The controller in the digital transformation and globalisation era.

The Impact of the e-commerce implementation and running process on the controller’s role.

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May/2017
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ABSTRACT

Background:

Empowered by information and innovation, the digital world is rapidly rendering current items, services and a multitude of business archetypes, outdated.

Thus, it is reshaping numerous businesses, whether it is to find in the automobile sector, multimedia or the telecommunications, giving early birds an upper hand and constraining others to either adapt the pace or lose their capacity to remain a relevant player or totally collapse and disappear.

Finance and more specifically, the controller, could play an instrumental role in transitioning their organisations to digitally enabled processes.

Among other research on the triggers related to the environment of the controller based on technology and ICT developments, we can mention Bromwich and Bhirmani (2009) followed by the Institute of Management Accountants.

"The internet has achieved a huge impact, given the availability of computers and network technologies. This trend then paved the way for media and commerce to become electronically interconnected". Bhimani and Bromwich (2009).

The IMA (Institute of Management Accountants) has sponsored a research on e-commerce resulting in a statement on management accounting: in the section: Technology enablement, with the title "Understanding and implementing Internet E-commerce."

In the declaration mentioned above on management accounting, there is a high expectation that management accountants will fulfil an increasingly partnering role. A role, in the implementation of electronic commerce, in their respective organisations.

Upon conducting this study, it appeared to us that e-commerce as a contemporary phenomenon was not yet empirically and meaningfully researched for its potential impact on the controller’s role.

We were, therefore, excited to explore to what extent and how the role of the controller is impacted by e-commerce. We have focussed our study on a corporate situation of an international company, active in the manufacture and distribution of “Swiss made” Watches and Jewellery. The company was gradually launching for some of its brands, e-commerce storefronts. By so doing, we hoped to contribute in the body of knowledge about the ongoing discussion about the changing role of the controller.

Purpose:

The purpose of this study is to explore how and to what extent the role of the controller is changing due to changes taking place in the digital environment of the business through the implementation of e-commerce.

And more specifically the aim of the study is to examine and understand how the e-commerce implementation does influence the role of the controller.
Method:

We adopted a case study approach as it was likely to be the most appropriate way to investigate in depth and provide clarifications that can cope with the complexity and subtlety of concrete life situations. It lends itself to the study of processes and relationships within a setting. (Denscombe 2007). And to achieve the research objective, we adopted a multiple-case design. Various cases, whereby e-commerce was implemented in the company for one or more brands. The reason for this approach is the replication logic (Yin 2009) as the multiple case design gives room to replication and substantiation of the findings from comparable cases. Similar cases in slightly differing contexts were studied to gain an understanding of the similarities between the cases.

Empirical results, findings and analysis:

The study revealed that the e-commerce implementation and running process has, somewhat, enhanced the desire for a decision supporting roleplay of the controller in a general sense. At least from the expectation of the management. There seems to be a shared perception that the changing business environment due to e-commerce requires the controller to develop additional skills.

The study has also evidenced that the controllers’ involvement and the business partnering role were associated with the type or style the interviewed controller considers himself to be. Controllers who find themselves a strong controller (Sathe 1982)/financial advisor (Riedijk et al. 2002) or involved controller (Sathe 1982)/business advocates (Riedijk et al. 2002), are exhibiting more involvement and proactivity in partnering on the e-commerce project. While those controllers who believe themselves to be independent (Sathe 1982)/corporate policeman (Riedijk et al. 2002), do not consider e-commerce as a high priority issue when compared to those tasks in their traditional fiduciary role.

When splitting between the strategic decision-making process and the operational decision-making process, none of the controllers was even slightly involved in the strategic one. And most of them were somewhat involved in the second category whether it’s to be related to stock replenishment, freight optimisation, the follow-up of online marketing and advertisements, the credit card fraud prevention or to different other ad hoc decisions.

Conclusions:

Globalisation, technological innovations, and adaptive governmental regulations have prompted changes in the market conditions with a remarkable effect on the undertakings of organisations.

The focus of many companies in this dynamic business environment has thereby moved towards addressing customers’ needs and fostering their value generating activities. The Finance and control function has a meaningful role to play in pursuing the business challenges and opportunities. The controller is consequently expected to proactively provide and channel accurate information while partnering closely with the management.
1. Introduction

1.1 Prologue

The Internet has grown out to stand as a popular and a widely accepted communication tool. Enabled by the Internet, e-commerce has prompted itself globally as one of the most exciting forms of business platform. It has given rise to new marketplaces and business models. The steady stream of announcements on products and services has helped sustain the increase in public interest in online Commerce.

This Online phenomenon is rebuilding the traditional value chains of Porter; thereby reducing the space-time dimension and contributing to foster dynamic and competitive environment. A high rechannelling process is, therefore occurring, giving way to the replacement of intermediaries that have traditionally linked the values chains between sellers and the final consumer.

There is a claim that this trend is impacting the controller’s roles and responsibilities. And that those environment factors ”are believed to be the major contributor to challenges faced by management accountants nowadays” Zainuddin and Sulaiman 2015, Procedia Economics and Finance 37 (2016) 466 – 470.

Finance and more specifically, the controller, could play an instrumental role in transitioning their organisations to digitally enabled processes. As institutions provide proportionally more and more resources and funds to IT improvement and development, or online media; the Finance ought to develop a fair view on how the technological outlook is evolving and assess how the digital spending can drive value creation. Finance and control ability to canvas an overall view and portray the so called ‘bigger picture’ will demonstrate indispensable. Because ”going digital” is not only about having an original plan or business model but also about utilising vast information and anticipatory analytics to distinguish patterns, unfolding cloud innovations to drive proficient business processes.

It is clear and irrefutable that the way we engage in business today is changing at an ever-faster pace. More than ever, the controller would be facing new challenges.

Recent years literature has paid a lot of attention to (changes in) the role and function of the controller.

This chapter discusses the relevance of the research, presents the problem statement and highlights the approach, the methodology, and the design of the study.

1.2 Relevance

We conducted this research as part of the graduation at “the open University” in the Netherlands, for the Master of Science in Management, within the field of controlling.

The controller also known as the management accountant is defined as follow:

"A management accountant supports and advises the management of an organisation in realising their economic, public and financial goals. Support is interpreted in the light of the design and maintenance of management control and accounting information systems, and the procurement and distribution of information (Verstegen et al., 2007, p.11.)

Verstegen et al. researched the following triggers of management accountant's activities:

1) Triggers from the management accountants’ environment outside of the organisation,

2) Triggers from the management controller's environment inside the organisation and
3) Person related triggers.

The triggers from the surrounding of an organisation are those we consider as relevant for our study, especially those related to technological advances and ICT developments.

In my preliminary search, it appears that very few theory and field studies are carried out on how technological progress and ICT developments are impacting the role of the controller.

Among other research on the triggers related to the environment of the controller based on technology and ICT developments, we can mention Bhimani and Bromwich (2009), followed by the Institute of Management Accountants.

The extent to which technological advances in the market influence organisational business, is subject to research by Bhimani, and Bromwich (2009).

The internet has achieved a huge impact, given the availability of computers and network technologies. This trend then paved the way for media and commerce to become electronically interconnected. Bhimani and Bromwich, Michael (2009).

The above perspective on the digital economy suggests that management accounting way of thinking is likely to undergo changes, given the interdependencies between strategy, technology and financial control. Bhimani and Bromwich, Michael (2009).

It is likely that accountants ought to understand the organisation’s changing nature and its dependence on the technologies underlying the digital economy and the globalisation process. But there is evidence that the management accounting discipline, including recent and avant-garde ideas related to strategic management accounting, are slow to changes. Bhimani and Bromwich (2009).

The IMA (Institute of Management Accountants) has sponsored a research on e-commerce resulting in a Statement on Management Accounting: Technology Enablement Section, with the title "Understanding and implementing Internet E-commerce."

In the declaration mentioned above on management accounting, there is a high expectation that management accountants will fulfil an increasing partnering role. A role, in the implementation of electronic commerce, in their respective organisations. In the future, the most successful finance executives will be those who apply technology best to carry out their duties as finance professionals successfully. They must be able to explain in business terms what they need from technology, and they must arm themselves with knowledge about new technology standards. And take a proactive role in developing their company strategy. They need to understand the information highways, the impact from the evolution of e-commerce, and the value created through virtual integration. extract from above -mentioned IMA statement.

We were, therefore, excited to explore to what extent and how the business partnering role of the controller is impacted, in the light of e-commerce implementation and running process. We will focus our study on a corporate situation of an international company, active in the manufacture and distribution of Swiss-made Watches and Jewellery. The company is gradually launching for some of its brands, e-commerce storefronts.

By so doing, we hope to contribute in the body of knowledge about the ongoing discussion about the changing role of the controller.
1.3 Problem Statement

1.3.1 Introductory opening

The introduction discusses in broad terms the background of the changing role of the controller by changes in the digital environment and more specifically, those changes triggered by the e-commerce phenomenon. By so stating, we have presented the topic of this study. The aim of a problem statement is to formulate a specific and concrete problem, which articulates on three constituents, namely: the objective, the research question and approach to tackle it. We examined the problem by breaking it down into sub-questions. By addressing and answering all the sub-questions, we provided an answer to the central question.

1.3.2 Objective

The aim of this study is to explore how the role of the controller is changing due to changes taking place in the digital and globalisation environment of the business through the implementation of e-commerce.

1.3.3 Research question

*How does the e-commerce implementation and running process affect the role of the controller?*

To answer this central question, we will formulate the following sub-questions:

a) Which possible roles can a controller enact?

b) Does it appear from the literature that the role of the controller is changing due to digital transformation and globalisation?

c) What is digital transformation and globalisation and how could one define e-commerce and its practical applications?

d) How do controllers for a subsidiary of a wholesaler and retailer company perceive their role in the light of digital transformation by the introduction of e-commerce?

e) What are the expectations of other stakeholders (e-commerce coordinators, the head of e-commerce) regarding the finance function, in the light of digital transformation and globalisation by the introduction of e-commerce?

f) And which additional needed skills the controllers perceive as critical for their function in the light of digital transformation and globalisation by the introduction of e-commerce?

g) How do those controllers believe their role will evolve in the future?

The answers to questions a) b) and c) are provided in chapter 2. Chapter 4 gives an answer to the questions d), f) and g). Sub question e), has partly been answered during the interview with the head of global e-commerce.
1.4 Approach, methodology, and design

To address the central question of this research, I will review in the third chapter the possible research strategies and explain the method and model used as well. I will elaborate on the possible controller’s roles and role changes and then zoom in on the business partnering role of the controller. The concept of digital transformation, especially e-commerce and its practical implications for a retail business line of a company, are also addressed in Chapter 2. I outlined the research design in chapter 3. In the following chapter, I am respectively giving a description of the empirical research conducted among controllers working for the relevant business organisation and then provide findings (chapter 4). At last, I discuss in chapter 5 the limitations, the possibilities for future research and finally draw an overall conclusion.
2. Literature review

2.1 Preliminary

The controller’s role within business, governmental or not-for-profit organisations has been subject to a dynamic and progressive discussion for over five decades. (cf. Andersen 1944). A diverse literature addressed various facets of the business orientation of controllers and their changing role. The work cluster of the management accountant incorporates a broad set of tasks and responsibilities. Distinctive authors have set on to highlight the characteristics of those assignments of the controller. In this review, we first look at the activities of the controller, and in the second step we will elaborate about past studies on the changing role of the controller, and finally we will look at the influencing factors, before landing at the conclusion.

