapter 3 Research Design, I have conducted 13 semi-structured expert interviews for which the candidates were selected in consultation with the NBA but included several non-NBA affiliated sources to prevent or at least limit potential bias from the official NBA point of view. The list of interviewees is presented in Figure 21.

Interviewee description	Type of contact
1. Head of finances, semi-public organization	NBA contact
2. Professor of economics	Personal contact
3. Financial manager start-up company	NBA contact
4. Controller in large innovative organization	NBA contact
5. Managing partner at intermediary/consultancy company	NBA contact
6. CEO of a small innovative company	Personal contact
7. CEO of a small innovative company	Personal contact
8. Accountant at a large accountants' firm	Personal contact
9. Head finance business analyst & IT banking at a large bank	NBA contact
10. Business development manager finance in intermediary organization	NBA contact
11. Manager Finance & Control at large insurance company	NBA contact
12. Double interview - Head of concern control at a large Dutch municipality - Cluster controller at that same municipality	NBA contact
13. Information architect and requirement engineer in non-profit organization	NBA contact

Figure 21: Final interview list (repeated)

These interview candidates were selected for either their (previous) experience in the financial positions, or because of their frequent dealing with controllers as a business manager or CEO. Past occupations and experiences with control were touched upon in the introductory part of each interview, confirming that indeed 6 of the interviewees had experience as a controller (with or without the formal job title), whilst 7 had experience working with, or employing a controller.

The interviews also showed many ambiguous job titles such as *Financial Analyst* and *Performance Manager*, and many mixed functions in the financial sector covering Controller roles and functions. This ambiguity made it impractical to present a qualitative analysis of my research population, as most segmentations would result in only one or two participants per category. However, based on the findings from these introductory interview parts, I have decided to accept all interviewees as sufficiently knowledgeable to use their input for this thesis.

4.3.1 Interview elements

As planned in my structured approach, I have deconstructed the results from thirteen interviews (20+ hours of verbal input) into multiple level qualified text elements or 'statements'. From the 393 statements, I qualified 105 statements as specifically describing the "Modern Controller", explaining the characteristics of the modern FC, the modern BC, the difference between Financial Control and Business Control, or (in 40 statements) the shared characteristics of both controllers.

In an attempt to gain quantitative insight into these statements, I have used the same approach as I have applied to the analysis of Job Openings: I have arbitrarily selected a group of meaningful words, and counted the number of respondent subcategories where these words were used (note: with 13 respondents and 4 subcategories (BC Modern, FC Modern, Modern Difference, Other) the potential maximum is 52). This resulted in the following graph (Figure 22):

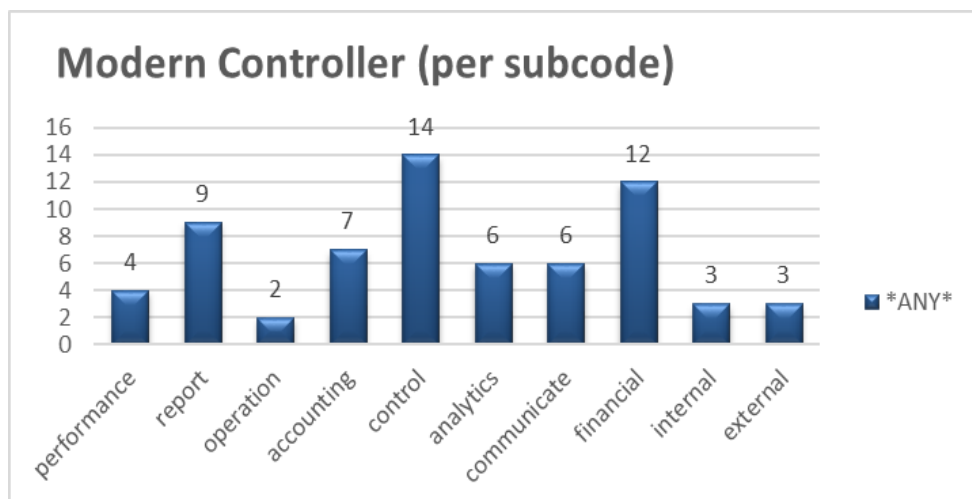


Figure 22: Keyword frequencies per modern controller subcategory

Obviously, the more interesting question is: how often do these terms show up with the BC versus the FC. This question resulted in the following graph:

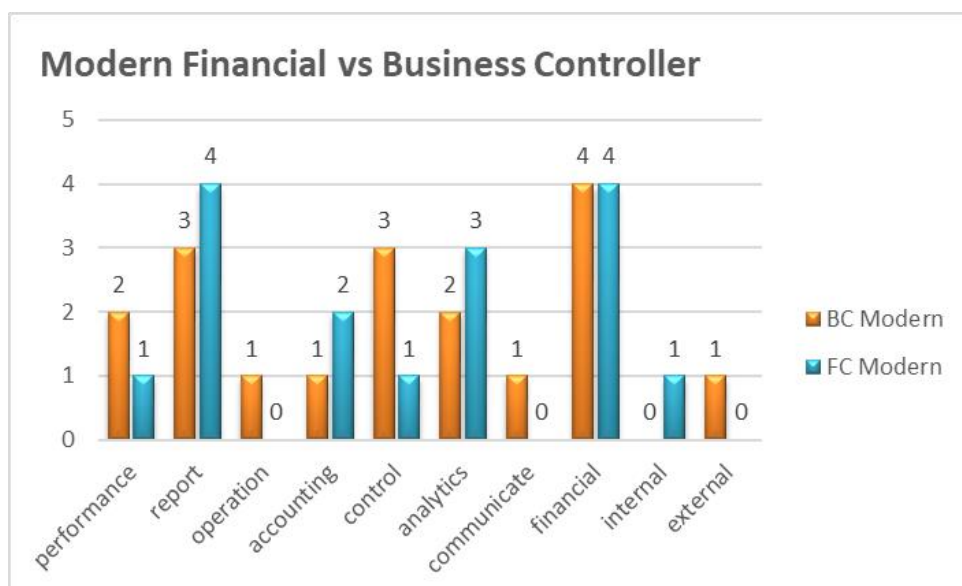


Figure 23: Keyword frequencies modern FC vs BC

(note that the totals in both figures do not correspond: Figure 23 does not include the Subcategories “Modern Difference” and “Other”.)

As the numbers in the graph illustrate, even with 20+ hours of input from 13 interviews and 105 relevant statements, there is hardly enough common use of vocabulary for a quantitative analysis.

Thus the major result from the interviews in defining the Modern Controller is the qualitative summary of the statements from the interviewees, constructed by grouping the statements for the subcategories FC and BC. The results are presented in the following exhaustive lists of relevant interview fragments, in Figure 24 and Figure 25:

Statements regarding the Financial Controller (exhaustive list after interview coding)
<ul style="list-style-type: none"> • FC is more of a reporting person, does accounting and creates reports. Has to work with Excel, and IT • Does no 'control', just makes reports. Gets data together, puts budget vs reality, makes a first analysis of differences • Gives analysis over past, administrated events • Is responsible for the production of financial reports • Sees his work getting more automatized -- the accounting part is done more and more by robots. More and more is done by algorithms. New work may lay in determining these algorithms • FC is concerned with different reporting regulations, like US GAAP, IFRS etc. but also statistical analyses, compliance such as SOX • Balance, Profit & Loss, cash flow are examples of the FC's domain • The ledger represents reality - and it's the FC's job to understand reality and translate it into forecasts and advice. FC uses financials and non-financials, looks at drivers and does the reporting. FC thus does the main analysis activities. • FC should be internally focused in gathering data. FC builds the data, and touches upon performance management with this data. • FC is based on financial administration and affiliated systems. He talks with managers about realization, obligations, end-year expectations. The results of this lead to BC work. • FC checks sources for correctness, accuracy, completeness. He is about the numbers.

Figure 24: Financial controller statements

As the following table shows, if only from comparing the number of statements, the interviewees envisage a much larger role for the BC than for the FC. Amazingly, the average statement length is the same: 214 words/11 statements vs 423 words/22 statements – this suggests that interviewees indeed have more to say about the BC, it is not just a matter of (emotional) verbosity.

Statements regarding the Business Controller (exhaustive list after interview coding)

- The BC does performance management. Supervises transactions in the organization, and compares performances within an organization and to the market. He also does information analysis, approaching the use of Big Data
- The BC works with reports from FC, external and operational data
- BC has a role in linking the different parts of an organization
- BC has general knowledge and is a financial specialist
- BC gives advice to business and management whilst understanding the financial side
- BC is close to the business side of the organization.
- BC analyzes data from beyond the own administrated data: Competition, future forecasts, etc.
- BC plays the counter-role against management the most: holding a mirror in front of business.
- BC uses financial reports and also extra information, such as balanced scorecards, or budgets.
- BC should get into discussion with management, which he sometimes might lose. He should have political skills because of this
- In the business, it's about the clients and making things possible
- BC is accountable for his part, which is accounting and decision support of management.
- BC's like getting the core of the business; seeking drivers, finding KPI's.
- There are several different choices to make in business. A business controller creates a business case with scenario's and variants of it -- aspects such as costs and competition etc. This helps make business choices
- Some companies don't hire a financial for a BC, but retrain 'engineers' for the function instead, as they expect IT to become important in it
- BC should know much about the entire organization -- some organizations hire people with a business administration, but not a financial background for BC
- BC is aware of what goes on in an organization, and is able to compare it to industry standards
- IT is a large part of the business advice role, as IT is nowadays a driver of strategy
- BC is able to mirror, and not go with the business, but be their conscience. Takes a lot more aspects into the job, like competition, clients, growth possibilities. Has expertise both in the own company and in external and future developments. Performance management is more the BC job than the FC's.
- Works with the results of FC work to create a whole picture. Studies primary process, KPI's, focal points, and advises the manager integrally - over a total picture
- BC should be communicatively strong both now and in the future
- BC occupies himself with 'sample data', analysis, business impact of actions. Needs to be vigorous and have connective abilities. He usually has more complex tasks than the FC.

Figure 25: Business controller statements

The semi-structured interview explicitly asked for differences between both roles (similarities were not explicitly asked), and the responses in this subcategory were even more numerous. For readability, I have eliminated (near) identical statements from multiple interviewees, and abbreviated some texts. For full text please refer to Appendix E.

Unique statements regarding the differences between FC and BC
<ul style="list-style-type: none"> • The analysis job is the borderline between BC and FC, because FC does the first analysis, whilst the BC focusses on the detailed analysis. FC makes sure the accounting is in order, and the BC proceeds from there • FC is oriented to the historic time period, whilst the BC is oriented toward the future • FC produces and controls production of financial reports, the BC controls activities • FC is more external reporting & accounting, BC is more decision support & internal control • FC has an internal role focused on the external, BC is aimed at the business, uses internal information and has an external communication role • The different roles are suited to different skills, BC and FC are dependent on personality factors • FC are focused on financial information, BC are focused on both financial and non-financial • FC is focused on reporting, but also oversees other things like statistical reports, overseeing audits. BC looks at company-wide information, like KPI's, key controls, dashboards, and checks whether the company is on track concerning strategy • BC is more communicative, teamworking, client oriented, visionary, entrepreneurial whilst FC is a specialist -- independent • FC can be specialist about reporting, BC should be able to know all aspects of a company • FC is aimed at reporting and historic data, BC more at the future and management support • In smaller companies, the roles are usually combined in 1 or 2 people. • Traditional separation: controllers and administration: Controllers interpret the data gathered by administration, and give that information to management to support processes. • In one contact's experience, the less skilled controllers limit themselves to financial data, whilst a more skilled controller could actually create much more value when he looks past financial data • BC should have more communicative skills and listen and understand what the business side of an organization wants. The BC should be the bridge between management's wishes and how to extract them from financial data • FC will do reporting and makes sure the accounting is done right; will not have time to do much more. BC will look at the meaning and the risks based on these reports. • BC should think in opportunities, and should be able to let go of the numbers in that regard

Figure 26: Unique statements on FC vs BC

4.4 SCIENTIFIC CONTEXT

I concluded from my literature review in [chapter 2](#) that the controller profession could be said to revolve around the production, provision and use of financial information in organizations. There were many definitions of the controller role, and many ways to take controller role into perspective. I discuss the similarities and differences between my results and the theory discussed in [chapter 2](#).

4.4.1 Controller role

In [chapter 2](#), I discussed the various roles that literature had appointed to the controller profession. Among a dozen different insights, a clear distinction was between the support and the control roles of a controller – respectively referring to what seemed business controller and financial controller archetypes (Sathe, 1982; 1983).

Indeed, the division that Sathe uses can be seen in the results, as the business controller shows similarities with *the involved controller*, which had a primary emphasis on the support of management-decision making. For controllers in this role, active involvement in and with the management decision-making process was desirable.

The second role lay with the financial reporting and internal control responsibilities. This role was called the *independent controller* role. This role emphasized independence and objectivity when dealing with management, rather than involvement. Clear similarities can be seen with the above described results for the financial controller.

Role theory literature into controller roles has focused on controller involvement with management (CIM), and found that controllers' roles vary depending on 3 different factors (Verstegen et al., 2007; Roozen & Steens, 2006);

- Personal characteristics: Controllers' own motivations and personalities
- Internal environment: Controllers' relationship with management and management expectations
- External environment: External factors and the environment in which the controllers' companies operate

This is reflected in the results, as respondents often pointed out that the actual distinction between financial controllers and business controllers was based on the different skills, competences and personality factors that controllers exhibited. Many interviews also pointed out how external factors, especially technology, drove change in the controller role (See [chapter 5](#)).

Figure 28 presents an exhaustive list of the material statements regarding the NBA integral control model:

Statements regarding the integral control model
<ul style="list-style-type: none">• The FC is more about information management, and not so much about the others functions in the model. He does get information from IT, but does not actively use or control it.• The model can't be maintained in 5 years' time, as corporate strategy and IT strategy will be joined together. This is especially true for the large corporations that are ahead in IT usage.• Information and data strategy will become more important, but no strategy thought up of now will be viable in 5 years. Strategy does not work exactly as it did anymore - adaption may be better overall. Strategy might be replaced with opportunity management: Scanning the environment for possibilities and taking opportunities.• The model does not stay the same, so the role of the controller can't be expressed by it. It was also not easy to use.• Model could do with a purple approach. IT is not part of control in our current organization.• However, at least one contact (contact 8) found that strategy will become more important, as it has become more important over the years. Same goes for IT, which would become a bigger responsibility for controllers

Figure 28: Integral control model statements

4.5 SUMMARY AND CONCLUSION

Based on data, literature and analysis in this chapter, we can now draft profiles for the Modern Business Controller (Figure 29) and the Modern Financial Controller (Figure 30).

PROFILE CURRENT BUSINESS CONTROLLER

TASKS

The overall task of the Business Controller is to review, analyze, and predict business performance based on financial and nonfinancial data to support management decisions and internal performance. This includes:

1. **Gathering internal and external data** relevant for processing to internally used information. Internal data can include financial reporting data, performance management data as well as other internal statistics. External data may include market trends, competitive information and other external developments. The data gathered must be relevant for the development of a view and understanding of organizational business plans and propositions
2. **Create information relevant to internal decision-making** by supervising internal transactions, analyzing internal and external data, and the creation of reports. Supervising focusses on comparing performances within the organization and to the market. Analysis includes calculating different business cases, prize margins, costings and budgets, and overall future forecasts. Reporting includes financial and operational KPI's, revenue and margin developments.
3. **Informing and advising management** based on these reports, and thereby shape the strategy and the financial policy of the organization.
4. **Supporting the development and implementation of control methods** and financial and operational risk management. This may include performance management.
5. **Evaluating** current processes and initializing and **implementing improvement processes**.

BUSINESS CONTROLLER SKILLS

In general, the BC has financial and operational knowledge of the workings of his organization. He works well with management and finance. He has deep analytical and good communicative and persuasive skills, in order to convey the importance of his financial information to the business side of the organization. His skill-set includes:

1. **Financial expertise**, both from an education in Finance and from personal experience working in Finance
2. **Knowledge of processes and operations**, both from education on general organization, and from working experience, preferably in his own organization
3. **Great analytical skills**, the ability to determine which data is relevant, the capability to collect, work with and analyze all kinds of data, including financial, operational, internal, and external data
4. **IT Systems expertise**, including experience in working with, and a deep understanding of, information systems such as SAP and other ERP-systems, as well as supportive information technologies ranging from Corporate Business Information Systems to Excel
5. **Translator between disciplines**, working with the Financial Controller and with line management, translating between economics and business, finance and statistics, and across various departments in the organization

6. **Personal skills**, including good communicative and persuasive skills, which are needed in order to bring his financial arguments across to management. A critical and proactive attitude, he must be a team player.
7. **Language skills** include business English and other relevant languages in his organizations operating areas.

BUSINESS CONTROLLER ROLES

The primary role of the Business Controller is to be an advisor to (higher) management. This includes:

1. **Sparring partner** for management, discussing strategies and intended decisions, holding a mirror to management and challenging them with financial outputs
2. **Financial expert** for upper and middle management

EXTERNAL DEVELOPMENTS

External developments important to the business controller include any developments that influence the strategy and operation of the company, including technical opportunities & threats, changing and expanding requirements on the company from sustainability perspective, and regulatory changes. The most important of these are:

1. The development and availability of **big data**
2. **Generic technology developments** that influence business decisions
3. **IT, automation and standardization of finance** that fundamentally changes the financial role
4. **Internet of things** that changes the nature of information flow
5. **Robotics** influence the way of doing business on multiple accounts
6. **Changing regulations** on accounting and reporting
7. **Ethics, corporate responsibility and durability** change the nature of information that the business controller gathers and uses, but also his role in the organization
8. **Generational gap** between the older paper-bookkeeping financials and those born in the information technology era
9. **New business models and new stakeholders** due to social, technological and business developments

WORKING ENVIRONMENT

The Business Controller is employed by any type of organization, ranging from child care to financial recruitment companies. He has a permanent, preferably full-time appointment, and a salary that depends on his prior experience as well as the scale and type of the organization.

EDUCATION

The Business Controller is well educated, mostly from an academic background in accounting and finance. Some organizations accept an applied sciences (HBO) education, others require a (post-)master (RA, RC) qualification.

Figure 29: Profile current business controller

PROFILE CURRENT FINANCIAL CONTROLLER

TASKS

The overall task of the Financial Controller is to provide quality financial information regarding the organization, both for management and for external parties. This includes:

1. **(Monitoring the) design of financial** processes, to enable adequate data collection and reporting. Ensuring that processes are followed, and the data generated is actually correct, accurate and complete.
2. **Accounting**, including the performance of year-end and end of month closings, creation of (consolidated) balances, check and balances and balance sheet management. The FC is also involved with impairment tests, tax controls and the implementation of accounting regulations.
3. **Extracting and analyzing financial data** and that is useful for management and external parties.
4. **Creation of financial statements and reports.** Financial statements are externally aimed, but the FC also creates internally aimed reports that include margins, costing, KPI's, costs and revenues, budgets, and financial forecasts. Reporting is done on monthly, quarterly and yearly basis.
5. **Informing and advising management** about performance improvements based on these reports, and thereby shape the financial policy of the organization.
6. **Testing the financial processes** relating to the administrative organization and internal control

FINANCIAL CONTROLLER SKILLS

In general, the FC has financial knowledge of the workings of his organization. He is independent to ensure that financial reports represent reality. His skill-set includes:

1. **Financial expertise**, both from an education in Finance and from personal experience working in Finance.
2. **Knowledge of financial processes and financial operations**, both from education and from working experience, preferably in his own organization.
3. **Knowledge of reporting regulations**, like US GAAP, IFRS and SOX
4. **Great analytical skills**, the ability to determine which financial data is relevant, the capability to create new insights, improvements and new financial perspectives.
5. **IT Systems expertise**, including experience in working with, and a deep understanding of, financial information systems such as SAP and other ERP-systems, as well as supportive information technologies ranging from Corporate Business Information Systems to Excel.
6. **Personal skills**, including independence, perseverance and fortitude. An analytical and proactive mindset.
7. **Communicative skills** including English language and, to a minor degree, persuasive skills

FINANCIAL CONTROLLER ROLES

The primary role of the Financial Controller is to be a reliable source of Financial Information to internal and external parties. This includes:

1. **Policeman** for financial processes and transactions.
2. **Guardian** of information accuracy, correctness and completeness
3. **Expert** on financial affairs throughout the organization
4. **Translator** of reality into financial data, forecasts and advice
5. **Sparring partner** for both management and other parts of the organization from a financial perspective

EXTERNAL DEVELOPMENTS

External developments important to the financial controller include regulatory changes as well as any developments that influence operation of the company. The most important of these are:

1. The development and availability of **big data**
2. **Generic technology developments** that influence business decisions
3. **IT, automation and standardization of finance** that fundamentally changes the financial role
4. **Internet of things** that changes the nature of information flow
5. **Robotics** influence the way of doing business on multiple accounts
6. **Changing regulations** on accounting and reporting
7. **Ethics, corporate responsibility and durability** change the nature of information that the business controller gathers and uses, but also his role in the organization
8. **Generational gap** between the older paper-bookkeeping financials and those born in the information technology era
9. **New business models and new stakeholders** due to social, technological and business developments

WORKING ENVIRONMENT

The Financial Controller is employed by any type of organization, ranging from financial recruitment, industrial, administrative and pharmaceutical companies. He/she has a permanent, full time appointment, and a salary that depends on his/her prior experience as well as the scale and type of the organization.

EDUCATION

The Financial Controller is well educated, from academic or applied sciences (HBO) education in accounting and finance; larger organizations require a (post-)master (RA, RC) qualification. Almost every job opening for a financial controller position requires years of experience in finance.

Figure 30: Profile modern financial controller

5 EXTERNAL DEVELOPMENTS

In this chapter, I describe the results pertaining to the external developments found to be important to modern and future controllers. External developments vary a great deal in multiple dimensions; they could distinctly have an effect on the responsibilities, skills or roles a controller can have, they can affect the modern, historical or future controller, and their effect can be very heavy or quite light.

In the original approach to this study, I intended to identify the strength of impact for each development on each aspect of the Financial controller and the Business controller. In reality, this ambition proved to be impractical and far too detailed. All interviewees not only used their own contextual vocabulary and framework as to developments, but also spoke of influences in generic terms. Thus the best possible outcome from this study consists of a synthesized list of developments and their expected impact, quantified by the number of interviewees who recognized each of these developments. Even with this simplified outcome, the developments are not independent or even disjunct - a quantitative analysis of independent autonomous developments is simply not feasible within the scope of this type of research project.

It should be noted that this is not a model-based analysis, but a bottom-up inventory, limited to the expectations of a small group of financial experts; thus the results are not coherent, the collection should not be regarded as exhaustive, and the expectations should not be valued as predictions.

To provide some structure to the list of developments, I have grouped these in three sections. Section 5.1 focusses on autonomous technical developments; section 5.2 focusses on the developments in society and business; and section 5.3 deals with indirect developments, which may be attributed to any combination of the other developments. A summary conclusion is provided in Section 5.4

5.1 TECHNICAL DEVELOPMENTS AND THEIR INFLUENCE

The interviewees have identified a series of Technical Developments which I have grouped into the following categories:

1. Generic Technology Developments
2. IT, automation and standardization of Finance
3. Big Data
4. Blockchain
5. Internet of Things
6. Robotics

5.1.1 Generic technology developments

Although technology is generally seen as an important influence on anything in this age, this usually relates to specific developments. It is interesting to see that 6 of the 13 interviewees have recognized that *generic* technological development tends to change the shape of society, of business, and hence impact the role of the Controller. This impact is realized in many different ways, and there is no common understanding of the *how* and the *where* of the impact, but “technology changes everything”. Although this doesn’t translate to anything immediately actionable, it does imply that the pace of change will continue to increase, and adaptability and technological astuteness will be asked from both the financial and the business controller of the future.

“Technology is the most important factor will drive change in other factors...” (contact#4)

5.1.2 IT, automation and standardization of Finance

Next to the generic impact of technology, most of the interviewees (7 out of 12) recognize the impact of technology on the Financial Sector as a major development. IT / automation offers standard solutions, companywide integration, simplified processes, and efficiency. Many tasks of the classic Financial Controller have been eliminated and many more will follow, and the Business Controller will follow this example in the preparation of Business Reports. Standardization is seen as a timesaver through reduction of complexity.

5.1.3 Big Data

The analytical possibilities of “Big Data” are explicitly mentioned by six of thirteen interviewees, a group which only partially overlaps with those who mention “IT / automation of Finance”. The reason for this appears to be that “Automation of Finance” impacts most of all the activities of the Financial Controller, and opens up some possibilities for the Business Controller, whereas Big Data gives the Business Controller a whole new source of data. At the same time however, Big Data can change the nature of the business, which will obviously change the role of both the Financial and the Business Controller. One interviewee noted that Big Data may result in information overflow, which will make it more difficult to stay in control; but in general, there is:

“a lot of confidence that Big Data will make the invisible visible” (contact#2)

5.1.4 Blockchain

Five out of thirteen interviewees mention the Blockchain technology as an important development, although there is some uncertainty, and it is generally regarded as “far future”. The impact is not elaborated other than “change the entire accounting world”.

5.1.5 Internet of Things (IoT)

A less obvious but potentially important technological development is the IoT, recognized by only two of the interviewees. Both explain that the IoT will change the focus from financial information to non-financial information.

5.1.6 Robotics

Another less obvious autonomous technological development is the increased use of Robotics. Five interviewees mention robots and robotics as a relevant factor, but of these five, four just list Robotics as one of a series of developments. One interviewee explains that because of robotics, new (programming and management) functions will be created, entire departments may be replaced by robots, and licensing may impact financial decision making – but it remains unclear how / how deep this will impact the Financial or Business Controller.