2.2 Possible roles of the controller

2.2.1 Preliminary

In the literature, there is a variety of archetypes given for the control function. A portrayal will be presented for each type.

2.2.2 Vijay Sathe (Involved, Independent, Split, and Strong Controller)

Sathe does mentions in "Controller Involvement in Management" (1982) a plurality of roles for the controller. These include:

The involved controller; the independent controller; the split controller and the strong controller.

The Involved controller

The objective is to assign high emphasis to the controller’s management service and slight focus to the financial reporting and internal control responsibilities. The Involved controller focuses on supporting the management function and less on financial reporting and internal controls. This controller must remain involved in the decision-making process. The expected benefits are better decision making with the contribution brought by the involved controller. The expected disadvantages are: the loss of management creativity and initiative, due to the controller prominent involvement.

The Independent controller

The objective is to assign high accentuation to the controller’s financial reporting and internal control responsibilities and low emphasis to the management service duties.

The expected benefits are: there is a high level of accuracy and completeness about the financial reporting. The disadvantages are: the controller is an "outsider". This situation prevents the controller from being proactive in its function. Further, the controller will merely bring a limited contribution to the decision of the management.

The Split controller

This pattern split the controller role and assign the management service and financial reporting and internal control responsibilities to different individuals, placing a high emphasis on both responsibilities.

The split controller objective is to create a division between management support tasks and the financial reporting and internal control duties. Both tasks will need to be performed by different individuals.
The expected benefits are the high level of assurance about the correctness and completeness of financial reporting and the working of the internal controls. Furthermore, the decision-making will improve due to the contribution of the controller.

The expected disadvantages are: the costs are higher by splitting the work, this resulting in duplication of effort and resources. There is a potential coordination issue in that both controllers are not interacting and interfering enough in one another’s fields due to their predefined boundaries.

**Strong controller**

The objective is to assign both management service and financial reporting and internal control responsibilities to one individual and place a high emphasis on both responsibilities.

This controller must guarantee that he effectively gets involved in the management decision-making while staying objective and independent from local management.

The expected benefits are: the certainty about the accuracy and completeness of financial reporting and the working of the internal controls. Furthermore, the decision will improve due to the contribution of the controller. Finally, the controller by bundling responsibilities is expected to be proactively acting.

The potential disadvantages are: the selection of this controller will be a lengthy and arduous process as one will be searching for the sheep with five legs. This controller must be able to act independently and remain involved in decision making.

At the same time, there are concerns about a possible role conflict for the strong controllers, because of a mix of tasks within the scope of both financial reporting and managerial decision support. Suddaby et al. (2009).

**2.2.3 Corporate Policeman, Business Advocate & Financial Advisor**

Another classification of controllers and their roles, that is often referred to in the literature is that of a corporate policeman and the Business Advocate.

**Corporate policeman**

The corporate policeman focuses on the interests of the corporate headquarters and senior management. It is the duty of the controller to oversee and supervise the financial affairs. This also means after the fact testing the output to the standards. Furthermore, it is the duty of the controller to set relevant rules and procedures and monitor compliance with those standards and procedures as well. Jablonsky et al. (1993).

Alongside Set to the classification of Sathe, the "Corporate policeman" could be compared to the "independent controller".

**Business advocate**

The business advocate essentially acts as a service provider for the management. It is of great importance that the controller is knowledgeable of /and is involved in the ‘business’. In his primary decision supporting role, the controller is supposed to show a proven track of not only a financial perspective but going one step further. Jablonsky et al. (1993).

When drawing a parallelism with the classification of Sathe, the "Business Advocate" can be compared to the "involved controller".
**All-round Controller /all-around financial advisor**

Riedijk, Tillema and Moen (2002) mentioned the role of “Financial Advisor”, placing this role between the Corporate Policeman and Business Advocate. For the Financial Advisor role, the economic and financial expertise is paramount. He/she supports from his/her discipline the internal participants. Compared to the Corporate Policeman, the Financial Advisor is more concerned with the budgeting and monitoring of the outcome of the financial decisions the firm is committed to.

Alongside Set to the classification of Sathe, the "all-around controller or all-around financial advisor" could be compared to the "Strong controller".

**2.2.4 Verstegen ea. (2005)**

Verstegen et al. (2005) assume that three main factors affect the action of the controller. There exist external factors, such as laws and regulations etc. There are also internal factors such as the organisational strategy and the personal characteristics of the controller. To give an example: an introvert person will be ideally suited for post-testing results against the standards that are previously set. An extrovert person is likely to be more suited for an advisory role.

**2.2.5 De Loo et al. (2011)**

De Loo et al (2011) argue that the roles of the controller are no longer classified by comparing the roles or functions e.g. the corporate policeman versus the business advocate or the independent versus the involved controller. He believes the emergence of groups of controllers, is based on the activities carried out by a controller, the position in the organisation, the responsibilities the controller is entrusted with, and the link toward the CFO and vice versa. The training received is a factor.

The traditional separation between "business advisors" and "scorekeepers" has become less leading. Instead, internally generated analysis and risk assessment activities have become prominent aspects of the core work of management accountants. They witness a process of hybridization of the controller profession (in the Netherlands).

De Loo et al. do not endorse the belief that because the environment characteristics outside the organisation are changing; only business focused controllers will be relevant in the foreseeable future. They assume that “bean-counting” and other registration oriented activities still form a prominent part of much of the core work of controllers.

**2.2.6 Conclusion**

Different archetypes are defined for the controller’s roles and functions, depending on the researcher. For our study, however, we wish not to a priori make any choice about which roles set, is the most suitable. Rather we like to base ourselves on a broad perception of whatever role a controller can assume. Therefore, our question is what does controller mean? A controller gives support and advice to the management of an organisation in attaining its public economic, and financial goals. Management is to include any planning, control and decision-making activities. Support could be defined as the setup and maintenance of accounting information framework and the procurement and distribution of relevant information (Verstegen et al., 2005).
2.3 The Changing Role and tasks of the controller

2.3.1 Van der Meer- Kooistra

Van der Meer - Kooistra gave the introductory speech "The controller as a critic, supporter, and inspirer of the management" while accepting the post of Professor of Management and of financial management at the University of Groningen on November 17, 1998. In her speech, she mentions different factors that affect the controller function and its development. Van der Meer - Kooistra distinguishes both external and internal factors.

External factors

The main external factors are market trends, government policy, developments in the field of management accounting and control, and developments in technology as well.

Internal factors

The important internal factors are the size of the organisation and the personal features of the controller, the strategic position and the type of organisation.

Van der Meer – Kooistra indicates that empirical research on the evolving role of the controller has been carried out in several countries. The personal traits of a controller have a significant influence on the controller's role. In that context, she refers to the study of Granlund & Lukka (1998). Among other studies she mentions: Jablonsky ea. 1993, Keating and Heian, 1993; Walthers et al., 1997; All those studies are pointing in the same direction. The controller role is subject to changes.

2.3.2 G.J. van Helden

Van Helden is a Professor of Management Accounting at the Faculty of Economics of the University of Groningen. From 1994 to 1998 he worked as a part-time professor at the postgraduate program for chartered controllers of the "Free University Amsterdam". Van Helden has written two articles for the magazine "Financial Management", respectively, no. 2 of 1997 and no. 6 of 1998. In these articles, he talks about the changes in the function and the role of the controller (22. Handbook Management Accounting, Samson Business Information A.1220-1, 07-1999.)

In his articles, Van Helden looks at the shifts in the function and role of the controller in theory and practice. He successively deals with the vision of Johnson, Kaplan and Cooper. Van Helden comes with the following similarities and differences concerning the tasks and duties of the controller in the future.

As to Kaplan (1995), the analysis of non-financial indicators, is gaining in importance as part of the controller’s toolkit. Though, financial indicators will continue to play an important role. Besides, Kaplan comes up with the idea that the controller would retain a fundamental role in change processes within firms. Therefore, the perception of Kaplan can be labelled with "controller as a change master."

Based on the observation that non-financial indicators are increasing in importance and that a major relevancy is still being assigned to financial indicators, Kaplan and Cooper (1996) do not significantly differ from point of view. The difference lies solely in that Cooper believes the controller is to provide support for change processes issues essentially. He believes that users of management accounting information assign a fundamental role in the coaching and monitoring of change processes. Therefore, Cooper’s view could be labelled as "controller as a change consultant."
Johnson (1992) doesn’t consider financial information as very relevant. The importance of non-financial indicators must be emphasized. The controller should act as a critic of financial information. Changes come from the bottom of the organization and the controller plays a supporting role. Johnson’s opinion could be labelled as “figure criticizer.”

A common element in the three presented views on the controller of the future is that non-financial information is gaining importance. The Dutch Business economist Traas (1997) pointed out that such a perception can lead to neglect one of the primary function of the controller, that of a financial expert.

Van Helden then looks at some research about what controllers think about their role and position. He makes use of the studies by KPMG (1997), PricewaterhouseCoopers (1998), Financial Executive Research Foundation (1993) and Walther et al. (1997). He also makes use of research among students of the Faculty of Economics of the University of Groningen in relation the controller patterns as usually found in specialised recruitment and search magazines.

The following findings resulted from those studies. Controllers expect that in the future their function will be more focused on decision support than is currently the case. Also, the emphasis on planning and control increases. The transaction processing activities are to decrease. An illustration is found in Table 3 for the shifts in the functional content of the activities of the controller.

Table 3 Shift in the functional content of the activities of the controller (Source: KPMG, 1997)

<table>
<thead>
<tr>
<th>Function component</th>
<th>Present</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transaction processing</td>
<td>65%</td>
<td>35%</td>
</tr>
<tr>
<td>Planning &amp; control</td>
<td>15%</td>
<td>25%</td>
</tr>
<tr>
<td>Decision support</td>
<td>20%</td>
<td>40%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

The results of a survey on the “controller day” organised in 1997, show a similar picture.

In the research conducted by PricewaterhouseCoopers (1998), controllers are evaluated based on their strengths and weaknesses. There is an indication that, controllers play a largely domestic-oriented role. They know what is happening within the company. This is illustrated by the advanced knowledge of processes and products. The results of the study are shown in Table 4.
The investigation of the US "Financial Executive Research Foundation (1993)" shows that the controller as a "corporate policeman" is the most prevalent. This type of controller is strongly focused on the interests of the headquarters, has an overview of the total company and attaches great importance in regulation checking and monitoring.

Research by Walters et al. (1997) shows that the self-image of the controller about his role differs from the image the manager does have on the controller's role. The controller considers himself primarily as a "business advocates". The manager believes the controller is rather acting as "corporate policeman" with a prominent focus on reporting and control matters. It can be concluded that a gap exists between the other's image and the self-image of the controller.

2.3.3 A. Schilder

Aimed at the students of the Postgraduate Controller Program of the University Amsterdam, a seminar named "Ethics and Corporate Governance was held in the year 2000. On that occasion, Schilder goes about 'Integrity, control and supervision". He indicates herein that there is an increasing emphasis on integrity. He then illustrates with some examples.

There will be a focus on designing and monitoring the control toolkit that is in place.