5.2 SOCIAL & BUSINESS DEVELOPMENTS AND THEIR INFLUENCE

The interviewees have identified a number of autonomous Social and Business Developments, which I have grouped into the following categories:

1. Changing external Expectations and Regulations
2. Ethics, Corporate Responsibility & Durability
3. Generation Gap
4. New Business Models & Stakeholders

5.2.1 External expectations and changing regulations

Although these two developments are very similar in nature, they are mentioned by two different groups of three interviewees each. The impact of changing regulations is so obvious that it would seem that other interviewees haven't mentioned it for that reason alone. Three interviewees expressed their idea that the expectations of a Controller alone, even without regulations, would still impact the role, tasks, and required capabilities. In the context of role theory, one can but agree with this.

5.2.2 Ethics, Corporate Responsibility and Durability

Six out of thirteen interviewees have indicated that developments in these area's will impact the role of the Controller. Partially this is caused by widening the scope beyond the sheer financial aspect – although at least one interviewee thinks that Financial Shareholder Value will remain dominant. Still, interviewees expect that Controllers will have to focus on a different kind of data collection.

“...an enlightened concept of profit, in which durability and ethics play a part” (respondent#2)

5.2.3 Generation gap

Of those who mention the Generation Gap, four interviewees think it is relevant, although all name different impacts: seniors don't understand technology, people need to keep learning, youngers don't understand administration, the next generation takes decisions in a different way. One interviewee isn't bothered: "*it happens*".

5.2.4 New business models and new stakeholders

To an external observer, this could be the most important development possible: if the whole nature of the business changes, including the Stakeholders, then surely the Controller will have to change dramatically as well. Still, of the thirteen interviewees, only three have mentioned this development, and none have elaborated on this. The common understanding appears to be that the current Financial and Business Controller roles will be able to cope with the "new" models without much change.

5.3 SECONDARY DEVELOPMENTS AND THEIR INFLUENCE

The interviewees have identified a number of developments which may result from any combination of technical /social / business developments, which I have grouped into the following categories:

1. Increased speed of change
2. New reporting requirements
3. More time for analysis
4. More chances for innovation
5. Increased demands on data security & reliability
6. Changing careers in finance

5.3.1 Increased speed of change

Speed of change is a consequence not only of the increasing speed of technology, but also of the combination of various other developments. Another factor mentioned is the shortened lifespan of Company Strategies. Although this was only listed explicitly by three interviewees, it was implicitly present in most interviews. The nature of this project may however have caused some bias, as it focused on expected changes from the start. Again, there is little value here in the sense of actionable information, other than:

"People should keep learning in this changing age" (respondent#9)

5.3.2 New reporting requirements

As a result from changing business models, ethics, corporate responsibility, new regulations, and possibly even the Generation Gap (taking decisions in a different way), one might expect quite a change in reporting requirements, but only two of the thirteen interviewees mention this explicitly. From the perspective of this study, the future reporting requirements, if we could work them out in more detail, could provide a good understanding of the future roll, task, and capabilities of Financial and Business Controllers. Unfortunately, none of the interviewees has explicitly or implicitly elaborated on this.

5.3.3 More time for analysis

Three interviewees have explicitly mentioned that, because of digitization / computers / automation, Controllers now have more time available for analysis. As a development, this can hardly be a driver for change, unless one accepts that there has always been too little time for analysis in the past. The impact on the role and capabilities of the controller seems limited; only the operational activities will be affected.

5.3.4 More chances for innovation

Although four interviewees mention different aspects of innovation, only one recognizes that there is more room for innovation. The context of the remark shows that the intended innovation regards the Controller's domain – which would indicate that “Innovative Capabilities” is a new Controller requirement.

“Transaction work is automated, so [...] there is more room for innovation” (respondent #3)

5.3.5 Increased demands on data security & reliability

Of the thirteen interviewees only *one* mentioned data security and data reliability, and without this one person this development would not have been listed in this thesis. The broad attention for Big Data, and the financial scandals recognized by two other interviewees may eventually result in this development gaining importance, reinforcing / reinstating the “policing” aspect of the Controller's role, and requiring additional education and capabilities.

5.3.6 Changing career paths in finance

Only one interviewee raised this subject: changing roles and capabilities for the Controller should also lead to new recruitment and a revised Career Path. These new roles and capabilities must obviously be charted first – and this study might provide a useful step on that route.

“Recruitment right now is still very old school” (respondent #10)

5.4 SUMMARY CONCLUSION ON DEVELOPMENTS

Many developments influence the role of the Controller in the future. It is not feasible or useful to separate these developments into BC and FC related groups, nor is useful to list each variation of an expected development in detail. Using common sense criteria, the developments expected by the interviewees can be listed as follows:

Technical	Social & Business	Secondary
<ul style="list-style-type: none"> • Generic technology developments • IT, automation and standardization of Finance • Big Data • Blockchain • Internet of Things • Robotics 	<ul style="list-style-type: none"> • Changing external expectations and regulations • Ethics, Corporate Responsibility & Durability • Generation Gap • New Business Models and Stakeholders 	<ul style="list-style-type: none"> • Increased speed of change • New reporting requirements • More time for analysis • More chances for innovation • Increased demands on data security & reliability • Changing careers in finance

Figure 31: Major external developments that influence the controller role

The following table shows the frequency for the various developments in the interviews (n=13)

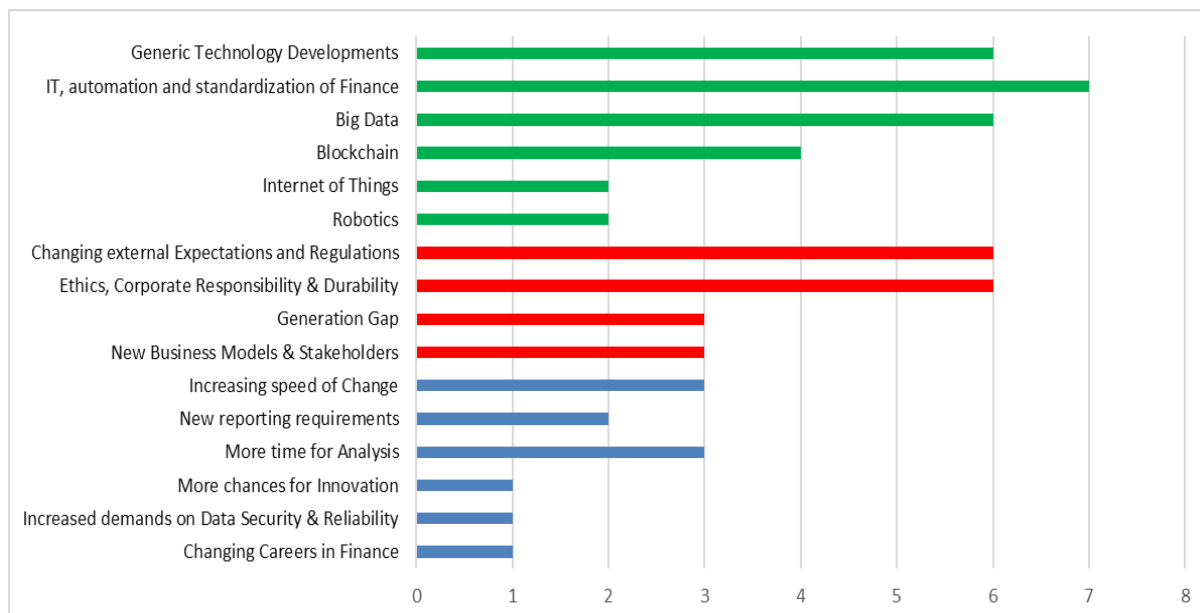


Figure 32: Frequencies developments are mentioned in interviews

6 THE CONTROLLER OF THE FUTURE

In this chapter I will draft my expectation regarding the profile of the controller anno 2022. This expectation is based upon

- The NBA meetings and vision documents on the financial professional
- The current “current controller” profile, as described in chapter 4,
- The expected Developments as contributed by the expert interviews as described in Chapter 5,
- The expectations of the individual experts, which will be discussed in [section 6.1](#)
- Expectations as published in scientific literature, as discussed in [section 6.2](#)

This all leads up to [section 6.3](#), which will be my answer to research Sub-question3.

6.1 INTERVIEWS

As described in chapter 3 Research Design and chapter 4 The current controller, I have conducted 13 semi-structured expert interviews as listed in the following table.

Interviewee description	Type of respondent
1. Head of finances, semi-public organization	NBA contact
2. Professor of economics	Personal contact
3. Financial manager start-up company	NBA contact
4. Controller in large innovative organization	NBA contact
5. Managing partner at intermediary/consultancy company	NBA contact
6. CEO of a small innovative company	Personal contact
7. CEO of a small innovative company	Personal contact
8. Accountant at a large accountants' firm	Personal contact
9. Head finance business analyst & IT banking at a large bank	NBA contact
10. Business development manager finance in intermediary organization	NBA contact
11. Manager Finance & Control at large insurance company	NBA contact
12. Double interview: - Head of concern control at a large Dutch municipality - Cluster controller at that same municipality	NBA contact
13. Information architect and requirement engineer in non-profit organization	NBA contact

Figure 33: Final interview list (repeated)

The NBA contacts (and the accountant) as listed in this table need no further explanation as credible and useful sources for “Controller of the future”. The two CEO’s of small innovative companies were added not only to overcome potential NBA bias, but also because they might be able to draw an unexpected and innovative picture of the future Controller, based on their requirements from a new and innovative company. Although neither NBA bias, nor revolutionary insights showed up in the interview results, the availability of this external input still improves the validity of the results.

6.1.1 Interview elements

The deconstruction of the results from thirteen interviews into multiple level qualified statements delivered 112 statements as pertaining to the “Future Controller”, of which 20 directly concerned the BC and 27 directly concerned the FC. Even a superficial qualitative analysis (a “quick read”) clearly shows that the expectations for FC and BC are too different to use the combined statements in a Keyword Quantitative Analysis. I have therefore limited the interpretation of the interviewee’s expectations to three qualitative steps:

1. overview and (subjective) summary of BC expectations
2. overview and (subjective) summary of FC expectations
3. selected generic expectations regarding the Controller profile

6.1.2 BC expectations

The following table presents the expectations regarding the BC profession, textually condensed and segmented for readability:

Condensed statements regarding the future Business Controller
<ul style="list-style-type: none">• A greater availability of information leads to a broader view for controllers• Translating business propositions into money gets more important• More technical and analytical skills, may even become a data analyst in the future• Increased advisory role, the BC joins in managerial discussions about running the company• Focus on financial support in decision making - making the finance part of the organization useful• Only the BC and the manager view the entire organization, and seek out value.• The BC role will remain as he knows everything about the organization• A good business controller remains a sensor, understanding trends, technology and competition• BC keeps understanding the entire organization - how processes function and where value is created• BC becomes more future oriented, advising but also think longer term: integrity, durability shareholders etc.• BC becomes less profit oriented, more shareholder oriented; including (eg) durability reporting• BC keeps adapting to rapid developments and keep advising management about these• More IT means more judging of IT and its possible role in the organization• BC must be able to interpret even better, especially on IT subjects• The BC will have to specialize into more subjects

- The BC should look at risks and numbers, not necessarily trend watching
- The BC should do no marketing strategy
- BC should do even more external-to-internal analysis and scenario analyses.
- Less time needed gathering data will mean more time for analysis and scenario making.
- look external even more - stay relevant; future oriented, very important for decision support.
- Needs knowledge of IT to translate his own tasks.
- much more complex tasks, mainly external and future aimed.
- Consulting and presentation skills required.
- More information availability means a bigger business partner role

Figure 34: Condensed future BC statements

The generic image that arises from these statements is a consensus on a bright future for the BC role, gaining in scope, weight and influence.

The major expectations regarding the BC can be summarized as:

1. Acquire and process more external data
2. Maintain understanding of the workings of the whole business
3. Absorb new developments and learn how to best react to them
4. Continue to grow as an advisor to Management

6.1.3 FC expectations

The following table presents the expectations regarding the FC profession, textually condensed and segmented for readability.

Condensed statements regarding the future Financial Controller

- FC should stay focused on translation of business concerns into finance
- FC will slowly disappear due to automation of reporting; his role and tasks will move to the administration department
- FC will use more non-financials, understanding business will become more important
- FC role will not exist in 15 years' time
- Robots will take over analysis and prediction; remaining FC tasks will be outsourced
- FC role will not vanish, finance translates everything in euros, analyzes, steers
- More entrepreneurial skills will be needed of the FC
- Historical data doesn't add much value -- looking to the future does
- FC will always be needed somehow as the independent conscience of an organization

- Classical FC role will decrease substantially through automation
- More future oriented role for the FC can still create value
- FC will have to be able to work with the IT tools and be a data analyst
- A decrease in administration work is noticeable
- Organizations will always need traditional financial information, this will still need people
- Controllers will still be needed to oversee (machine) reporting
- FC will remain because someone must decide whether the numbers still check out
- IT specialist combined with FC would be ideal
- There will be no more general accountant, as less time for standard tasks allows people to specialize more in areas of their choice; controllers will find new roles in specialization
- For now the FC stays important, as external reports become larger and larger
- FC retains focus in changing regulations and compliance and overseeing the financial process.
- Efficiency leads to diminishing roles but someone is always needed who understands the process
- Administration digitalization requires less low-end accountants, but more high-end
- FC will move to other tasks and responsibilities
- FC will become the semi-IT expert who translates from the black box to reports
- FC and BC will merge into a single controller
- Translation from the IT to the business remains. FC may become financial/IT controller.
- The FC will not disappear nor move to a single controller role

Figure 35: Condensed future FC statements

The expectations for the FC are quite different in nature from the BC expectations, but although there are different opinions regarding the end result and the way it is organized, all experts agree that in the long run, the classical tasks of the FC will diminish and all but disappear. The remaining function of translating computerized data into meaningful information is recognized by most, but many expect this to be reallocated to a different function inside the company, either to the BC or to the administration department. Some experts approach the question from the perspective of maintaining a “raison d’être” for the FC or the accountant, and seek solace in widening the scope towards that of the current BC.

The major expectations regarding the FC can be summarized as:

1. Technical tasks will be standardized and automated ever more
2. More time for analytics will not “save” the FC because this is automated as well
3. The supervisory task regarding automated data processing will remain
4. Allocation of the remaining task(s) may move to different staff / department
5. Thus, the FC may remain with largely different tasks, or may disappear altogether

6.1.4 Generic controller expectations

The expectations regarding the generic controller profession mainly consist of a repetition of the expectations for the individual BC and FC roles. The interview elements which have not been listed before are listed in the following table.

Selected statements regarding the generic future controller role
<ul style="list-style-type: none"> • Combining controller roles in one person may be the future, but the viability of that combination still depends on personal skills and competences • Controllers must understand the accounting process, but will have to use accounting to do much more • Controllers are isolated and specialist in nature -- this is not their future. They must start to reach out more • The controller will have an interpretive job until technology will allow the manager to do it by himself • The specialists of the job will be consultants or entrepreneurs • Creativity, marketing, communication, networking and personal leadership gain importance • The controller of the future needs to guard the integrity of leaders - ethical guardianship. • Financials will become IT experts, business experts and compliance and regulation experts • Rotation between companies and gaining experience will be the new career path, • The controller must be the conscience - checking management decision against morality and corporate philosophy • Control will always be needed to solve information asymmetry between layers or functions • The controller provides check and balances and keeps thinking and advising between the levels • The controller has a position in judging information, also about IT results and its reliability • There are more and more specialist controller roles emerging

Figure 36: Selected generic “future controller” statements

These expectations are quite different from the (other) BC / FC expectation in this respect that they do not paint a coherent picture of the future controller. These statements appear to be side effects,

warnings, and wishful thinking. Even the skill requirements and the remarks on the personal qualities of the Future Controller lack the weight of a well-founded prediction. Therefore, although I do find these predictions of worth on their own, the prediction of the Future Controller Role as described in the last section of this chapter, barely incorporates these generic expectations.

6.2 LITERATURE

In chapter 2, I addressed the scientific literature regarding controller role change. The results of the interviews have had a number of similarities and differences with the subjects touched upon in the second chapter.

One of these subjects visible in both is hybridization (Burns & Vaivio, 2001). From the interview results, a shift in tasks and responsibilities among controllers is clearly possible. There have also been several respondents who noted that recent technological advancement may lead to the merging of the FC and BC roles into a singular controller role.

Burns and Baldvinsdottir (2005) found management accountants to be less concerned with *score-keeping* and *corporate policing* than they were a decade before, instead drawing themselves much more to the ‘business side of things’ - involving themselves with strategy formulation and change management. This can again also be seen in the interview results – though it is a trend that is more than a decade old.

Caglio (2003) found that most of the routine controller tasks, such as financial reporting, consolidation and tax accounting, could now be done by ERP systems. The rise of ERP systems was found to have two main effects on the controller role; firstly, taking away what was once the classic controller job, but secondly expanding controllers’ capacity to process information. The interview results also found profound technological effects, mainly on the administrative parts of the FC’s responsibilities.

The generational differences, IT developments and uncertainty of the future denoted by Conijn and Ten Rouwelaar (2011) also came forward. In all, the results do seem to embrace previous scientific predictions about controller role change.

6.3 SUMMARY AND CONCLUSION

Based on the Current Controller profile, expected Developments, expectations of the individual experts, and available literature, we can now draft profiles for the Future Business Controller (Figure 37) and the Future Financial Controller (Figure 38). To facilitate the use of this research for the support of developing adequate (additional) education and training, two “Gap Analysis” tables are also provided, clarifying the new features of the future Business and Financial Controller in Figure 39 and Figure 40.

PROFILE FUTURE BUSINESS CONTROLLER

TASKS

The BC will collect, model and forecast internal and external data of all types and use this information to support business decisions and to judge their outcome. This includes:

1. **Gathering internal and external data** relevant for processing to internally used information. Internal data can include financial reporting data, performance management data as well as other internal statistics. External data may include market trends, competitive information and other external developments. The data gathered must be relevant for the development of a view and understanding of organizational business plans and propositions. A greater availability of information will lead to a broader selection and a more advanced information gathering process.
2. **Create information relevant to internal decision-making** by supervising internal transactions, analyzing large amounts of internal and external data, and the creation of reports. Supervising focusses on comparing performances within the organization and to the market. Analysis includes calculating different business cases, prize margins, costings and budgets, and overall future forecasts. Reporting includes financial and operational KPI's, revenue and margin developments.
3. **Informing and advising management** based on these reports, and thereby shape the strategy and financial policy of the organization.
4. **Supporting the development and implementation of control methods** and financial and operational risk management. This may include performance management.
5. **Evaluating** current processes and initializing and **implementing improvement processes**.

BUSINESS CONTROLLER SKILLS

Analytical, creative, communicative and convincing, (information)tech-savvy and linked to the contemporary formal and social information networks. The BC will have a deep understanding of his company's processes and critical characteristics, and at the same time have a deep understanding of the company's relations with various stakeholders:

1. **Financial expertise**, both from an education in finance and from personal experience working in finance is required, though it may no longer be the primary qualification.
2. **Knowledge of processes and operations**, both from education on general organization, and from working experience, preferably in his own organization. This includes knowledge of corporate social responsibility, sustainability and the appropriate accounting procedures.
3. **Knowledge of trends and developments** outside the own organization. This includes knowledge of new business models, new business processes and new information flows.

4. **Great analytical skills**, the ability to determine which data is relevant, the capability to collect, work with and analyze all kinds of data, including financial, operational, internal, and external data, especially on large proportions.
5. **IT Systems expertise**, including experience in working with, and a deep understanding of, information systems such as SAP and other ERP-systems, as well as supportive information technologies ranging from Corporate Business Information Systems to Excel.
6. **Translation between disciplines**, working with the Financial Controller and with line management, translating between economics and business, finance and statistics, and across various departments in the organization.
7. **Personal skills**, including good communicative and persuasive skills, which are needed in order to bring his financial arguments across to management. A critical and proactive attitude, he/she must be a team player.
8. **Language skills** include business English and other relevant languages in his organizations operating areas.
9. He must have a **Sound Ethical Basis** and understand both his responsibility to his business, and his business' corporate social responsibility.

BUSINESS CONTROLLER ROLES

The primary role of the Business Controller is to be an advisor to (higher) management. This includes:

1. **Sparring partner** for management, discussing strategies and intended decisions, holding a mirror to management and challenging them with financial outputs.
2. **Financial expert** for upper and middle management.
3. **Conscience** of the organization, making sure that strategies are feasible and acceptable on all grounds.
4. Internal and external **sensor**, understanding trends, technology and competition.
5. Many people in the business controller role will find themselves as a **data analyst**.

EXTERNAL DEVELOPMENTS

Although the future and its developments can never be accurately predicted, some developments are expected to possibly have a great influence on the future business controller:

1. **Generic technology developments** that influence business decisions.
2. **Changing regulations** on accounting and reporting.
3. The development and availability of **block chain**.

WORKING ENVIRONMENT

The Business Controller is employed by any type of organization, ranging from child care to financial recruitment companies. He has a permanent, preferably full time appointment, and a salary that depends on his prior experience as well as the scale and type of the organization.

EDUCATION

The Business Controller is well educated, mostly from academic background. Some organizations accept an applied sciences (HBO) education, others require a (post-)master (RA, RC) qualification.

Due to the changing nature of business controller work, the academic pool from which business controllers are drawn will change over time. BC's will not be drawn exclusively from the usual accounting and finance backgrounds anymore. Backgrounds in engineering and business administration will become more common.

Figure 37: Profile of the future business controller

PROFILE FUTURE FINANCIAL CONTROLLER

TASKS

The overall task of the Financial Controller is to provide quality financial information regarding the organization, both for management and for external parties. This includes:

1. **Monitoring financial processes** and accounting systems, to ensure adequate data collection and reporting. Ensuring that processes are followed, and the data generated is actually correct, accurate and complete.
2. **Selecting and analyzing financial data output** that is useful for management and external parties.
3. **Informing and advising management** about performance improvements based on these reports, and thereby shape the financial policy of the organization.
4. **Testing the financial processes** and the quality and reliability of data relating to the administrative organization and internal control

FINANCIAL CONTROLLER SKILLS

In general, the FC has financial knowledge of the workings of his organization. He is independent to ensure that financial reports are reliable. His skill-set includes:

1. **Financial expertise**, both from an education in Finance and from personal experience working in Finance.
2. **Knowledge of financial processes and financial operations**, both from education and from working experience, preferably in his own organization.
3. **Knowledge of organizational processes** including non-financial aspects
4. **Knowledge of reporting regulations**, like US GAAP, IFRS and SOX
5. **Great analytical skills**, the ability to determine which financial data is relevant, the capability to create new insights, improvements and new financial perspectives. The ability to understand computer outputs and to determine the importance of such outputs.
6. **IT Systems expertise**, including experience in working with, and a deep understanding of, financial information systems such as SAP and other ERP-systems, as well as supportive information technologies ranging from Corporate Business Information Systems to Excel. Skills in understanding and using accounting algorithms are essential to future accounting.
7. **Personal skills**, including independence, perseverance and fortitude. An analytical and proactive mindset.
8. **Communicative skills** including English language and, to a minor degree, persuasive skills
9. **Entrepreneurial skills** in order to understand the business aspects on financial issues

FINANCIAL CONTROLLER ROLES

The primary role of the Financial Controller is to be a reliable source of Financial Information to internal and external parties. This includes:

1. **Policeman** for financial processes and transactions
2. **Guardian** of information accuracy, correctness and completeness
3. **Expert** on financial affairs throughout the organization
4. **Translator** of reality into financial data, forecasts and advice
5. **Sparring partner** for both management and other parts of the organization from a financial perspective
6. **Sensor** analyzing information in order to determine what developments are important to the organization
7. **Data analyst** working with large amounts of information flow

WORKING ENVIRONMENT

The Financial Controller's tasks will become streamlined through automation and robotization, meaning that the traditional FC role can be reduced and outsourced to specialized companies. The need for the FC role remains, however, and every type of organization will have a financial controller either in house or outsourced.

EXTERNAL DEVELOPMENTS

Although the future and its developments can never be accurately predicted, some developments are expected to possibly have a great influence on the future financial controller:

1. **Generic technology developments** that influence business decisions.
2. **Changing regulations** on accounting and reporting, as well as integrated reporting
3. The development and availability of **block chain**.

EDUCATION

The Financial Controller is well educated, from academic or applied sciences (HBO) education in accounting and finance; larger organizations require a (post-)master (RA, RC) qualification. Almost every job opening for a financial controller position requires years of experience in finance.

Should the FC role evolve into administration and IT overview, an HBO or MBO education in IT may sometimes suffice to properly perform FC tasks.

Figure 38: Profile of the future finance controller

‘GAP ANALYSIS’: NEW FEATURES BUSINESS CONTROLLER

The modern and future business controller profiles differ in several ways. Aside from some noticeably different tasks, skills and roles, there is a difference in the way these tasks, skills and roles are executed. The business controller is found to have development opportunities in several areas. The following four issues were found to possibly fill the gap between today's business controller and the business controller anno 2022.

ACQUIRING AND PROCESSING MORE EXTERNAL DATA

The business controller's tasks in gathering data will become simplified through the use of IT systems, the availability of information through big data and the internet of things and further automation of the accounting process. This means that the BC can gather more types of information, and on a much larger scale. This means the following changes apply:

1. The BC can leave accounting and data gathering processes to information systems, and adopt other focuses, such as future scenario creation and external analyses.
2. The BC can adopt big data analytical skills.
3. The BC can extend his range of information sources and types, particularly external ones.
4. The BC can create conclusions and predictions backed by larger amounts of data.