It goes without saying that in such environment, the controller can play a significant role in reflecting on ethics and compliance issues. He or she anticipates on what is going on around the firm, regarding expectations from consumers? Does the organisation respond to them? In all cases, how does it deal with ethical and integrity issues?

How could one, according to Schilder, describe the impact of a greater emphasis on integrity, on the evolving role of the controller? This influence will vary from organisation to organisation. In organisations where ethics and compliance make up a great deal of the procedures put in place, for instance, due to increasing regulations, this will without a doubt influence the role of the controller.

2.3.4 Burns, J., & J Viavio

It has been suggested that the roles of controllers are shifting from traditional control-type to business analysis and organisational advisory.
In the magazine Management Accounting Research, 2001 (No. 12, pages 389-402) Burns and Vaivio have posted their article Management accounting change. According to Burns and Vaivio, the role of the management accountant has undergone changes. In the past, the management accountant was the "controller" or "score-keeper. Today, that role has evolved to a management support role.

Nowadays it is not unusual for management accountants to be proactively involved in issues such as strategy, implementation of enterprise information management and change management processes. These problems were, ten years ago, not on the agenda of the management accountant.

The Chartered Institute of Management Accountants (CIMA), in England, consequently adapted its curriculum for it to be more in line with the new role of the management accountant.

2.3.5 Verstegen et al. 2005

Verstegen et al (2005) researched different triggers of the management accountant’s activities:

1) Triggers from the management accountants’ environment outside of the organisation,

2) Triggers from the management accountant’s environment inside the organisation and

3) Person related triggers.

The triggers from the surrounding of an organisation are those we consider as relevant for our study, especially those related to technological advances and ICT developments.

2.4 The developing role of the controller and the external factors.

Johnson and Kaplan (1987) argue that management accounting has apparently suffered a loss of relevancy and significance, as financial managers often fail to recognise when the accounting numbers are no longer providing the relevant or appropriate measures of operations. There has been a significant level of research enthusiasm for the changing role of the controller. With the ever-changing business environment, Controllers are facing many challenges.

The Controller or management accountant is, besides other factors, also subject to triggers from the environment, outside the organisation (Verstegen et Al 2005).

Changes in the environment of the business often create changes in the way organisations manage their operations and conduct business. This evolution has an impact on the activities and roles of management accountant, who are viewed as facilitators and providers of vital information (Forsaith et al. 2004).

Among major external triggers or environmental factors one could include globalisation and the effects on market competition. Tremendous changes in the environment of the business in the form of upcoming globalisation of markets, advances and breakthrough in information technologies, open competition and fewer barriers in driving business internationally, have contributed to the evolution of management accounting best practices (Allot, 2000).

There is a growing expectation for management accountants to take leadership in providing organisations with costumers focused information. When put into some perspective, their intervention spans a larger scope. They are becoming a valuable part of the management process.

The digital era works as an interconnected world of interrelated devices impacting different spheres of the society and it’s resulting economics.
As such, the convergence of the underlying technologies and their social, economic, and managerial manifestations give rise to serious thoughts for the practices upon which management accounting is now based (Bhimani and Bromwich 2009).

All contemporary social scholars uphold the claim that globalisation refers to fundamental changes in the spatial and temporal contours of social existence. In that context, the significance of space or territory undergoes shifts in the temporal structure of basic forms of human activity (Stanford Encyclopaedia of Philosophy, 2002).

Globalisation and the digital economy are obviously one of the leading factors for organisations to adapt their strategies on the challenges and opportunities of these surrounding environmental influences. (Bhimani et al., 2009)

The Controller is likely to play a supporting role in the digital economy (in the perspective of the co-mixing of technology, cost information and strategy). and therefore, must confront the likelihood of a closer interaction in the decision-making process.

The IMA (Institute of Management Accountants) has sponsored a research on e-commerce resulting in a Statement on Management Accounting: in the section Technology enablement, with the title "Understanding and implementing Internet E-commerce."

In that statement, there is a high expectation that management accountants will fulfil a supporting and advisory role in the implementation of electronic commerce in their respective organisations. "In the future the most successful finance executives will be those who apply technology best, to carry out their duties as finance professionals successfully. They must be able to explain in business terms what they need from technology. Moreover, they must arm themselves with knowledge about new technology standards to take a proactive role in developing their company strategy. They need to understand the information highways, the impact from the evolution of e-commerce, and the value created through virtual integration": extracted from the above - mentioned IMA statement p2.

2.5 The digital transformation and Globalisation Era and impact on finance

2.5.1 Introduction

According to the Merriam-Webster dictionary, globalisation could be defined as “the maturation of a gradually, mixed global economy which is marked mainly by free enterprise, free flow of capital…. ».

Broaderly put, Nayef R.F. Al-Rodhan (2006), underpin globalisation as a process that encompasses the causes, course, and consequences of transnational and transcultural integration of human and non-human activities. The term globalisation undoubtedly catches components of a widespread perception that there is a widening, developing and accelerating of overall interconnectedness in all parts of life, from the social to the criminal, the money related to the environmental.

2.5.2 The digital transformation and globalisation

The Digital transformation is the profound and quickening change of business activities, processes, capabilities, and models to ultimately leverage the changes and chances of digital innovations and their technological effect crosswise over society in a key and systematic way, given present and future shifts in mind. And according to Archibugi & Iammarino (2002), New technologies play an essential role in making globalisation possible.

An issue that by all accounts appears to be a ‘a worldwide move’; that is, a world being shaped, by financial and technological forces, into a shared economic and political field. Globalisation is “not a single phenomenon, but a catch-all concept to describe a wide range of forces” Archibugi & Iammarino (2002), 98-122.
2.5.3 E-commerce features and applications.

E-Commerce is a most recent innovation related to commerce and computer technology. Commerce is the exchange or transformation or buying and selling of entities (goods or commodities) on a gigantic scale involving transportation from one place to another. [Webster Dictionary].

E-Commerce is the process of conducting commercial transactions electronically [Oxford dictionary].

The prime benefits that inflow to an organisation embracing e-commerce is faster and real time interaction, low cost, increased customer service, better quality, and improved decision making. Moreover, the ramifications of the web as a market platform has encouraged access to information and decreased boundaries to access (Spinello, 2000).

Online business has abundant advantages over offline retail stores. And potential buyers browsing online storefronts can quickly search correctly to find what they are looking for while shopping and can easily compare shops with only a couple snaps of the mouse.

The introduction of e-commerce is obviously affecting the way trade is carried out. It is crafting a unique marketplace and inducing the reorganisation of economic processes, in a rather efficient way.

The few sorts of online business being used today are grouped considering the nature of the transactions: Business to Business (B2B), Business to Consumer (B2C), Consumer To-Consumer (C2C), Consumer To-Business (C2B), including also Non-Business, Government and Organizational (intra-business).

B2C encompasses the significant aspects of the retail sectors of activity for the organisation under scrutiny.

B2C e-commerce refers to customers ordering products or services directly and paying for them through the internet (Lim 2003).

2.5.4 Impacts of E-commerce on Finance operations

Security Issues in E-commerce

Data and related information in computer systems are more liable to alteration, fraud, error and misuse. Consumers may not conduct any risk assessment at all, as shopping is a habit they do not consider as potentially risky (Riegelsberger and Sasse, 2001). The prime objective of information security is the assurance and protection of interests of those involved in online commerce. Since the risk is preeminent because of the anonymity, distance, and absence of physical connection (Cazier et al, 2006). In the brick and mortar setting, clients can ease their worries through vis-à-vis connection with a human; the physical nearness of the business offers confirmation that it exists, is open and is reliable (Cazier et al, 2006).

Legal and ethical issues in e-commerce.

Conventional legal systems have an awesome trouble in keeping pace with the fast growth of the Internet and its impact throughout the world. The overwhelming expansion of e-commerce has given rise to a variety of legal issues, often related to matters such as privacy, value added tax, intangibles and other intellectual property concerns such as trademarks, and copyright, and so on. It is then logical that the privacy of stored information, shared online, is a growing source of apprehension for potential customers, businesses and governmental agencies (Maximilien and Singh, 2005).
Finance can play an instrumental role in transitioning their organisations to digitally enabled processes since their role has been growing from budgeting and control focal point to a more outstretched decision support position. Information and data are easier to retrieve by different stakeholders at the same time. Accelerated advance in information technology gives ‘warning’ to controllers to become more mindful for more accurate, relevant and timely information. The ascent of present day innovations likewise implies that that controllers can renounce much of the ‘number crunching’ and ‘bean counting’ tasks to automated financial systems (Lobo et al, 2004) The appearance of overwhelming improvements in information technology may give better capacity and speed in database that enables to store unfathomable amount of data in the system (Lobo et al, 2004). This is because technology innovation in business enhances efficiency and effectiveness of business operations (Burns & Scapens, 2000).

Moreover, the securities issues and the legal and ethical aspects signalled above should adequately be dealt with by or in collaboration with Finance.

2.6 Conclusion

It is clear and obvious from a theoretical point of view that it is expected that the environmental factors such as globalisation and technological advancement will influence the role and activities of the controller in the foreseeable future. Among other research on the triggers related to the environment of the controller based on globalisation, technology and ICT developments, we can mention Bromwich and Bhirmani (2009), followed by the Institute of Management Accountants.

However, very few field studies are carried out on how globalization, technological advances and ICT developments are impacting the role of the controller.

We are therefore excited to explore to what extent and how this denoted strategic and business partnering role of the controller could be exercised in practice. We will focus our study on a specific corporate situation of a company which decided to launch for some of its brands, e-commerce storefronts. By so doing, we hope to contribute in the body of knowledge in relation to the ongoing discussion of the changing role of the controller/management accountant.

A general proposition emerging from this project is that changes are occurring in the manner the controller is performing his task within organisations. These changes are associated with technology advancements, including the e-commerce phenomenon.

Two specific propositions are presented. Their purpose is to focus the fieldwork part of the study and to determine if the expected changes occur for the controller within an organisation implementing and running an e-commerce project.

P1: The e-commerce implementation and running process is enhancing the business partnering role of the controller.

Support for this first proposition is derived from literature hypothesizing the further involvement of the controller in decision making activities, with the introduction of e-commerce. IMA Statement on technology, Bromwich and Bhirmani (2009), Zainuddin and Sulaiman 2015, Lobo et al, (2004).

P2: with the advent of e-commerce, the controller will need to develop a specific skills toolbox to adapt and cope with a more challenging environment and potential new threats. Different reasons exist for the controller to exhibit other skills than would otherwise be needed in a simple brick and mortar situation. E-commerce brings about potential security, legal, privacy and ethical issues. Burns & Scapens (2000), Riegelsberger and Sasse, (2001), Cazier et al (2006), Maximilien and Singh (2005)
3. Research methodology

3.1 Introduction

The research approach for this paper was determined by setting up a framework by which the research objective can be attained. There are two primary sources of research methodologies: quantitative and qualitative.

From a theoretical point of view, there are many research strategies (Denscombe, 2007). These include surveys, case studies, Internet research, action research, experiments, Phenomenology, ethnography and Grounded Theory.

Quantitative research is generally viewed as objective in nature albeit some may contend that it can be "subjective" too.

The objective of quantitative research is to develop and utilise mathematical frameworks, theories and hypotheses relating to events. The process of estimation is integral to quantitative research since it gives the major association between experimental perception and numerical articulation of quantitative connections. (Wikipedia Encyclopaedia 2009).

Also, Creswell (1994) has given an exceptionally succinct meaning of quantitative research as a kind of investigation that explains Phenomena by gathering statistical information, utilising scientifically based techniques.

Qualitative research on the other hand is "subjective" by its nature and mainly focuses on suppositions and perceptions instead of solid, quantifiable information.

While quantitative research depends on statistically investigated information, qualitative research utilises non-numerical information. Qualitative research is an umbrella term incorporating an extensive variety of methods, such as interviews, participant observation, and case study, just to name a few. For practical reasons, I will further go into detail about case study as a research strategy.

Research strategy as previously defined is a way, an attitude to adopt to carry out the research. It is the philosophical foundations that help decide the type of study, what sort of information and data we like to collect and analyse. Methods are tools that help us carry out this research as per the defined strategy. These are specific ways for instance for data collection and data analysis. In that aspect, we are examining respectively: Interview, observation, documentation and literature review.

3.2 Choice of research strategy and research methods

In the literature review chapter, we built up the theoretical structure that serves as the foundation for this study. Based on a conceptual model (see appendix), the relationship under study has been laid down. As to this conceptual model various propositions were crafted to test the relationship. This study follows qualitative research approach. The choice made is further legitimated and substantiated in this chapter alongside other methodological variations like data gathering, operationalization, and the data examination and analysis concept being applied. The methodological decisions made are justified by practical, theoretical and methodological argumentations.
3.2.1 Research Method

A variety of research techniques or outlines is available for interpretive studies and the testing of hypothetical expectations. In the light of a study's nature, a single case or a multiple case design can be appropriate. For our current study, the case study design was adopted as the principal research method. This is a legitimated choice when exploring processes, activities and events. And Yin (2009), location no. 638-650) defines the case study as "...an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clear."

The case study approach we adopted is likely to be most appropriate as we want to investigate in depth and provide clarification that can cope with the complexity and subtlety of real situations. It lends itself to the study of processes and relationships within a setting. (Denscombe 2007).

3.2.2 Multiple Case Design

For us to achieve the research objective, we adopted a multiple-case design, which is based on the conceptual research model below. Various cases, whereby e-commerce was implemented for one or more brands and with different degrees of involvement of the controller, were studied. The reason for this is the replication logic (Yin 2009). Because the multiple case design gives room to replication and thereby substantiating of the findings from comparable cases. Similar cases of slightly different contexts were studied to gain an understanding of the similarities between the cases.
CONCEPTUAL RESEARCH MODEL

Empirical evidence through the e-commerce implementation and running project

Triggers from the Business environment of the Controller
ICT and technology related triggers

Controller Roles Definition

Business Partnering role

Related Skills

Cross Case analysis and summary of findings

Case A: Data analysis and findings
Case B: Data analysis and findings
Case C: Data analysis and findings
Case D: Data analysis and findings
Case E: Data analysis and findings

Case Selection
Case study Protocol

Existing Theory

THEMATIZING THE STUDY

Research Question

Case B:
Data analysis and findings

Case C:
Data analysis and findings

Case D:
Data analysis and findings

Case E:
Data analysis and findings

Conclusion

THEMATIZING THE STUDY

E-COMMERCE

Business Partnering role
3.3 Data Collection

3.3.1 Selected situations and respondents

The cases in this multiple-case study can be divided into two groups based on the respective contexts they are embedded in, namely: (1) Controllers with sufficient exposures to e-commerce (2) Global Head of e-commerce. The related sections in chapter 4 (Research Findings) present an overview and description of all cases studied in this thesis. This section will discuss the selection of individual cases for each type of context and elaborate on the targeted respondents.

All cases have clearly displayed elements related to the relationship under investigation.

3.3.2 Semi-structured interviews

Semi-structured interviews were privileged as the data collection method of choice because such interviews are intended to evoke a vivid picture of the participant’s point of view on the research topic (Mack et al. 2005). In addition, open inquiries help to capture and contrast different perspectives and points of view. Semi-Structured Interview-questions enabled us as researcher to structure and give direction for the answers and at the same time to cover the important topic, while staying open to ideas, to each activity's unique setting, and to the richness in the interviewees' perceptions. This course of action left adequate room to clarify any diverging findings.

3.3.3 Observation and documentation analysis

The case study approach permits the use of an assortment of research methods. More than this, it pretty much encourages the use of various methods to catch the difficult and complex reality under investigation (Denscombe 2007).

As a member of the local Finance team, I had the opportunity to attend several meetings on E-commerce held by the head of e-commerce. I could then have access to first-hand information on the project.

Analysing the job description contents for controller’s positions within the company, allowed me to have an impression on what is reasonably expected from a controller in a typical finance role. By studying the recent year’s reports issued by the company, I could grasp what the orientations and prospects concerning the e-commerce as sale channel are.

3.4 Case Study Protocol

To ensure that another researcher can proceed in the same way, the investigator must establish his method of working in a research protocol.

Especially before engaging in field research, one ought to set up a case study protocol. The protocol is an articulation of what you are attempting to achieve and how you aim to accomplish it; it serves in fact as a project planning for your research field work. Specifically, the case study protocol ought to give a clear connection between your research questions, the data expected to answer those inquiries, and your plan for gathering and investigating those data.

The following should, according to Yin (1994), be part of a case study research protocol (See Appendix for details)

1) An overview of the case study;
2) Field procedures;
3) The case study research questions;
4) A guideline for analysis and case study report.
3.5 Data Analysis

A data analysis technique was selected that matched the method of data collection. The data collection method determines the type of output, and therefore different methods require different analysis techniques.

3.5.1 Depending and relying on theoretical basics

For this explanatory multiple-case study the primary sources of evidence are the finding from the interviews. The interviews tried to capture participants’ perceptions of the specific cases. The proposed relationship below shows that the implementation and the running of the ongoing e-commerce project are expected to underpin a certain degree of involvement of the controller in the ongoing decision process about e-commerce issues. This study's approach built forth on propositions distilled from theory, as outlined in Chapter 2, and on the conceptual Research Model enclosed above.

In such circumstances, Walsham (1995) recommends that the theory is used in any of the three ways in the case study research. First, as an underlying guide for design and data gathering, to create a theoretical framework which assesses existing knowledge in the area. Secondly, as part of an iterative procedure for data collection and investigation, with theoretical understandings subject to modification, in the light of discoveries from the data. And finally, as a product of the research.

The principle motivation to rely on theoretical propositions as part of a strategy is that this study investigates a possible relationship – it tries to answer a "how" or "why" inquiry. In such situations, theoretical propositions are to a high degree helpful to guide case study analysis for that purpose (Yin, 2009). Theoretical propositions aim to centre attention on important and relevant data, also to help in the organisation of the whole contextual study and to foster the examination of alternative explanations.

3.5.2 Pattern-matching logic and cross case search for patterns

This study relied on a pattern-matching logic in analysing the interview data. Pattern matching is of great importance and usefulness in explanatory case study research. Yin (2009, p.136) argued that pattern-matching is "one of the most desirable techniques" for case study analysis and that the procedure's goal is to "compare an experimentally based pattern with a predicted one." Therefore, it is relevant to the current research: the case study yields empirical data about patterns displayed in all cases, and these data should have the expected quality as to be compared to the pattern predicted in the study propositions.

The cross-case search for patterns was useful in the sense that it prevents from reaching premature conclusions by requiring to look at the data in a wide range of ways. Cross-case examination divides the data by type across all cases researched. At the point when the evidence from one source corroborates a pattern from another data type, the findings are more grounded. At the point when evidence conflicts, further testing of the differences is necessary to identify the cause or source of conflict. In all cases, the researcher treats the evidence on a fair and decent way to deliver analytic conclusions answering the original "how" and "why" research questions.
3.6 Methodological issues: Validity & Reliability

Validity and reliability are important criteria for the quality of any scientific study. A distinction is made between construct validity (establishing correct operational measures for the concepts being studied; Yin, 2009), internal validity (measuring what one aims to measure to establish the causal relationship; Vennix, 2006), and external validity (generalizability within a specified domain; refers to whether the data obtained is subject to coincidental error (Vennix, 2006).

3.6.1 Internal validity (Credibility)

Fault-finders of qualitative research are frequently focused on the alleged subjective manner data are gathered. Qualitative scientists are more interested in the process, notwithstanding, it is imperative to clarify how certain conclusions are reached. Internal validity is guaranteed as the measurement convenience depends on careful operationalization considering a sound and extensive body of literature. Moreover, pattern-matching adds to internal validity. This approach reinforces the construct validity. Construct validity is backed by triangulation of data and evidence sources (Yin, 2009): We have used triangulation, to check the data received from interviews with the different retail controllers, by seeking information from another stream, like the interview conducted with the Global Head of e-commerce.

The more the researcher can report a similar event, the more prominent the trust in the final conclusions. Information was collected from multiple sources of evidence, and in each case, a different controller was approached and the feedback obtained was interpreted in the light of the data obtained from the global head of e-commerce with the aim of corroborating the same fact or phenomenon.

3.6.2 External validity (transferability)

One of the fundamental purposes of all studies is that their findings are potentially generalizable to some extent.

This goes about how replicating the findings from research to different archetypes of the phenomenon. It concerns the ability of the research findings to explain, similar events at a general or universal level rather than being unique to the case(s) used for the research. (Denscombe 2007).

In this study, care was taken to build in as much homogeneity as possible. A certain level of uniformity was obtained in the profile of the controllers, in that, at the time of the study, all were active in the retail with exposure in the e-commerce implementation and running process.

3.6.3 Reliability (dependability)

Mainly, the reliability rotates around the substantiation that the research reflects procedures and decisions that other analysts can assess concerning how far they constitute trustworthy procedures and reasonable choices. (Lincoln and Guba 1985)

The research needs an “audit trail”, conveying how one came to the conclusions derived from the research and that another fellow researcher ought to be able to pursue that path and land at the same outcome. The contention here is one of guaranteeing an orderly and reliable approach all through the investigation.

According to Yin (1994), a study is described as reliable when the same method applied to the same object of research, but operated by another researcher, comes to the same results.

In this study, reliability (dependability) pertains to the explicitness and duplicability of the procedure, which is accordingly well-documented in the appendix (case study protocol).
4. Findings

The purpose and ambition of this study were to explore how and to what extent the role of the management accountant or controller is changing due to changes taking place in the digital environment of the business through the implementation of e-commerce.

The preceding 3 chapters of this study offered an introduction to the issue encompassing the changing role of the controlling profession. With globalisation and technological advances as driving forces, the e-commerce impact on the controlling function also retained our attention. We performed a review of the literature surrounding the changing role of the management accountant and outlined the methodological design used for this study. This chapter will now present the findings that emerged from the data collected and scrutinised by the mean of the conceptual framework for this study. A qualitative study utilising a multi cases study methodology was carried out with data collected from interviews, documents and own observations. (Yin, 2009).

In fact, as a member of the local Finance team, I had the opportunity to attend several meetings on E-commerce held by the head of e-commerce. Electronic commerce meetings with other stakeholders like brand managers and local e-commerce coordinators, or by mean of documentation available internally. I could then have access to first-hand information on the project, like timetable, which brands are implementing e-commerce, what challenge are faced by the E-com, IT or the Finance team.