MAINTAIN UNDERSTANDING OF THE WORKINGS OF THE BUSINESS

Information system performance will directly improve the BC's ability as an information manager. This means that the BC can be relied upon for more information on internal basis as well. The following changes apply:

1. Increased information flows will allow the BC to process more and more detailed internal information on a faster basis.
2. The BC can develop his general understanding of all aspects of the own organization in order to be able to work with these increased information flows.
3. As information technology allows more widespread access of information (e.a. managers and employees having direct up-to-date information on output), the BC can profile himself/herself as the role that understands all the processes and how they come together.
4. The BC will be able to deliver expert advice on all internal issues as he/she becomes the primary expert on the organization and has primary access to all recent information flows.

ABSORB NEW DEVELOPMENTS AND LEARN HOW TO REACT TO THEM

One of the underlying reasons of accounting and controller role change is the increasingly faster development of new technology and business models. This means that the BC must be pro-active and adaptive to new developments and actively scan the environment for new developments that may impact the organization.

CONTINUE TO GROW AS AN ADVISOR TO MANAGEMENT

These new features of the BC can put him/her in the position to be the primary information provider and expert on internal and external affairs. This will make the BC an increasingly vital advisor to business and management.

Figure 39: Gap analysis future business controller

‘GAP ANALYSIS’: NEW FEATURES FINANCIAL CONTROLLER

The modern and future financial controller profiles differ in several ways. Aside from some noticeably different tasks, skills and roles, there is a difference in the way these tasks, skills and roles are executed. The financial controller is found to have development opportunities in several areas. The following three issues were found to possibly fill the gap between today's financial controller and the financial controller anno 2022.

TECHNICAL TASKS WILL BE EVER MORE STANDARDIZED AND AUTOMATED

The financial controller's tasks in gathering data will become simplified through the use of IT systems, the availability of information through big data and the internet of things and further automation of the accounting process. This means that the FC will see less work in the classical administrative, accounting and report creating duties of its role. As computer systems can now oversee these processes, the FC can adopt a great understanding of computer systems in order to remain an expert on the process.

THE FC MAY EVOLVE IN SEVERAL WAYS

Classical FC tasks will require far less time to be performed. Because computer systems can enhance large parts of the classical FC tasks, the classical FC role may therefore evolve in several directions:

1. Adopt a more analysis oriented role, using more and more varied types of information to come to more varied conclusions that provide value to the company. The FC may adopt working with non-financial information and integrated reporting. Some respondents indicate this option as the FC growing towards the business, and adopting BC tasks. Some respondents indicate that there is a possibility of the BC and FC merging into a single controller archetype, especially in smaller organizations.
2. The FC will take on full IT responsibilities and capabilities, and be an expert on IT processed financial information throughout the organization
3. The remaining FC tasks will move to different staff / departments, such as the BC, administrative and IT departments, and the FC role will cease to exist altogether.

THE CLASSICAL FC ROLE WILL REMAIN

Regardless of aforementioned developments, there will always be a demand for the activities that the FC performs. Whilst much less time will be required to perform the activities, there may always exist a financial controller who performs them, though there will be much less manpower needed in the role should it not take on new responsibilities.

Figure 40: Gap analysis future financial controller

7 CONCLUSION, DISCUSSION & FURTHER RESEARCH

In Section 7.1 I will draw an overall conclusion by formulating the answer to the Research Question as formulated in Section 1.4 . Section 7.2 discusses the results, while Section 7.3 lists the known limitations of this Research paper. The final section of this chapter is Section 7.4 which presents recognized opportunities for further research.

7.1 CONCLUSION

Chapter 1 formulated this Thesis' research question (RQ), detailed into three sub-questions (SQ):

- RQ: What are the contours of the Business Controller and Financial Controller roles of 2022?
- SQ1: What is the current role of the (Business/Financial) controller professional?
- SQ2: Which external developments will drive change in the controller role in the coming 5 years?
- SQ3: What is the role of the (Business/Financial) controller professional anno 2022?

Based on the research as explained in the previous chapters, we can now provide the following answers:

7.1.1 Current Controller

The modern Business Controller reviews, analyses, and predicts business performance based on financial and nonfinancial data to support management decisions, including Corporate Social Responsibility. The BC collects external information for internal purposes. The BC has financial and operational knowledge of the workings of his organization. He works well with management and finance. He has deep analytical and good communicative and persuasive skills. The BC is primarily an advisor to management. His job includes reporting responsibilities; risk management; and forecasting, including but not limited to financial parameters, and policing of compliance with regulations. The BC takes into consideration any developments that influence the strategy and operation of the company, including technical opportunities & threats, changing and expanding requirements on the company from sustainability perspective, and regulatory changes.

The modern Financial Controller safeguards the quality of financial information and reports on the financial performance of the company. The FC uses internal financial information for external reporting. The FC has deep knowledge of financial processes and systems, analytical and reporting skills, and is independent and accurate. The FC is a sparring partner for management regarding financial decisions; he designs and polices financial guidelines; he is a sensor for the financial status of the organization. The primary developments for the FC are (finance and IT) technological developments and regulatory changes.

7.1.2 External developments

Several **autonomous technical developments** have been identified that work out on the organization, the task and role of the Controller, on his toolset and therefore on his capabilities, in different ways. The generic impact appears to be that the administrative tasks are reduced or simplified, the analytical tasks appear to grow, and the business involvement tends to become more important.

Another group of **developments involve the changing society**. These appear to shift the focus area for the Controller to non-financial data, requiring additional understanding, additional data gathering tools, and additional analysis and reporting skills.

A group of **secondary developments** stem from the combination of the other Developments, resulting in more speed, more complexity, and higher demands on the performance and role of the Controller.

An undervalued development, at least in my opinion, is the increased demand on Data Security and Reliability. This may eventually translate into the need for a new policing role and a new skillset for the Financial Controller.

7.1.3 Future Controller

The 2022 Business Controller will collect, model and forecast internal and external data of all types and use this information to support business decisions and to judge their outcome. This BC will be analytical, creative, communicative and convincing, (information)tech-savvy and linked to the contemporary formal and social information networks. The BC will have a deep understanding of his company's processes and critical characteristics, and at the same time have a deep understanding of the company's relations with various stakeholders. He must have a sound ethical basis and understand both his responsibility to his business, and his business' corporate social responsibility. Some financial expertise is required but this is not a prime qualification. Major roles include Management Consultant, Company's Conscience, Corporate Risk Manager/Performance Manager, and internal and external Sensor for Change. Relevant external developments for this 2022 BC are Technological and Regulatory development, evolving Social Expectations, and any disruptive development that will affect the Companies Operation or the Companies Value Generating capabilities, or may generate new possibilities.

The 2022 Financial Controller will oversee the Financial Processes, guard the quality of fin-data, and translate these to business. Other tasks may be added to fill the FC's potential. His major skill is the understanding of the Financial Processes, even when automated. Insight in IT is required, and independence remains key. The FC's major roles will include the design / implementation / policing of Finance Processes and Systems and their use. The external developments relevant to the 2022 FC are Changing Finance Regulations, new (Finance) Systems Concepts, and IT-developments.

7.2 DISCUSSION

Writing this master's thesis has provided me with several personal insights and interpretations of the controller role. Much evidence has indicated that the modern controller has taken up aspects of business and management in the past years, and his/her identity seems to have shifted more and more towards one heavily involved in decision-making. Some respondents have even suggested that the switch from business controller to CEO might be more plausible than a switch from business controller to CFO. Some job opening sources also position the controller as part of the management team. Having watched some of the original Star Trek in my youth, I compare the controller as being the financial version of the famous Mr. Spock: Using his skills in analysis to quantify every phenomenon, he was the primary source of information and advice to the instinct driven Captain Kirk. He was even known to take up the command chair himself sometimes. Perhaps such a management position is even a logical ending place for the controller, should he keep involving himself with business.

This involvement with management (CIM) effect has (rightfully) been the object of the majority of research into controller role. I find, however, that some personal observations seem to go beyond it, looking at the causes of change in general, and philosophizing about a maybe even deeper change in attitude for controllers. The most interesting change for controller may be the change from a rigid, independent and conservative attitude to an involved, adaptable and entrepreneurial one. In my own view, as well as some of the interview respondents', the rapid advancement of technology may certainly cause this.

7.3 LIMITATIONS

Data-wise this thesis is founded on a series of semi structured interviews and the detailed analysis of a series of published job openings. This provided sufficient insight for the scope and depth of a master thesis, and it is a clear indication that developments that have long been expected are indeed taking place. However, because of the limited scope of respondents and job openings, no definite conclusions about this case can be made, and follow-up research is required in order to provide definitive evidence on the conclusions of this thesis.

The quantitative analysis of the textual data was based on the frequency of keyword use. I selected keywords based on public domain word count services, filtered through my understanding of the subject matter. This, as explained in the thesis, is a pragmatic but subjective approach, and it introduces the possibility of personal bias.

As part of this quantitative analysis I have used a self-developed MS Excel tool to eliminate repetitive keyword use from a single data source. The tool was purpose built, and has not been extensively tested before use. There is however no indication that this potential weakness has influenced results.

7.4 SUGGESTIONS FOR FURTHER RESEARCH

As with any thesis, obvious opportunities exist in the necessary limitations of a Masters research project: the width and depth of the research can be improved, more professional tools and methods can be applied, and additional peer reviews and other project management techniques can be used, all to confirm or disprove the findings of this thesis.

Other and more important than these are the opportunities created by this thesis. First, the functional erosion of the Financial Controller's role has now been illustrated to a level that justifies deeper, wider and better structured research, e.g. by means of a structured questionnaire sent to all NBA-VRC members. This will allow the NBA to assess the status and expectations of all members, at the same time alerting and mobilizing these members for a major change in their professional environment.

A second subject that deserves more attention is the way future Business Controllers are educated, or indeed: staffed. Since the BC is by tradition a financial professional, the NBA-VRC may want to develop an updated curriculum for its members. Businesswise, companies and other institutions may be interested to investigate the possibilities of employing non-financials as Business Controllers.

LIST OF REFERENCES

- Abcouwer, T., & Truijens, J. (2006). Who is managing the business information? *Working paper*.
- Adler, P. S. (2001). Market, hierarchy, and trust: The knowledge economy and the future of capitalism. *Organization science*, 12(2), 215-234.
- Ahrens, T., & Chapman, C. S. (2000). Occupational identity of management accountants in Britain and Germany. *European Accounting Review*, 9(4), 477-498.
- Ahrens, T., & Chapman, C. S. (2006). Doing qualitative field research in management accounting: Positioning data to contribute to theory. *Accounting, Organizations and Society*, 31(8), 819-841.
- Albu, C. N., & Albu, N. (2008). How does organizational change affect the accounts' role? An institutional approach on two Romanian settings. *Romania*, 19, 20.
- Anastas, M. (1997). The changing world of management accounting and financial management. *Strategic Finance*, 79(4), 48.
- Anthony, R. N., Govindarajan, V., & Dearden, J. (2007). *Management control systems* (Vol. 12). New York, NY: McGraw-Hill.
- Baarda, D. B., de Goede, M. P. M., & Teunissen, J. (2001). *Qualitative research, practical guideline for the design and performance of qualitative research* (Kwalitatief onderzoek, praktische handleiding voor het opzetten en uitvoeren van kwalitatief onderzoek).
- Barth, M. E., Landsman, W. R., & Lang, M. H. (2008). International accounting standards and accounting quality. *Journal of accounting research*, 46(3), 467-498.
- Bauer, M. W., & Gaskell, G. (Eds.). (2000). *Qualitative researching with text, image and sound: A practical handbook for social research*. Sage.
- Bensaou, M., & Venkatraman, N. (1996). Inter-organizational relationships and information technology: A conceptual synthesis and a research framework. *European Journal of Information Systems*, 5(2), 84-91.
- Biddle, B. J. (1986). Recent developments in role theory. *Annual review of sociology*, 12(1), 67-92.
- Biddle, B. J. (2013). *Role theory: Expectations, identities, and behaviors*. Academic Press.
- Blumberg, B. F., Cooper, D. R., & Schindler, P. S. (2014). *Business research methods*. McGraw-hill education.
- Boeije, H. (2008). *Analyseren in kwalitatief onderzoek* (Vol. 3). Den Haag: Boom onderwijs.
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative research journal*, 9(2), 27-40.
- Burns, J., & Vaivio, J. (2001). Management accounting change. *Management accounting research*, 12(4), 389-402.
- Burns, J., & Baldvinsdottir, G. (2005). An institutional perspective of accountants' new roles—the interplay of contradictions and praxis. *European Accounting Review*, 14(4), 725-757.

- Butler, T. (1998). Towards a hermeneutic method for interpretive research in information systems. *Journal of Information Technology*, 13(4), 285-300.
- Caglio, A. (2003). Enterprise Resource Planning systems and accountants: towards hybridization? *European Accounting Review*, 12(1), 123-153.
- Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological bulletin*, 56(2), 81.
- Clarkson, P. M., Li, Y., Richardson, G. D., & Vasvari, F. P. (2008). Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis. *Accounting, organizations and society*, 33(4), 303-327.
- Clegg, S. R., Hardy, C., & Nord, W. R. (1996). Handbook of organization studies. SAGE Publications Ltd.
- Cohen, J. R., & Paquette, L. (1991). Management accounting practices: perceptions of controllers. *Journal of Cost Management for the Manufacturing Industry*, 5(3), 73-83.
- Cohen, D. A., Dey, A., & Lys, T. Z. (2008). Real and accrual-based earnings management in the pre- and post-Sarbanes-Oxley periods. *The accounting review*, 83(3), 757-787.
- Conijn, F. (2011). Wie verbindt business, beheersing en besturing in 2020?. *Tijdschrift Controlling*, (12), 12-16.
- Corbin, J., Strauss, A., & Strauss, A. L. (2014). *Basics of qualitative research*. Sage.
- Creswell, J. W. (2003). Research design.
- De Loo, I., Verstegen, B., & Swagerman, D. (2011). Understanding the roles of management accountants. *European Business Review*, 23(3), 287-313.
- Donaldson, L. (2001). *The contingency theory of organizations*. Sage.
- Elliott, R., & Timulak, L. (2005). Descriptive and interpretive approaches to qualitative research. *A handbook of research methods for clinical and health psychology*, 1, 147-159.
- Ernst & Young (2008). *The changing role of the financial controller*
- Evans, J. H., Lewis, B. L., & Patton, J. M. (1986). An economic modeling approach to contingency theory and management control. *Accounting, organizations and society*, 11(6), 483-498.
- Flick, U., von Kardoff, E., & Steinke, I. (Eds.). (2004). *A companion to qualitative research*. Sage.
- Friedman, A., & Lyne, S. (1994). *Activity-based techniques and the death of the beancounter*.
- Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The qualitative report*, 8(4), 597-606.
- Granlund, M., & Lukka, K. (1997). From bean-counters to change agents: the Finnish management accounting culture in transition. *LTA*, 3, 97.
- Granlund, M., & Lukka, K. (1998). It's a small world of management accounting practices. *Journal of management accounting research*, 10, 153.

- Hahn, R., & Kühnen, M. (2013). Determinants of sustainability reporting: a review of results, trends, theory, and opportunities in an expanding field of research. *Journal of Cleaner Production*, 59, 5-21.
- Henderson, J. C., & Venkatraman, H. (1993). Strategic alignment: Leveraging information technology for transforming organizations. *IBM systems journal*, 32(1), 472-484.
- Hopper, T. M. (1980). Role conflicts of management accountants and their position within organisation structures. *Accounting, Organizations and Society*, 5(4), 401-411.
- Howell, R. A. (2006). The CFO: From controller to global strategic partner. *Financial Executive*, 22(3), 20-25.
- Howell, R. A. (2008). Improving financial reporting. *Financial Executive*, 24(3), 14-17.
- Jablonsky, S. F., & Barsky, N. P. (2000). The digital workplace: how is it changing the role of financial management?. *Journal of Corporate Accounting & Finance*, 11(5), 3-12.
- Järvenpää, M. (2007). Making business partners: a case study on how management accounting culture was changed. *European Accounting Review*, 16(1), 99-142.
- Jick, T. D. (1979). Mixing qualitative and quantitative methods: Triangulation in action. *Administrative science quarterly*, 24(4), 602-611.
- Lippolis, S., & Romanazzi, S. (2012). The role of the controller: dynamics of evolution. *Economia Aziendale Online*, (3), 35-50.
- Maas, V. S. (2005). De rol van de controller in Nederland. *Maandblad voor Accountancy en Bedrijfseconomie*, 5, 16-20.
- Maes, R. (1999). *A generic framework for information management*.
- Merchant, K. A., & Van der Stede, W. A. (2007). *Management control systems: performance measurement, evaluation and incentives*. Pearson Education.
- Merriam, S. B. (1998). *Qualitative Research and Case Study Applications in Education*.
- Mertens, D. M. (2005). *Quality criteria in Qualitative research*.
- NBA (2017). *Vision on the Financial Professional*.
- Otley, D. T. (1980). The contingency theory of management accounting: achievement and prognosis. *Accounting, organizations and society*, 5(4), 413-428.
- Paffen J. & Roemen J. (2011). De nieuwe controller heeft hard én soft skills, *Tijdschrift Controlling*
- Patton, M. Q. (2005). *Qualitative research*. John Wiley & Sons, Ltd.
- Regel, R. W. (2003). Change in the controller's role: why intuition improves operational and strategic decisions. *Journal of Cost Management*, 17(1), 31-38.
- Riedijk, F., Tillema, S., & Moen, E. (2002). De ontwikkeling van de Controller in Nederland. *Maandblad voor Accountancy en Bedrijfseconomie*, 76(7/8), 337-347.
- Robson, C. (2002). *Real World Research 2nd edition*. Blackwell Oxford.

- Roozen, F., & Steens, B. (2006). Environmental Influence on the Role and Requirements of Finance Professionals-Evidence from Corporates in the Netherlands. *Reflections on the Future of Finance and Control: Creating a Knowledge Management Environment Supporting Continuous Learning*, 23.
- Sathe, V., & Srinivasan, U. (1982). *Controller involvement in management*. Prentice-Hall.
- Sathe, V. (1983). The controller's role in management. *Organizational Dynamics*, 11(3), 31-48.
- Saunders, M. N. (2011). *Research methods for business students*, 5/e. Pearson Education India.
- Scapens, R., & Jazayeri, M. (1998). SAP: Integrated information systems and the implications for management accountants. *Management Accounting: Magazine for Chartered Management Accountants*, 76(8), 46-48.
- Scapens, R. W., & Jazayeri, M. (2003). ERP systems and management accounting change: opportunities or impacts? A research note. *European accounting review*, 12(1), 201-233.
- Schwandt, T. A. (1994). Constructivist, interpretivist approaches to human inquiry. *Handbook of qualitative research*, 1, 118-137.
- Scott, W. R., & Davis, G. F. (2015). *Organizations and organizing: Rational, natural and open systems perspectives*. Routledge.
- Segal, L., & Lehrer, M. (2012). The institutionalization of stewardship: Theory, propositions, and insights from change in the Edmonton Public Schools. *Organization Studies*, 33(2), 169-201.
- Simnett, R., Vanstraelen, A., & Chua, W. F. (2009). Assurance on sustainability reports: An international comparison. *The accounting review*, 84(3), 937-967.
- Solomon, M. R., Surprenant, C., Czepiel, J. A., & Gutman, E. G. (1985). A role theory perspective on dyadic interactions: the service encounter. *The Journal of Marketing*, 99-111.
- Swanborn, P. (2010). *Case study research: What, why and how?*. Sage.
- Ten Rouwelaar, J. A. (2006). *Balancing the roles of business unit controllers: An empirical investigation in the Netherlands*.
- Ten Rouwelaar, J. A. (2015). *Business Unit Controller Involvement in Management: An Empirical Investigation in the Netherlands*.
- Vaassen, E., Meuwissen, R., & Schelleman, C. (2009). *Accounting information systems and internal control*. Wiley Publishing.
- Van de Ven, A. (2014) Controller en business partner. *Maandblad voor Accountancy en Bedrijfseconomie*, 88.3: 84-91.
- Van der Meer-Kooistra, J. (1999). Ontwikkelingen in de Controllersfunctie. *Tijdschrift Financieel Management*, 19(4), 73-85.
- Van Gorp, J. A. M. (1994). *De controller als manager: leiderschap en persoonlijkheid* (Vol. 10). Kluwer.
- Van Veen-Dirks, P. M. G., & Loo, I. D. (2011). Is de 'strong controller' in aantocht? *Management Control & Accounting*, vol. 15, iss. 4, (2011), pp. 13-19

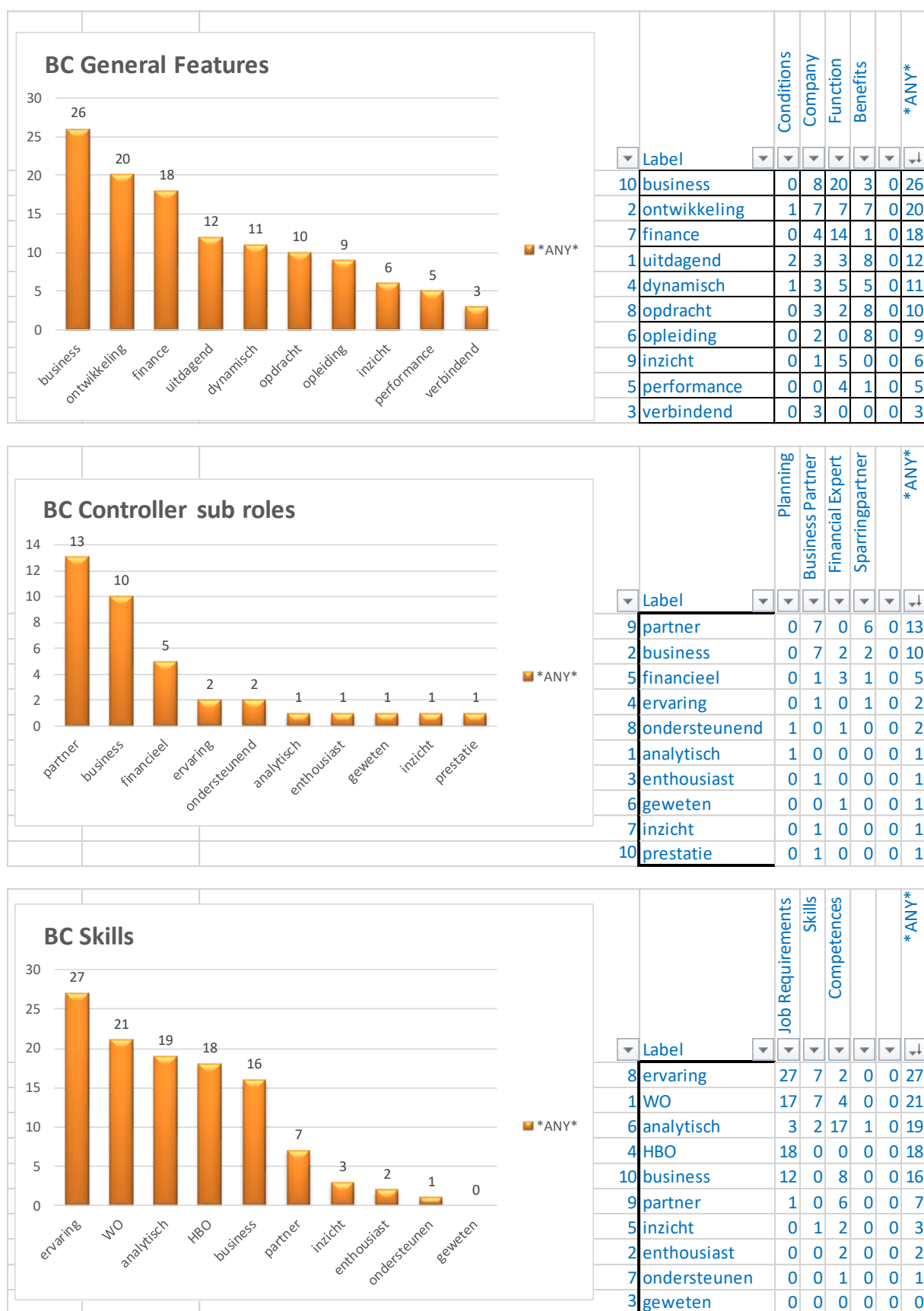
- Venkatraman, N. (1994). IT-enabled business transformation: from automation to business scope redefinition. *Sloan management review*, 35(2), 73.
- Vennix, J. A. M. (2011). *Theorie en praktijk van empirisch onderzoek*. Pearson/Custom Publishing.
- Verbeeten, Kolthof, Steenwijk (2017). *De financiële functie is rijp voor disruptie*, NBA & VU Amsterdam
- Verstegen, B. H., De Loo, I., Mol, P., Slagter, K., & Geerkens, H. (2007). Classifying controllers by activities: An exploratory study. *Journal of Applied Management Accounting Research*, 5(2), 9.
- Wester, F. P. J. (2006). *Inhoudsanalyse: theorie en praktijk*. [Deventer]: Kluwer.
- Wester, F., & Peters, V. (2004). Kwalitatieve analyse: uitgangspunten en procedures (pp. 75-103). Bussum: Coutinho.
- Wigger, A., & Buch-Hansen, H. (2012). The unfolding contradictions of neoliberal competition regulation and the global economic crisis: A missed opportunity for change. *Neoliberalism in crisis*, 23-44.
- Wongergem-Pennewaard, E. (2014). *De controller in de rol van business partner. Een profielschets van de Business controller en Financial controller in Nederland op basis van gepubliceerde vacatureteksten* (Master's thesis, Open Universiteit Nederland).
- Yin, R. K. (2013). *Case study research: Design and methods*. Sage publications.
- Zimmerman, J.L. (2005). *Accounting for Decision Making and Control*. McGraw-Hill Higher Education. 5th edition.
- Zimmerman, J. (2013). *Myth: External Financial Reporting Quality Has a 1st Order Effect on Firm Value*, forthcoming *Accounting Horizons*.
- Zoni, L., & Merchant, K. A. (2007). Controller involvement in management: an empirical study in large Italian corporations. *Journal of Accounting & Organizational Change*, 3(1), 29-43.