Analysing job description contents for controller’s positions within the company, allowed us to have an impression on what is reasonably expected from a controller in a typical finance role. By studying the recent year’s reports issued by the company, we could grasp what the orientations and prospects concerning the e-commerce as sale channel are.

The findings of each case study will be exhibited separately from one another in this chapter. Moreover, the background of the case will be presented before the case study’s findings. (Yin, 2009). All results presented served to answer the following research question for the study:

- **How does the e-commerce implementation and running process affect the role of the controller?**

There are 5 cases. Case A to D, are successively SPAIN, UK, the USA and Switzerland as legal entities, involving one or more controllers. Case E is a Swiss base case involving the Global Head of e-commerce. This last case helped to triangulate, the information obtained to support the finding reported in the previous cases A to D.

Section 4.1 of this chapter is devoted to the findings and analysis on a case by case basis. In section 4.2 we give a synopsis of the interviews outcomes with the different retail-controllers, then we perform a cross-case analysis and finally summarise our findings.
4.1 Findings and analysis

4.1.1 Case A) SPAIN

Background:

The entity-case is at the time of the interview employing two retail-controllers. For confidentiality reasons, we will successively nickname them JG and AN. The entity-case is a country based subsidiary of a renowned manufacturer and distributor of watches and Bijoux with a "Swiss Made" label. E-commerce projects are being implemented or run for one or more brands. Controller JG gained eight years' seniority in his current position as manager of the controlling department, and moreover, he totalizes 15 years of experience in controlling backed by a business administration advanced degree. His duties and tasks encompass the supervision of the monthly closing and reporting activities; he is involved in the improvement of processes, budget preparation, CER and the appraisal of various investment projects, in addition to the customer service follow up. He supports the Brand Directors in the ongoing different business decisions.

The second controller we nicknamed AN is currently employed as a retail controller. He totalises ten years of relevant working experience, five of which as an auditor in Public Practice at one of the Big Four. He is also an academically educated business professional. He additionally gained Consolidation, IFRS, and Internal control review (Coso-report) skills through training on the job. His primary duties entail the reporting on the areas beneath, directly to the CFO and headquarters:

Sales: Preparation of weekly, monthly and annual sales and financial reports and KPIs to support decision making by the CFO and Country Manager, Analysis of the evolution of sales, prices, margins, and discounts, check of the correct accounting of sales in SAP. Stocks: Evaluation of the orders proposal from the different brands and transfers between stores, to ensure the right level of stock in the stores, guarantee of the correct performance of stock-take and review of the differences, ensure the appropriate accounting of stock movements in SAP. Expenses: Analysis and review of the accounting of spending and establishment of the accruals required, Preparation and analysis of P&L per store, brand, and type of product. Investments: The Financial study of new proposals of stores opening, Preparation of a detail of the fixed assets of the company. Internal Audit: Perform internal audit in the stores following the procedures and guidelines. Budget and forecasts:

E-commerce awareness

JG is aware of the implementation and the running e-commerce project within his subsidiary. Moreover, he feels they are part of it as finance and controlling has been involved.

On the other hand, AN has a vague awareness of the ongoing e-commerce project. Moreover, AN does not participate directly in the e-commerce project.

E-commerce contribution

In the ongoing implementation and running e-commerce project JG and his team monitor the "reporting data" such as generated sales, the number of visitors and conversion rate.

"But our focus is more on the collection of sales and to avoid fraud. This in line with Schilder’s (2000) point of view that in organisations where ethics and compliance make up a great deal of the procedures put in place, for instance, due to increasing regulations, this will without a doubt influence the role of the controller.

"We have a person in the brands to follow each single order. In Finance, e-commerce is treated as any other typical retail store."
The way and the extent control as function, assisted in e-commerce based on the steps in the IMA framework

(Developing Strategy, Assessing Readiness, Designing the Project, Integrating the Solution, Measuring Effectiveness (financial and non-financial metrics)?

JG “we have been involved in de processes: order placing in SAP, delivery approval, and Bank integration...”

It appears that the contribution described above is different from the traditional controller’s task involving primarily fiduciary aspects such as month end closing and various analyses. The controller effectively participated in the design and integration of the project.

The contribution of the second controller AN, at the contrary seems to be less distinctive as he is still performing the same tasks he used to, before the e-commerce project implementation was launched. Furthermore, he states the following about e-commerce "..., it’s like when we open a new physical POS (point of Sales) because I have to validate the same figure".

In fact, AN describes his contribution as being primarily limited to financial and accounting issues, ensuring the correct accounting treatment of sales (prices, margins, and discounts) and expenses in SAP.

How is the collaboration working? Any issues subject to improvement?

JG expresses general satisfaction about how the collaboration took place. He reports a couple of fraud attempts, in which cases he and his team lay down and apply specific procedures to tackle, mitigate or prevent those fraud attempts to harm the business. He also reports specific actions being taken by himself and other team members to manually update the prices on the web, as this is not yet occurring automatically, due to the communication between different systems.

He argues as follows: “at the outset of the e-commerce project, mostly the e-commerce brand HQ responsible, the accounting and local IT, and IT HQ staff were involved. Moreover, there is an international platform in use, that works as a kind of Matrix from where centrally many decisions are made”.

AN believes everything went as expected, “Some people are responsible for E-Commerce business; and I am involved in a new Watch Replenishment System project where I must validate the figures of the system (stocks, back orders, open deliveries, sales, etc.”

The stock replenishment system is also a very crucial aspect of the e-commerce sales.

Additional skills for the controller to develop as a trusted business partner in the ongoing e-commerce project:

JG expresses the need to be more familiarised with the digital world, the e-business, tools and the major features of the online business. Forth, controller a) feels the need to enhance, to anticipate and reinforce his skills in “...the consumer process decision.”

He also conveys the need to improve and apply “marketing tools (SEO, SEM), primary KPI’s to adequately follow up the activity not only to have a proper financial reporting and control but to be able to give a complete support.”

AN did not mention any additional skill, he would need to better contribute to the e-commerce implementation project.

The type/category of controller

When JG is asked to position himself in one of the four categories described by Vijay Sathe (independent-controller, Involved Controller, split controller and Strong controller), he states it as follow:
"Depending on the duties performed so far for the various entities, one or other category would be suitable (the organogram impact the way controlling departments are acting). In my experience, I have been more close to the last one."

JG believes he does fit in the category strong-controller, highly involved in decision making in one hand, and being accountable for the accurate financial reporting and adequate internal control on the other.

AN, conversely, think he is keen to fit in the first category which is the independent controller

**Future perspectives**

JG shares the conviction that the controller’s business partnering role is to gain in importance, in the next five years, in the light of the ongoing e-commerce project within the company. Concerning the digital content, also because “online business is growing and is becoming a significant portion of the market”.

AN believes that the partnering mentioned above, also will depend on the structure that the e-commerce business embodies within the company. If there is an e-commerce responsible person, for the 100% dedicated to this line of activity, then the role of the controller will be that of an independent controller.

### 4.1.2 Case B) the UK:

**Background**

In the entity case under study we got in contact with two controllers, only one of them was available for our interview. For confidentiality reasons, we will nickname this controller MS. The entity-case is also a country based subsidiary of a renowned manufacturer and distributor of watches and Bijoux with a "Swiss Made“ label. E-commerce projects are being implemented or run for one or more brands. Controller MS gained two years’ seniority in her current position as retail controller moreover she totalizes 5.5 years’ experience, working for the same entity and is currently studying for ACCA certification.

**E-Commerce awareness**

MS is very hesitant about her knowledge on, the dimension and magnitude of the ongoing e-commerce project. And she believes “...not really involved”. She, however, shares the conviction that e-commerce implies better reporting, efficiency and a security minded controller.

**E-Commerce contribution**

The way and the extent control function assisted in e-commerce following the steps derived from the IMA framework (Developing Strategy, Assessing Readiness, Designing the Project, Integrating the Solution, Measuring Effectiveness (financial and non-financial metrics))?

M.S. also contributed by “... verifying the implementation accuracy, through assisting non-finance members of implementation team with finance queries, etc.”

MS also believes that some of the major decisions about e-commerce implementation issues are made globally and not locally.

We asked about any additional skills she might need as a controller, or about the controller type she is, or even about the future prospect of the ongoing e-commerce project. We did not receive answers.
It appears to me however, that the contribution brought by MS as described above is different from the traditional controller’s task involving inherently fiduciary aspects (month end closing an analysis etc.). The controller effectively was participating in the design of the e-commerce project by bringing input from a financial perspective, her concern about the accuracy of the output of the implementation helped raise finance queries to the attention of non-finance members of the implementation team. But as not being part of the implementation team she seems not very involved in the first place, and is not always knowledgeable about all the contours and implications of the project, for her as a controller.

4.1.3 Case C) the USA

Background

In the entity case under study, we got in contact with one controller. For confidentiality reasons, we will nickname this controller AW. The entity-case is a US country based subsidiary of the same group manufacturer and distributor of watches and Bijoux. Its local activities entail the distribution and customer care activities for Watches and Bijoux. At the time of this interview, AW has been active in the local US controlling department for the last 1.5 years. He previously worked four years for the Nordics as controller, before moving to the US branch. He holds an MSc in Finance & Management accounting. His primary duties encompass retail controlling, inventory controlling, investment controlling and many different other ad hoc projects.

E-commerce awareness

AW is acutely aware of the e-commerce activities in his local branch. His local US office has a long tradition of electronic commerce business, and even though they recently started up another Brand e-com, five other brands have already driving e-commerce activities for quite some years. The setup approach for a new entity is relatively uncomplicated (due to past experiences) and is primarily handled by E-com personnel and IT.

E-commerce contribution

"...my role as a controller (when a new entity is set up) is to ensure that the unit gets set and recognised in SAP as well as linked to other tools such as BOFC reporting."

The way and the extent control function assisted in e-commerce following the steps derived from the IMA framework (Developing Strategy, Assessing Readiness, Designing the Project, Integrating the Solution, Measuring Effectiveness (financial and non-financial metrics)?)

According to AW, Integrating the Solution is a factor, failure to do so correctly results in a lot of work for other Service Centre departments. Measuring effectiveness comes later in the process. Many of the other parameters fall under the responsibility of Operations teams and IT.

It is worth bringing forth that AW, did contribute for E-com Nordics before moving to their US Branch. He also took part in the implementation of different other related projects and gives illustrations like:

"...engaged in Retail businesses in the form of corporate stores very much so. As these stores carry far higher investment costs and contingent liabilities than e-com (where you can pull out at any time), initial projections and follow-up retain more attention than E-Com."

How is the collaboration working? Any issues subject to improvement?

AW acknowledges limited input in the implementation of the brand recently set up.

"...It would most likely be different if the process related to a very first E-Com unit to be set up" in his US local Branch. "...Main reason is that most of the tasks are more related to IT and Operations competences. A controller is not the most vital part of the start-up phase in my opinion".
Additional skills for the controller to develop in a trusted business partner in the ongoing e-commerce project

AW believes System knowledge (ERP) is an advantage. Knowledge about the firm to challenge brand’s initial sales estimates and budget could be another factor.

The type/category of controller

AW believes he does fit in the category Split Controller, with a higher focus on management service responsibilities, and lower focus on financial reporting.