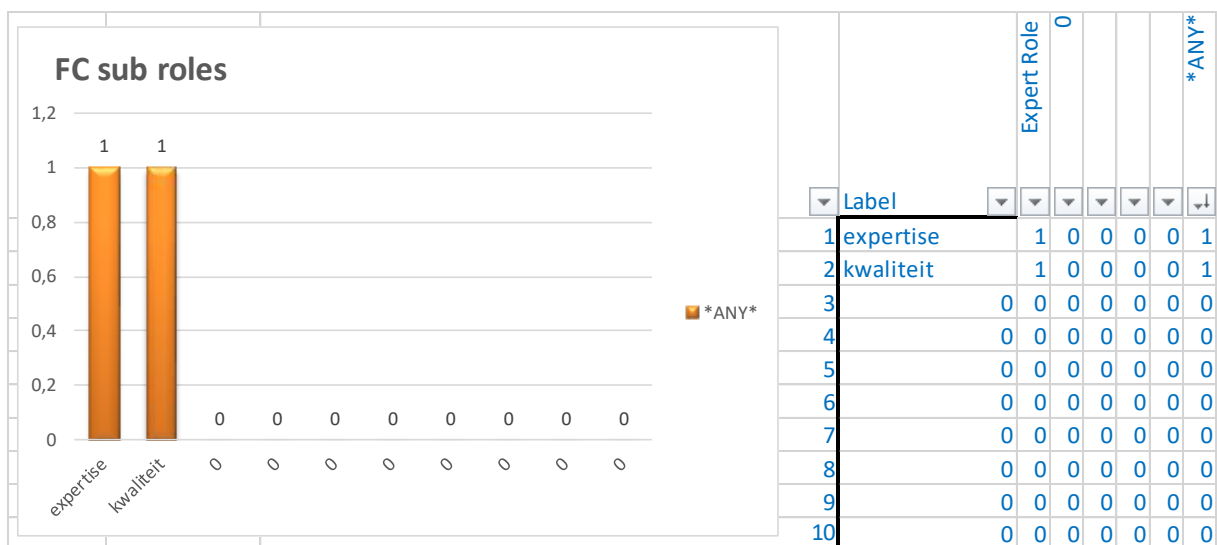
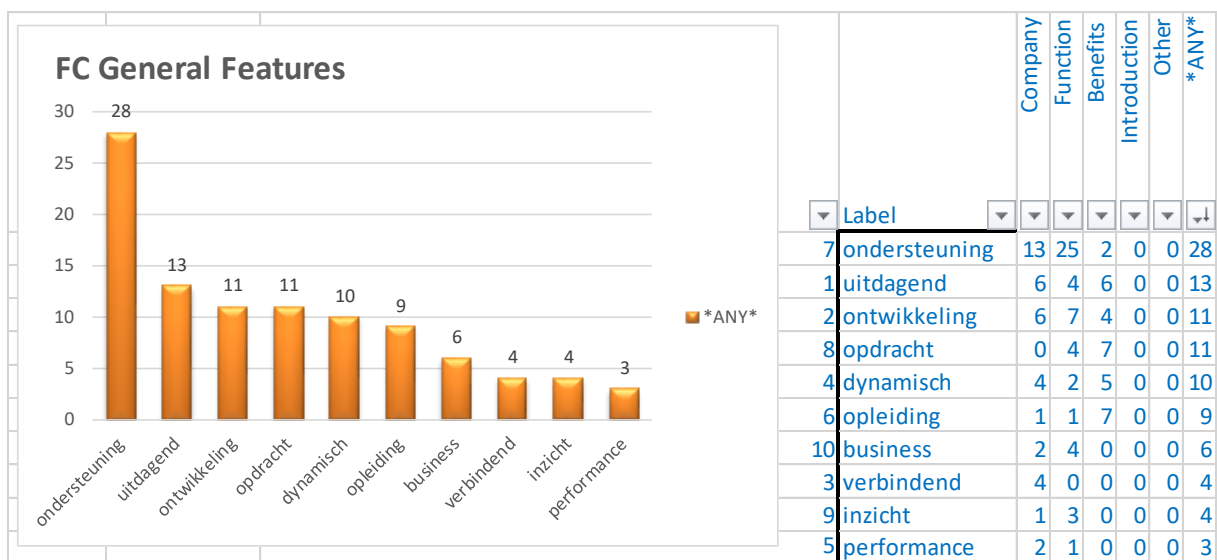
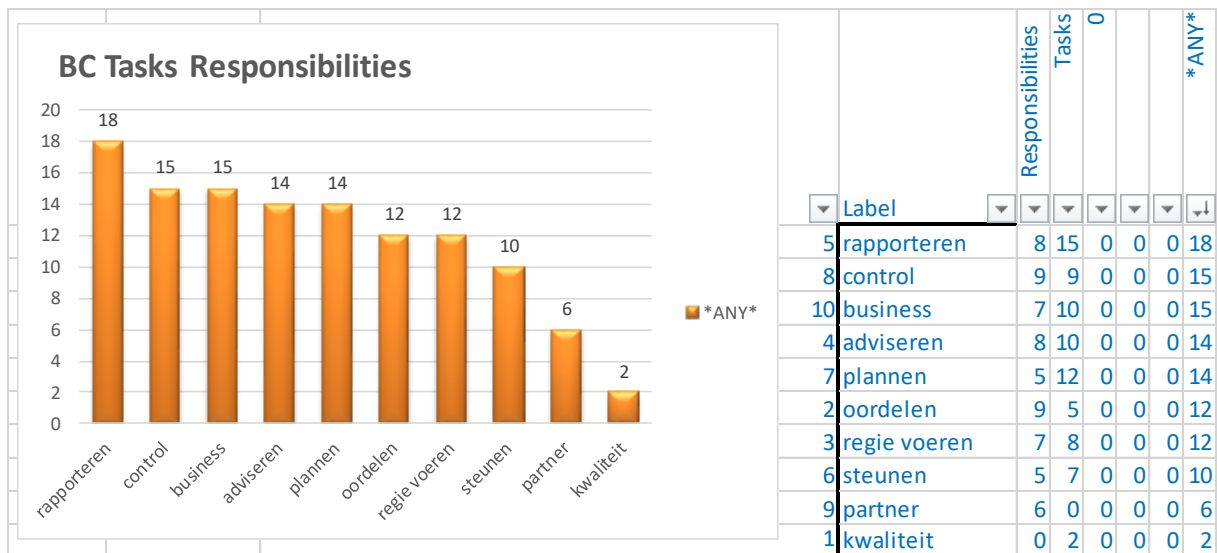
Appendix A. INTERVIEW TOPICS

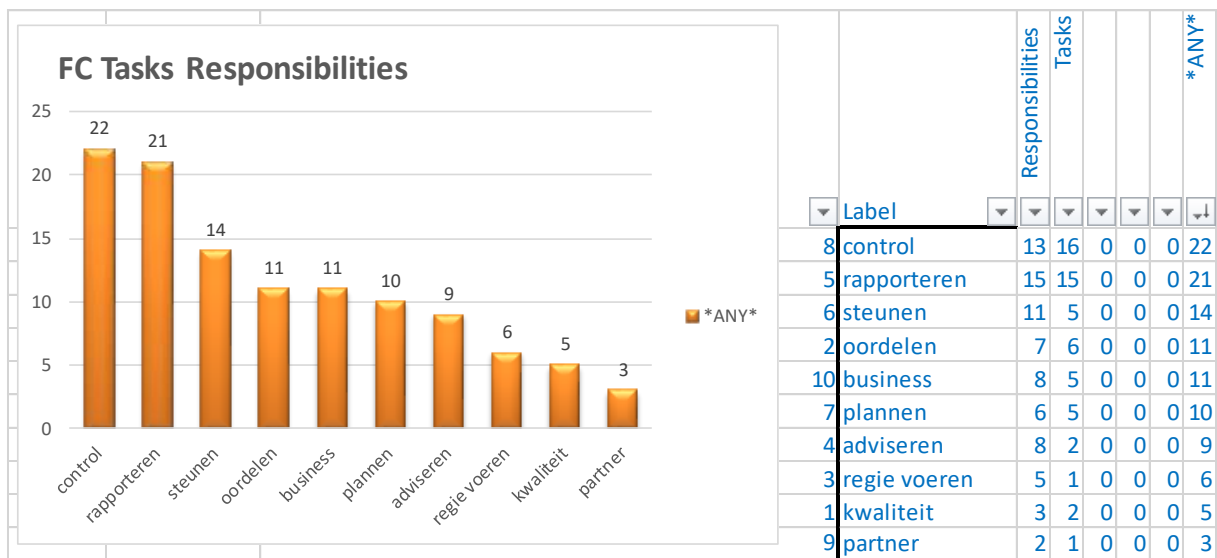
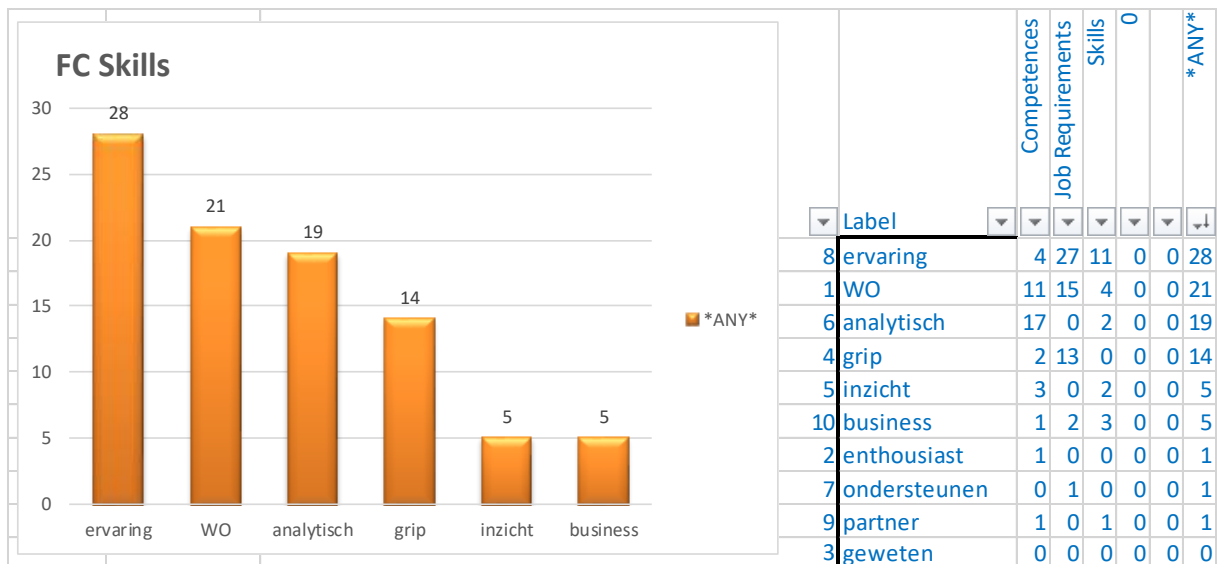
Topics	Voorbeeldvragen (optioneel)
Introductie interview	<ul style="list-style-type: none"> • Wie ben je? • Wat voor werk doe je? • Hoe kom jij in aanraking met control?
Definities en indelingen	<ul style="list-style-type: none"> • Wat voor controllers onderscheid jij? • Wat is het takenpakket van verschillende controllers? • Hoe zijn deze takenpakketten anders van elkaar? • Hoe vind jij jezelf in het onderscheid 'financial' en 'business' controller?
De huidige controller	<ul style="list-style-type: none"> • Wat is de huidige rol / het huidige profiel van de controller in de organisatie? • Wat is hun takenpakket? • Welke verantwoordelijkheden dragen ze? • Welke vaardigheden hebben zij hiervoor nodig? <ul style="list-style-type: none"> • Soft Skills • Hard skills • Waarom is de huidige rol zo als hij is? <ul style="list-style-type: none"> • Is het de laatste jaren veranderd? • Welke ontwikkelingen in de samenleving/organisatie zijn belangrijk geweest om de rol van de controller zo te maken als hij nu is? • Op welke manier hebben deze ontwikkelingen invloed gehad? (op taken of vaardigheden) • Hoe verschillen deze antwoorden voor financial/business controller?
Veranderingen	<ul style="list-style-type: none"> • Welke externe ontwikkelingen zullen de komende jaren belangrijk zijn voor de rol / het profiel van de controller? • Waar hebben deze ontwikkelingen invloed op? <ul style="list-style-type: none"> • Welke nieuwe taken/verantwoordelijkheden krijgt een controller? (wat komt erbij en wat valt er af in het takenpakket)? • Welke nieuwe vaardigheden moet een controller hebben? • Op welke manier hebben deze ontwikkelingen invloed? • Hoe moeten controllers reageren op deze ontwikkelingen? • Hoe verschillen deze antwoorden voor financial/business controller?
De toekomstige controller	<ul style="list-style-type: none"> • Hoe ziet het profiel van de controller er over 5 jaar uit? • Welke taken/verantwoordelijkheden/vaardigheden? • Hoeveel is hierover met zekerheid te zeggen? • Hoe verschillen deze antwoorden voor financial/business controller?
Veranderingen	<ul style="list-style-type: none"> • Hoe zijn veranderingen feitelijk zichtbaar in uw organisatie? • Hoe komen de veranderingen conceptueel tot stand? • Extern -> <ul style="list-style-type: none"> • Druk van iemand -> • Verandering takenpakket -> • Verandering vaardigheden?

Appendix B.

WORD COUNT IN JOB OPENINGS







Appendix C. EXAMPLE OF INTERVIEW CODE-TREE

The following table illustrates the coding hierarchy used to classify the interviews.

Inter-view#	Time-frame	Subcode3	Sub Code 2	Subcode1
1	0,00	Introduction	Establishing Interview	Intro
1	0,30	Studied economics and accountancy	Education	Personal
1	1,00	Worked in all kinds of financial functions, project analysis, administrative organization - but mostly at a large international oil company.	As controller experience	Personal
1	1,10	Worked as a controller in commercial functions.	As controller experience	Personal
1	2,00	Working as a controller meant working with performance management, optimization of financial and fiscal aspects of a company and project financing, judging investment suggestions	As controller experience	Personal
1	2,50	Retail performance management done in the Netherlands	Other	Personal
1	3,30	Current work is at membership organization: Finance and IT responsibilities. ERP Implementation, ICT and information supply are important issues	Other	Personal
...
12		There are more and more specialist controller roles emerging	Other	Future Controller
12		The changing world is inherent to the controller's profession now	Expected	External Developments
12		The BC occupies himself with 'sample data', analysis, business impact of actions. He needs to have vigor and connective abilities. He uses the numbers and reports created by the FC to make analyses, with more explanation. He usually has more complex tasks than the FC	BC Modern	Modern Controller
12		The FC checks sources for correctness, accuracy, completeness. He is about the numbers.	Fc modern	Modern Controller
12		The FC will not disappear, it will not move to a single controller role. Though it all depends on the organization type off course; some might have such an organization today, using 1 other person for administration.	FC Future	Future Controller
12		Automation, standardization, big data	Expected	External Developments
12		More information availability means a bigger business partner role	BC Future	Future Controller

Appendix D. TRANSCRIPT EXAMPLE

0:00	ga je het opnemen, maar wil je de introductie ook opnemen, als we elkaar introduceren?	Ja dat vind ik eigenlijk wel belangrijk, want dan krijg ik ook meteen even erbij met welke ervaring je hebt, welke inkijk je hebt op het gebied van controllers en zo,
0:18	O, dat is wel belangrijk...	Dus zou ik zeggen laten we daar vooral mee beginnen, kun je vertellen over wat voor werk je hebt gedaan en wat voor werk je doet, en hoe je daar eventueel met het controllersberoep in aanraking bent gekomen?
0:30	Mijn opleiding is bedrijfseconomie <i>met voortzetting naar</i> accountancy, Rotterdam, een hele tijd geleden, en ik heb, wat ik heb gedaan, ik heb in allerlei verschillende soorten financiële functies gewerkt. Ik heb ooit in het begin projecten gedaan, informatie analyse, administratieve organisatie, en daarna bij *OLIEBEDRIJF* gaan werken, en daar ben ik gestart op de administratie in de raffinaderij, in Rosenburg, en van daar uit verschillende functies, dat is Raffinage, midstream noemen ze dat, verschillende functies ook commercieel gericht, dus controller bij handel, oliehandel, dat was in Amsterdam,	
1:29	Controller geweest, projecten geleid, ik heb performance management gedaan in de Retail, dus dat is echt benzinestations, zowel het opbouw van netwerken als het runnen van die netwerken en het optimaliseren en het zorgen dat de teams van verschillende disciplines goed samenwerken, en ik heb een deel, acht jaar in Engeland gezeten waar ik dan op het corporate hoofdkantoor van *OLIEBEDRIJF* twee verschillende jobs heb gedaan, interne financiering van de groep, alle cashflows binnen de groep optimaliseren wat betreft dividenden uitbetalen en interne groepsleningen, en fiscaal optimaliseren, en daarna Projectfinancieringen, voor Chemie, wereldwijd, en voor Raffinage, pijpleidingen, midstream,	
2:41	Dus dat heb ik daar gedaan, en daarna ben ik naar Nederland gekomen, en daar heb ik ook Retail performance management gedaan, en wat in feite ook een belangrijk onderdeel was van het werk in Londen, was, alle Businesses, op het moment dat er nieuwe projecten zijn, alle Businessplannen, alle investeringsvoorstellen beoordelen op hun	

	veronderstellingen en of het allemaal wel klopt de bekende hobbysticks,	
3:20	Dat heb ik ook later bij *Energiedistributie* gedaan, daar was ik verantwoordelijk voor het beheer van de Investeringsportefeuille, en met name de economische keuze daarvan. En uiteindelijk ben ik hier terechtgekomen, en wat ik nu doe is verantwoordelijk voor Financiën en ICT, met name een ERP implementatie gedaan, en het ICT platform daarmee ook gecentraliseerd en duidelijker Enterprise Management ten aanzien van de systemen en alle informatievoorziening	
4:00	Dus daar ben ik nu mee bezig, het raakvlak met Controllers is dat de Controller-rol heb ik zelf gedaan, en ik heb vanuit al die functies, ik heb een aantal dingen overgeslagen want ik heb ook heel veel verschillende dingen gedaan, zoals integratie van systemen bij een Joint Venture in Europa, dus alles wat je kunt bedenken van doen, van administratie tot en met Marketing, de financiële rol die daarbij zit, en financiering, dus de andere kant van de balans, heb ik meegemaakt.	
4:40		Dat is wel echt een hele schat aan ervaring
	Dus dat is echt heel veel, Het is echt leuk als je dat allemaal kan doen, in een omgeving die internationaal is, dat is zeker leuk. En de vraag was waar ben ik met de controllerrol	
5:00	Ik heb nu een business controller, en een van je vragen was: business en financial controller, om daar op te focussen,	Ja, dan slaan we al meteen een ding aan, je hebt dat onderscheid, business controller / financial controller,
	Kun je uitleggen wat voor jou het verschil is,	Precies, dat is eigenlijk de vraag die ik wilde stellen, want ik had al met een paar mensen georiënteerd, en die zeiden al: binnen bepaalde bedrijven zit daar helemaal niet zo'n onderscheid tussen, en ik heb er ook al vanuit de Wetenschap naar gekeken, U bent trouwens mijn eerste interview dus ik vind het ook wel leuk om vanuit de NBA nu te horen hoe Uw blik daarop is, hoe wordt zo'n controllerrol überhaupt eigenlijk opgedeeld volgens u, want blijkbaar is dat niet in elke organisatie sowieso hetzelfde
5:55	Nee, dat is heel verschillend, in *OLIEBEDRIJF* waar ik gewerkt heb, dat is een beetje een Angelsaksisch bedrijf, het woord "controller"	

	heeft een hele andere betekenis, dan wat wij als controller hebben. Daar hebben ze Finance Managers, en Performance Managers, en Controllers is meer iemand die een proces in een fabriek beheer(s)t, leidt, dat is de Controller, en dat is een hele andere indeling dan, Ja je hebt ook een Project Controller, maar die doet meer de Operationele kant, niet de totale Financiële kant, dus even aan de terminologie, zit daar een verschil in, dus even daar op letten, en	
...
56:06	Wat je kan doen is, ligt er aan wie je allemaal gaat interviewen, heb je een lange lijst?	Ik denk tien tot twaalf mensen, zoiets, ik heb er zeven vast staan en ik moet er vandaag nog twee bevestigen,
	Wat voor mensen	Allerlei, grote productie bedrijven , financiële wereld, bank verzekering, wetenschap, kleine bedrijven, innovatieve bedrijven,
	Spreek je dan de controller, de financieel directeur?	Het verschilt, soms ook gewoon de CEO, ik probeer eigenlijk gewoon uit zoveel mogelijk verschillende hoeken
	Dat klinkt heel goed ja. Het beeld is toch anders. Ik denk als je met de CFO en de CEO van dezelfde organisatie praat dat je andere verhalen hoort.	Ja precies. Ik zal deze....
57:20		

Appendix E. DIFFERENCES BETWEEN FC AND BC

The full list of differences as identified by the interviewees, including all (near) duplicates, is presented in the following table:

Inter view#	Subcode3
1	Difference between business and financial controller: Controller roles differs per organization. In Great Britain, they are called finance managers, performance managers, management accountant, there is no 'controller' there is also the project controller, who does the operational side.
1	The analysis is the border between BC and FC, because FC does the first analysis, whilst the BC focusses on analysis. BC assumes the accounting is in order, which is the FC's job
2	The FC is oriented to what has happened over the last period, whilst the BC is oriented toward the future and future profits.
2	FC produces and controls production of financial reports, the BC controls activities
3	There's a difference between accounting and control. Financial control has more to do with external reporting and accounting, and BC is more decision support and internal control.
3	The difference is Internal vs External: FC has an internal role focused on the external, BC is aimed at the business, uses internal information and has an external communication role.
3	The different roles are suited to different skills, BC and FC are dependent on personality factors.
3	FC are focused on financial information, BC are focused on both financial and non-financial information.
3	FC is focused on reporting, but also oversees other things like statistical reports, overseeing accountants' audits, BC looks at company-wide information, like KPI's, key controls, dashboard and looks to whether the company is on course concerning strategy
3	Definitions between the 2 roles are always subjective
3	BC more communicative, teamworking, client oriented, vision, entrepreneurial whilst FC is a specialist -- independent
3	FC can be specialist about reporting, BC should be able to know all aspects of a company
5	Fc is aimed at reporting and historic data, BC is aimed more at the future and management support. BC needs more knowledge of the business, FC needs to know more about accounting
5	The FC is less into the business, more into the financial components. They do use some non-financial information, but that's mostly the forte of BC's.
5	There are 2 sides to finance: accounting and control, and each side needs different competences. Accounting needs accounting skills, controlling needs insight and creativity - understanding the business.
5,2	The differences between FC and BC can be small, and depends on competences and circumstances
6	Does not see a difference between BC and FC because of experience in smaller companies from a management point of view -- those roles were usually combined in 1 or 2 people.
7	Own traditional separation: controllers and administration: Controllers interpret the data gathered by administration, and gives that information to management to support processes.
7	In own experience, the less skilled controllers limit themselves to financial data, whilst the controller could actually create much more value when he looks past financial data
7	A traditional controller makes reports and balances - he's financially oriented. Management requires insight into data such as illnesses, competition prices etc.: not just internal data but external and non-financial as well
7	Doubts whether a separation of BC and FC is logical, because they would have to work together anyway. That said, the BC should have more communicative skills and listen and understand what the business side of an organization wants. The BC should be the bridge between management's wishes and how to extract them from financial data.
7	A BC should be in direct contact with administration, the FC and BC role should maybe not be apart in that it creates an extra layer in communication
8	There is a difference between BC and FC; nowadays they're more apart where it was 1 role in the past. FC is more reporting and BC looks more towards the business, risks and the background of the numbers. The FC does more reporting and compliance.
8	FC will do reporting and makes sure the accounting is done right; will not have time to do much more. BC will look at the meaning and the risks of the reports.

8	FC needs skills to do reporting, which won't be different every month. The BC must look at the data from a lot more different angles, has to interpret more and will have a much more diversified job. A FC will be doing more booking and the BC will be doing more understanding. The BC will need more soft skills to put his conclusions in discussion, the FC can go ahead with doing his job. The BC will be in contact with business and will have to keep challenging himself whether his conclusions are right and keep having discussions about them. An FC will have a reasonably repetitive job.
9	For the 3 different branches at the bank, 3 different profiles were created for the employees working there; services has to work with accounting and processes, reporting has to work with regulatory rules (IFRS) and compliance to standard of central bank.
9	The three different people at the bank need different qualities. Business advice is analytical but also soft skills, communicative persuasive skills. financial control is planning and organizing, teamwork, accurate working.
10	Definite difference between FC and BC. BC looks to the future and thinks with business, strategy and vision. Takes external to internal. FC looks backward, historical, analyzes it for future improvements. They are also a different kind of people, with different competences. BC should think in opportunities, and should be able to let go of the numbers in that regard.
10	Competences furthermore differ in that BC should be entrepreneurial and FC should be accurate, trustworthy and analysis aimed. BC is extravert, FC is introvert. Independence is also a part of the FC's competences.
11	The municipality also uses the difference between FC and BC.
11	However you make the function description, most important is that the two cooperate and communicate in how to take action. They may not even be sure whose role it is to handle certain situations - so cooperation is always necessary.
12	I see a lot of different sorts of controllers, cost controllers, FC, BC, project controllers, performance controllers. The competences for each type of controllers are different.