Future perspectives

Portraying future trends AW foresees things depending on possible shifts in sales channels in the watch market over the next few years.

“.... If sales would start to move from physical stores to e-com, far more controller focus would be on e-com than now. Especially on issues such as freight cost optimisation, marketing costs, and credit card fraud prevention. If E-Com remains a rather small distribution channel within Retail, I believe the controller’s focus and input on E-com will be rather limited since this is not where we can find the major cost efficiency gains now, for example."

4.1.4 Case D) Corporate headquarters (Controller)

Background

Case D is the Swiss-based Group headquarters entity. We could get in contact with one of the controllers working for this headquarters entity and for confidentiality reasons we will nickname this controller AB. The entity-case is the international group active in the design, manufacture and sale of finished watches, jewellery, watch movements and components. It supplies nearly all components required by its 18 watch brands, and to third-party watchmakers in Switzerland and around the world. The group is additionally a key player in the manufacture and sale of electronic systems used in watchmaking and other industries. It employs more than 36 000 persons in over 50 countries. Net sales in 2015 amounted to 8.451 billion Swiss francs (2014: 8.709), net profit of 1.119 billion Swiss francs (2014: 1.416 billion).

At the time of this interview, AB has been active as a Retail controller for the corporate headquarters for the last six and half years. He got trained in management accounting. His primary duties entail 1. Checking and Analysing the following (Lease Negotiation Requests, Capital Expenditure Requests, Closing Requests, Additional Funding Requests), 2. Retail Reporting of Global Point of Sales, 3. Marketing Budget and Cost Monitoring, 4. General Analysis and Benchmarking. His role is more global than local, more involved in aggregating the input from the local retail points of sales globally, whether from traditional channels or e-commerce.

E-Commerce awareness

At the corporate level, AB oversees the checking and analysing of the e-commerce Profit and Lost figures globally.

E-Commerce contribution

According to AB, E-commerce as a business is gaining more focus.

Additional skills for the controller to develop in a trusted business partner in the ongoing e-commerce project

AB perceives the need for the control people to develop strong IT skills in the light of the unfolding e-commerce business.
The type/category of controller

AB sees himself more as an independent controller, with a high emphasis on the controller’s financial reporting and internal control responsibilities.

Future perspectives

Portraying future trends AB foresees things depending on the job content, and the entity where one is working, within the group.

4.1.5 Case E) Global Head of e-commerce (corporate): Case triangulation.

Background

Case E. is located within the department of international sales and e-commerce.

An essential feature of case E is that we used that case to triangulate the information gathered to challenge the findings from case A through case D.

The principal and only interviewed in the case is the Global Head of e-commerce, and we will further nickname him YE.

YE attended a Business School and got further trained in matters related to communication strategy, online business, and e-commerce. He previously worked in finance and controlling department for the same Group.

His duties and tasks encompass the following:

- The overseeing of the concept development, strategizing, planning, implementation and coordination of the e-commerce and digital initiatives.
- The definition, creation and operating of strategies to support brand’s competitive advantage.
- The planning and coordination of the international roll-out of the e-commerce platform and assist with new business development.
- To lead and motivate a talented team of e-commerce professionals, providing vision, direction, and guidance.
- To build and maintain relationships with outside suppliers and partners to contribute to the efficient operation of online sales.
- Keeping a smooth production process, enabling the handling of all the updates and improvements to the site’s functionality and design throughout the year.
- Oversees the implementation and utilisation of an eCRM program to drive brand loyalty and sales.
- To play a vital role in the company’s go-to-market process, and maintain a close relationship with all internal departments, representing the digital consumer and e-commerce efforts in the process.
- To work on driving a multi-channel focus, presenting a unified, customer-centric view of the brand, consistent across the brick-and-mortar and digital spaces, including mobile new devices.
- To take a strategic view on the digital commerce landscape, keeping current with industry best practices and trends and work closely with internal departments to develop new projects using the new technologies.
To update departments, senior management, and other Group business units on e-commerce program results, through quantitative and qualitative reports and analysis.

- To develop business plans and the annual budget of e-commerce functions.

- Understanding the current role of finance in the light of e-commerce

YE is acutely aware of the role, Finance is to play in the light of e-commerce, and he says

“...since I have started in Finance (previous function), and since I build the e-commerce sales channel, I have been regularly in contact with Finance and controlling to ensure proper handling and financing of the operations.”

**Collaboration with finance/controlling**

YE acknowledges the Finance is trying to help them find the solutions and he further states

“...Since the B2C Online business required automated processes, we were helping in defining the needs and the disruptive aspect of automated processes”. And «Now, we are requiring proper handling of new operations online and try to ask for an automated standard brick and mortar operation coming from digital. This is as well limited by the system we use and how adaptable it can be. B2C requires specific treatment, and in such a big company, systems are sometimes not scalable. We must come with a proper definition of our operations that permits seamless customer sales experiences. New standards in multichannel approach (online-offline) requires transparency of data exchange. This aspect is disruptive, and change management is critical.”

YE is convinced e-commerce is touching every department of their company, comparing e-commerce to “a company within a company.” He believes a key factor of success is to have a Business Analyst that is reliable and can understand the technical and business aspect.

“...Since e-commerce is a business project strongly impacted by systems, it is crucial to have someone being able to make the bridge between business and IT. What is important is that Finance firmly understand what the needs are and what are the steps from stock movement to money aspects and it has to be compliant with legal considerations and customer protection regulations.”

YE also expects Finance team to understand high-level flows of their systems so that they may adapt, considering the data flow within the systems.

**Way and extent to e-commerce contribution from finance**

The way and the extent control as function assisted in e-commerce following the steps derived from the IMA framework (Developing Strategy, Assessing Readiness, Designing the Project, Integrating the Solution, Measuring Effectiveness (financial and non-financial metrics))?

YE agrees things are changing. In the beginning, as he states:
“E-commerce was a solely a task dedicated to one team. After first go live, IT team brought up concerns about invoicing and payment reconciliation. Then, about the delay in the information compare to standard processes, etc. By sitting down with them, we could “teach” then what the standards were and then adoption of this new sales channel was coming. Change management was a critical matter that needed thoughtful consideration. We were asking them to be proactive and closer to the business. Based on this collaboration, we were, from year to year, able to continuously optimise the overall operation and systems. Of course, it was a disruption for these departments as they were not technology oriented and were in a comfort zone. Now, since digital is touching our everyday lives, professionally and privately, the adoption to change is better. In the meantime, if the IT is not helping, then, we are losing time. Therefore, crucial is to identify correct stakeholders and sponsors and ensuring to have support from these services”.

It clearly appears that e-commerce was a rather disruptive for many departments even for the finance team. Besides Finance was less technology oriented. There has been a rather high expectation that Finance adopt a more proactive attitude in the light of e-commerce.

YE expects more and more involvement and proactivity from Finance/control. However, he sees the support he gets from Finance Control growing since the top management has as well, shown willing to move forward. He believes, based on their big company structure and operations, standardisation/normalisation is necessary. Since e-commerce was low, it was the e-commerce to adapt to the internal rules and policies. Now that the top management clearly sponsored this, he sees much more qualitative and quantitative support since they are demanding and breaking some standards. That prospect does give them competitive edges.

We asked to rate his finance/controlling partner’s skills concerning the implementation of e-commerce on a scale of 1 to 5, we get the following data:

Business processes => (4), Analytical thinking => (4), Strategic thinking => (2), Support of decision making => (3), Use of IT tools => (3), Interpretation of financial and non-financial data => (5), Adapt to change =>(2), Communication skills => (3), Understanding of Company's environment=>( 4), Proactivity => (2).
4.2 Synopsis, summary of the findings and cross case analysis

4.2.1 Synopsis of the findings related to the 5 controllers

To give a clear and quick access to the information generated from the interviews of the five controllers, I include hereafter a synopsis of the findings:

**Cross-Case Categorisation Emerging from Case Studies for the 5 Controllers**

<table>
<thead>
<tr>
<th>CROSS CASE CATEGORISATION</th>
<th>Spain 1 (JG)</th>
<th>Spain 2 (AN)</th>
<th>UK (MS)</th>
<th>USA (AW)</th>
<th>Swiss (AB)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Background controller</strong></td>
<td>Advanced degree in Business Administration</td>
<td>Degree in Business Administration</td>
<td>Studying for an ACCA Degree</td>
<td>MSC in Finance &amp; management accounting</td>
<td>Trained in Management</td>
</tr>
<tr>
<td>relev. exp. in years</td>
<td>15 years and 8 Years in current position</td>
<td>10 years and 5 Years in current position</td>
<td>5.5 years and 2 Years in current position</td>
<td>6.5 years and 1.5 Years in current position</td>
<td>6.5 years and 6.5 Years in current position</td>
</tr>
<tr>
<td><strong>Function</strong></td>
<td>Retail-controller</td>
<td>Retail-controller</td>
<td>Retail-controller</td>
<td>Retail-controller</td>
<td>Retail-controller</td>
</tr>
<tr>
<td><strong>E-commerce Awareness</strong></td>
<td>Very High level of awareness</td>
<td>Intermediate level of awareness</td>
<td>Moderate level of awareness</td>
<td>Very High level of awareness</td>
<td>Moderate level of awareness</td>
</tr>
<tr>
<td><strong>Contribution to the E-commerce project</strong></td>
<td>He monitors the “reporting data” such as generated sales, the number of visitors and conversion rate. He focusses more on the collection of sales and avoiding internet fraud. Was involved in the processes of order placing in SAP, delivery approval, and Bank integration.</td>
<td>He ensured the correct accounting treatment of sales (prices, margins, and discounts) and expenses in SAP.</td>
<td>Verifying the implementation accuracy, through assisting non-finance members of implementation team with finance queries,</td>
<td>Integrating the Solution,</td>
<td>At the corporate level oversees checks and analyses: the e-commerce Profit and Loss figures globally</td>
</tr>
<tr>
<td><strong>Need for additional Skills</strong></td>
<td>Intermediate level of awareness</td>
<td>Very High level of awareness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Score</strong></td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

*Level of activity /depth of perception* = ranging from 5 to 1

**Skills**

- **No Feed-back**
- **System knowledge** (ERP) is an advantage. Knowledge about the firm to challenge brand's initial sales estimates and budget could be another factor.
- Acquire strong IT skills, in the light of the unfolding e-commerce business

**the type/category of controller**

- He considers himself to be as strong controller (Sathe 1982) / is to compared to the “Financial Advisor” (Van Helden 1997), (Traas 1997) or Riedijk et al. (2002)
- He believes to fit in the type independent controller/ to be compared with the corporate Policeman (Jabolonsky et al. 1993)
- He does fit in the category Split Controller, with a higher focus on management service responsibilities, and lower focus on the type independent controller/ to be compared with the corporate Policeman (Jabolonsky et al. 1993)
- He sees himself more as an independent controller/ to be compared with the corporate Policeman (Jabolonsky et al. 1993)
- He foresees things depending on the job content, and the entity where one is working, within the group

**Future perspectives on E-commerce**

- The controller’s business partnering role and digital content are to gain in importance, in the next five years, based on the ongoing e-commerce project.
- The partnering role depends on the structure that the e-commerce business embodies within the company. If there is an e-commerce responsible person, for the 100% dedicated to this line of activity, then the role of the controller will be that of an independent controller.
- If sales start to moving from physical stores to e-com, far more controller focus would be on e-com than now. Especially on issues such as freight cost optimisation, marketing costs, and credit card fraud prevention.

*Activity/perception level* (if

<table>
<thead>
<tr>
<th>Score</th>
<th>very high = very strong</th>
<th>high = strong</th>
<th>intermediate</th>
<th>moderate</th>
<th>Low = Weak</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>(5)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td>(1)</td>
</tr>
</tbody>
</table>
4.2.2 Summary of findings

The main themes that emerged from the six interviews are summarised below:

The level of awareness of e-commerce impact: The results show that most of the controllers (all five respondents) are aware of the e-commerce project implementation in the entity where they are working. Some of the controllers are somewhat contributing to the e-commerce implementation incidentally, lacking a real sense of commitment to the project. Moreover, they convey the feeling of not well updated about the importance of the project and to which direction they are moving with the project. At least two controllers out of the five respondents showed a high level of involvement in the decision processes related the e-commerce project. Most of the controllers, however, have invariably supported the business processes, making use of their analytical thinking and understanding of the company’s environment, exerted themselves to interpret financial and non-financial data.

The controllers’ involvement in either strategic or operational decision-making processes might relate to the controller’s type or style the interviewed controller considers himself to be. Controllers who see themselves as a strong controller or an involved controller are showing more involvement and proactivity in partnering on the e-commerce project. Controllers who consider themselves as independent showed less interest for the e-commerce implementation process compared to the interest expressed for their more traditional fiduciary role.

There are unspoken beliefs and suppositions by those controllers about their involvement in any decision-making process as to be rigidly framed by their job content and assignment. AN believes everything went as expected, “some people are responsible for E-Commerce business, I am involved in a new watches Replenishment System project where I have to validate the figures of the system (stocks, back orders, open deliveries, sales, etc. “The e-commerce volume in comparison to that of traditional brick and mortar retail. Online commerce volume within the company, when compared to brick and mortar business, is still slight. In that sense some controllers shared the conviction that it is not retaining enough focus from the controller:

“...if E-Com remains a rather small distribution channel within Retail, I believe the controller’s attention and input on E-com will be rather limited since this is not where we can find the major cost efficiency gains now, for example.”

A recurring theme that emerged from the interviews was the impact of It Knowledge and systems. Both the controllers (at least 3) and the manager (head of e-commerce) believed that additional related skills are to be acquired, for a valuable involvement of the controller in e-commerce.

Also, the findings offered evidence of e-commerce being an innovative high pace project with the needs to act fast in a fast changing and IT-intensive driven environment. This situation appeared to be quite disruptive.

“Of course, it was a disruption for these departments as they were not technology oriented and were in a comfort zone. Now, since digital is touching our everyday lives, professionally and privately, the adoption to change is better. In the meantime, if the IT is not helping, then, we are losing time. Therefore, crucial to identify correct stakeholders and sponsors and ensuring to have support from these services”. Head of Ecommerce.

This attitude is partly consistent with literature offered by Sathe (1982) arguing that where environmental change is rapid, there is more needs for management creativity and quick decision-making needs are high, and controller’s involvement in the decision process is to come in the second place.

There is rather an optimistic stance in that the Head of e-commerce is expecting the controllers to get more involved.

This expectation is evidenced by Joseph et al. (1996) pointing into the direction that any observed business partnering behaviour could rather be driven by managerial expectations than by controllers’ aspirations.
It was, however, urging and encouraging to see that five of the respondents, while remarking on the day to day financial and management accounting tasks and the necessity of enabling controls to run efficiently, additionally referred to their adding value into the e-commerce project and here and there bringing up valuable inputs. This observation is epitomised in the following observation made by M.S., a Retail Controller for the UK branch, about how she contributed by "... verifying the implementation accuracy, through assisting non-finance members of implementation team with finance queries, etc."

4.2.3 Cross Case analysis

Upon initially conducting this study, we assumed that the e-commerce application and running process within a subsidiary of a wholesaler and retailer company to some extent enhances to the business partnering role of the controller.

An examination of the data collected revealed that when it comes to the business partnering role of the controller in the e-commerce implementation and running project within the subsidiary of a wholesaler and retailer company,

1. Controllers' involvement in the decisions making processes might hold a possible relationship with the type or style the interviewed controller considers himself to be. Controllers who see themselves as a strong controller or as an involved controller are showing more involvement and proactivity in partnering on the e-commerce project. Quite different are those controllers who consider themselves to be independent, they do not consider e-commerce as much demanding as other tasks within their traditional fiduciary role.

2. When splitting between the strategic decision-making process and the operational decision-making process, the results showed that none of the controllers is even slightly involved in the strategic one. And most of them are somewhat involved in the second category, whether it's to be related to stock replenishment, freight optimisation, the follow-up of online marketing and advertisements, credit card fraud prevention or to different other ad hoc decisions.

3. In the light of the information specified above, the controller, as a business partner in the e-commerce matter should improve his strategic thinking, adapt to changes and be more proactive. His supporting role in the decision making will be more visible by strengthening his use of IT tools and his communication skills.

4. We spotted a difference in golf length between the controller’s attitude and engagement level in the e-commerce implementation and running project, and the expectation expressed by the head of e-commerce for the controller to act as a business partner in the managerial decision making. This is an indication of a possible gap to bridge, to bring the controller and the manager on the same golf length. Based on the theory developed by Walters et al. (1997), this is an indication “that the self-image of the controller about his role differ from the image the manager has on the controller’s role”
5. Conclusions, Discussion and Recommendations

5.1 Conclusions

Based on our literature review, many different definitions emerged in our attempt to conceptualise the role that a controller is expected to play in an organisation.

Sathe (1982) does mention four variants of roles: the involved controller, the independent controller, the split controller and the strong controller.

And G.J. van Helden (1997 and 1988) came up with another classification of controllers and their role that is often referred to in the literature is that of a corporate policeman, business advocate and financial advisor.

Traas (1997) acknowledged a controller profile that one could place in-between the Corporate Policeman and the Business Advocate. Riedijk, Tillema and Moen (2002) qualified this role as the “Financial Advisor”.

From the literature study, we conducted, there is evidence that the controller role is evolving. Burns and Vaivio (2001) suggested that the roles of controllers are shifting from traditional control-type to business analysis and organisational advisory.

The level of corroboration found provides us with a degree of confidence in the data to support the assumption in proposition 1, that the e-commerce implementation and running process is, somewhat, enhancing the decision supporting role of the controller in a general sense. At least from the point of view of the management.

There is rather an unspoken belief from a few controllers to be able to expand their role into involvement with decision making, by being entrusted with the role, thus awaiting the blessing of the management.

Some evidence is also present in the data that suggest a degree of role ambiguity, as some controllers are not quite aware of the expectations of the global head of e-commerce to see them out of their comfort zone and take initiative in this area of decision “support”. That controllers do not seize this opportunity may be the most telling indication of the disruptive aspect of e-commerce, in combination with their deep-felt reluctance to depart from traditionally accepted roles.

The expectation that, [Bromwich and Bhirmani (2009), followed by the Institute of Management Accountants] with the e-commerce controllers will be more and more involved in decision making activities, has not been sufficiently evidenced. Nor could it be refuted.

Nevertheless, it appeared that Finance and Control can play an instrumental and crucial role in transitioning their organisations to digitally enabled processes. And the ascent of present day innovations likewise implies that that controllers can renounce much of the ‘number crunching’ and ‘bean counting’ tasks to automated financial systems (Lobo et al, 2004).

When splitting between the strategic decision-making process and the operational decision-making process, none of the controllers was even slightly involved in the strategic one. And most of them were somewhat involved in the second category whether it’s to be related to stock replenishment, freight optimisation, the follow-up of online marketing and advertisements, the credit card fraud prevention or to different other ad hoc decisions.
The existing literature also uncovered some conflicting evidence about the impact of the changing business environment on the controllers' role.

De Loo et al (2011) very recently, argued that the roles of the controller are no longer classified by comparing the roles or functions, e.g. the traditional separation between "business advisors" and "scorekeepers" has become less leading. They do not endorse the belief that because the environment characteristics outside the organisation are changing; only business focused controllers will be relevant in the foreseeable future. They assume that “bean-counting” and other registration oriented activities still form a prominent part of much of the core work of controllers.

The Findings revealed that the controllers’ involvement and business partnering role might associate with the type or style the interviewed controller considers himself to be. Controllers who believe to be strong controller (Sathe 1982)/financial advisor (Riedijk et al. 2002) or involved controller (Sathe 1982)/business advocates (Riedijk et al. 2002), are showing more involvement and proactivity in partnering on the e-commerce project. While those controllers who believe themselves to be independent (Sathe 1982)/corporate policeman (Riedijk et al. 2002), do not consider e-commerce as a priority, compared to those tasks within their traditional fiduciary role.

As for proposition 2, it seems evident from these findings that, some controllers (at least more than average) and the global head e-commerce share the perception that the changing business environment because of e-commerce requires the controller to develop additional skills. For the controller to become a reliable business partner in the e-commerce matter, he/she should be more business and service oriented, quickly adapt to changes and be more proactive. His supporting role in the decision making will be more visible and appreciated by mastering IT tools, and improving his communication skills.


From the setup of our study and the inherent limitations therein, we could not provide evidence of a tangible causal relationship between e-commerce and the involvement level of the controller as a business partner. Based on the evidence we gathered from our study there could be a possible connection between both, that might be of interest.

This seems to be in line with the position taken by De Loo et al (2011).
5.2 Discussion

First, it ought to be clear that our findings are legitimate for the time frame under investigation.

This implies that we could have gotten very different reactions when studying the implementation impact of e-commerce over an extended period, a couple of years for example.

One should on the other hand understand that if the period under scrutiny is too long, the research runs into practical problems such as information accessibility. Besides data availability, a period too long could likewise bring about the issue that it will be increasingly difficult to leave aside other conceivable influences than just the e-commerce impacts, which is sufficiently troublesome by itself, as remarked by Xiao et al. (1996, pp. 209)

We focused our study on a relatively homogenous group of controllers working for the same group. Initially we have set a goal to conduct different interviews with 10 controllers, we could at last take interviews with 5 of them. The narrowed sample size could have affected the external validity of our study and thereby limiting its generalisation over a larger scale.

As with most research, this study is subject to a few potential limitations. Although all methodological impediments were thoughtfully considered when obtaining and interpreting the data, a case researcher can never – although he can do his best to mitigate it – totally get rid of the subjectivity bias.

Notwithstanding these potential impediments, the outcomes of this study provide some valuable contributions in our understanding of the impact of e-commerce on the role of the controller.

5.3 Recommendations for practitioners

In the light of the information mentioned above, the controller, to successfully act as a business partner in the e-commerce matter, should improve his strategic thinking, adapt to changes and be more proactive. His supporting role in the decision making will be more visible by strengthening his use of IT tools and his communication skills.

5.4 Recommendations for further research

As it is often the case for most research activities, our study faces some limitations. Limitation because all of 5 research units were all subsidiaries of the same company, affiliated to the Swiss-based Parent.

Furthermore, e-commerce as a distribution channel was not yet as important as the conventional channels in term of volume and revenue generating capacity.

Also, any further research on the topic, involving independent research units or having e-commerce as the only or primary distribution channel could yield other interesting qualitative results.

Based on the evidence we gathered from our study there could be a possible connection between e-commerce and the level of involvement of the controller in decision-support activities, which might be of interest for further research.

We spotted a difference in golf length between the controller’s attitude and engagement level in the e-commerce implementation and running project, and the expectation expressed by the head of e-commerce for the controller to act as a business partner in the managerial decision making. This situation could be an indication of a gap to bridge, to bring the controller and the manager on the same golf length. Any further research on bridging the spotted gap between management and controller on this topic could also yield interesting outcome.
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Appendix I: CASE STUDY PPROTOCOL

1. Outline of the case study (CASE STUDY PPROTOCOL)

This section should, according to Yin (1993) provide background information on the project. As background information in the study, we will describe how we came to case selection.

Case determination includes two connected choices: what cases and what number of cases to review. A major controversy in case study design is whether a single case is satisfactory.

Remenyi et al. (1998) cautioned that a single case design is a dangerous and risky alternative for researchers in the field of business and management.

It is likewise hard to perform parallel investigation through a Single case study. Yin (2009), argues that there are five explanations behind single case design. For instance, when the case is critical in a certain way (e.g. when theory testing is involved). Or that it is either one of a kind or typical, it is demonstrative and revelatory (already out of reach to specialists) or that the research proves to be longitudinal, scrutinising the case at a different focus in time.

The option was to utilise the multiple cases approach, the discoveries from which we consider more convincing and vigorous. Numerous cases can permit hypothesis to be better be grounded in more polyvalent evidence setting, with the specific advantage that they give room to cross-case correlation.

Based on these assumptions, we decided to tackle our investigation with a multiple case approach.

In picking our cases, we additionally gave thoughts to the practicality of arranging, negotiating and maintaining access. Limited access is an issue in a case study research, considering the need of in-depth investigating the case and getting access to various sources of evidence. You may need to find a sponsor or gatekeeper. In my situation, a colleague of mine, a business Controller who also worked in the Finance department, brought me in contact with a Retail Controller at the global headquarter. He helped identify potential interviewees, and locate documents and other materials, and altogether get access to the data. I was aware, however, that I will also have to manage my relationship with the sponsor and that their sponsorship may affect how others welcome you in the organisation.

In any event, I needed to identify key stakeholders in the research sites and develop an understanding of the politics of the organisations I researched.

The aim of this study is to explore how and to what extent the role of the controller is changing due to changes taking place in the digital environment of the business through the implementation of e-commerce.

Therefore, the research focuses on controllers working in the wholesale and retail sector where the ongoing implementation of e-commerce is taking place.

The potential interviewees were provided by the sponsor, based on the defined profile that those controllers should have sufficient exposure to e-commerce. So, I got a list of different controllers located at different organisations like in the USA, Italy, Spain, The UK, Germany, and Switzerland. Almost all of them were Retail Controllers working for Business Units where the implementation of e-commerce is ongoing. The controller based in Switzerland at headquarter is also a Retail Controller but with a coordinating role around the retail controllers at Business unit level, where the local e-commerce project is (being) implemented.
Worth mentioning is that the business market for the global organisation I am researching is the manufacture, distribution and the commercialisation of Watches and jewellery, ranging from basic to prestige and luxury, through middle and high ranges.

Also, worth to mention is the fact that, after constructive negotiations with the global executive in charge of e-commerce (also on my potential interviewee’s list), I finally suggested not to make public the name of the different organisations I would investigate.

2. Field Procedures (CASE STUDY PPROTOCOL)

According to Yin (1993), following a set of procedural steps in a research increases the reliability of the study. The procedures are of interest to follow because the search does not take place in a laboratory, but rather on the work floor.

The case local organisations were chosen for two main reasons: to begin with, they were hosting an ongoing e-commerce implementation project. As such, they provided a favourable environment that allows the researcher to study the e-commerce phenomenon in-depth, and its impact on the changing role of the controller working for the local organisation under scrutiny. Secondly, due to the researcher’s history with the organisation, he was granted substantial access to interviewees, internal documentation and other potential research supporting material. The case organisation agreed to take part in the study under anonymity, and due to confidentiality reasons, we have disguised the data we considered sensitive.

The main body of the empirical evidence consists of interviews carried out in the organisations.

The choice made was to conduct an interview with each controller, one instantly taken after another. An interview with the Head of the global e-commerce project followed later.

In addition to the interviews, several internal documents such as memos, reports, training material and meeting notes were obtained and analysed for research purposes. I, also participated in internal meetings that dealt with topics relating to the e-commerce implementation and running project. We selected all empirical data from their supposed relationship to the case organisation’s ongoing project. Similarly, interviewed individuals represented roles that were potentially subject to the exposure of the e-commerce implementation project.

Several sources of information were used to strengthen the validity of the empirical data.

Moreover, the researcher could use his familiarity with the organisation to assess the validity of the obtained information. Eventually, only material that we could link to the e-commerce implementation project and the partnering role of the controller was judged relevant for the overall study.

However, as the researcher is working in a finance position, his pre-understanding of the case organisation is biased towards the finance function and realities related to working in a similar role.

We guaranteed the confidentiality of the content of the interviews, and we made it clear to the participants, that their intervention is treated anonymously in the study. Nevertheless, the reliability of the field interviews can still be subject to concerns: respondents were asked to discuss topics concerning their role play in the case organisation, and many of the questions related to how interviewees perceived their partnering and strategic role evolution. We acknowledged that due to such sensitive topics, people might have been reluctant to give direct answers and instead, chose not to speak openly about some matters during the interviews.
3. The case study research questions

To work out a set of interview questions for the case study, it is of great importance to consider the critical issue formulated in the problem statement and the related sub-questions.

4. Guidance to a research report

Finally, for any research, one should exhibit his findings and conclusions of the study being carried out. When compiling the report, there is always a trade-off issue to tackle as to how much depiction and narration to incorporate, in contrast to how much space we should dedicate to analysis. As Hartley points out:

A misstep in reporting case studies is to trust that the anecdotal is a fascinating aspect of the study. Narrative alone is probably not going to bear some significance with those outside the organisation [investigated], and each exertion must be made to draw out the far-reaching connotation of the study. (Hartley 2004)

The research report ought to contain the broadest representation possible of the interviews. The cases are similar in structure and follow the outline of the research model.

By conducting the analysis, the report is organised based on the different sub-questions.

5. Practical Research

Ten controllers from the case organisation, with sufficient e-commerce exposure were contacted for interview purposes. For unknown reasons five controllers didn’t give any feedback to our request even though, some of them even after seeking and obtaining formal approval by their local CFO, or even when the semi-structured questions were sent to them by mail, using the global address book of the company.

During the investigation, we applied triangulation, by interviewing both the Head of the global e-commerce project and the individual retail controllers involved in the local organisations. Moreover, several sources of information were used to strengthen the validity of the empirical data.

Interviews were conducted anonymously for confidentiality reasons and to ensure real and unbiased feedback from the respondents (Ahrens and Dent, 1998). In order, not to bias his opinion, we purposely did not inform the Head of the global e-commerce project about the list of controllers that took part in the study.

However, due to the nature and topic of the study, it can be assumed that people felt their colleagues from other local organisations would also be answering similar questions. Interviews that were semi-structured in nature lasted between 10 to 30 minutes. We recorded the Interviews which we have subsequently transcribed. Transcriptions were sent to the interviewees asking them for confirmation, and they had in most of the cases the opportunity to improve their answers in writing. Some interviewees because of language barriers, requested to have interview questions by e-mails, and they provided the answers back per e-mails. We did not perform any follow-up interviews.

The research took place between February and October 2016.

The interview templates are found in another appendix.
Appendix II: Interview-templates for Controllers and for Heads of e-commerce

Template A

<table>
<thead>
<tr>
<th>Interview Questions for Controllers</th>
<th>Research subquestion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. At which company do you work?</td>
<td>Preliminary question</td>
</tr>
<tr>
<td>2. Can you give a description of the activities of your company?</td>
<td>Preliminary question</td>
</tr>
<tr>
<td>3. In which entity within the Sxxxxx you are currently working?</td>
<td>Preliminary question</td>
</tr>
<tr>
<td>4. What is your current position and for how many years/months?</td>
<td>Sub question d</td>
</tr>
<tr>
<td>5. Can you give a description of your tasks and duties?</td>
<td>Sub question d</td>
</tr>
<tr>
<td>6. What is your background regarding education and work experience?</td>
<td>Sub question d</td>
</tr>
<tr>
<td>7. Are you aware of the ongoing implementation and running project of E-commerce within your company?</td>
<td>Sub question d</td>
</tr>
<tr>
<td>8. What does the ongoing implementation and running project of e-commerce means to you as a controller?</td>
<td>Sub question d</td>
</tr>
<tr>
<td>9. As a controller, how can you contribute to the implementation and running project of e-commerce? How and to what extent can the control function assist in the decision-making process in the ongoing project? And taking into account the following steps, derived from the IMA-framework or any other relevant framework. We illustrate them as follow: (Developing Strategy, Assessing Readiness, Designing the Project, Integrating the Solution, Measuring Effectiveness (financial and non-financial metrics))?</td>
<td>Sub question d</td>
</tr>
<tr>
<td>10. If you effectively contributed to the project, could you please describe your collaboration in the implementation of the e-commerce project? Has everything happened as expected? Are there issues subject to improvements? If any, what are you suggesting to tackle them?</td>
<td>Sub question d-f-g</td>
</tr>
<tr>
<td>11. If you are not contributing, what are the reasons? For instance, the e-commerce project is not yet companywide implemented? You are not available; you have other priorities related to Financial Reporting and Control tasks? Has e-commerce not been assigned to you as a task? Are you not equipped with the necessary skills? IT profiles with strong Finance background are preferred above the controllers? Is there any other reason?</td>
<td>Sub question d-f-g</td>
</tr>
<tr>
<td>12. Which new Skills should a controller develop to become a trusted Business partner in the ongoing e-commerce implementation and running project?</td>
<td>Sub question d-f-g</td>
</tr>
<tr>
<td>13. from your current position, have you contributed to any others project, appealing to your business partner decision making role? If yes, could you briefly explain how you did contribute?</td>
<td>Exit-question</td>
</tr>
<tr>
<td>Interview Questions for Heads of E-commerce</td>
<td>Research subquestion</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>1. At which company do you work?</td>
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</tr>
<tr>
<td>5. Can you give a description of your tasks and duties?</td>
<td>Preliminary question</td>
</tr>
<tr>
<td>6. What is your background regarding education and work experience?</td>
<td>Preliminary question</td>
</tr>
<tr>
<td>7. You are Head of e-commerce at Brand HQ level. Do you understand the current role of your finance/controlling partners? Are you aware of all the responsibilities they take care of?</td>
<td>Sub question-e-f</td>
</tr>
<tr>
<td>8. How does your (finance) controlling partner support you in the implementation and running of the e-commerce project? How does your cooperation work? Is everything happening as expected? Otherwise, Do you see any issues or barriers preventing finance/controlling from fulfilling their role effectively today? If any, What are you suggesting to tackle them?</td>
<td>Sub question d</td>
</tr>
<tr>
<td>Could you please indicate any other staff/line professional groups ranging from Finance to IT, through Logistics or other managers upon which you rely for the successful implementation and running of the e-commerce project? What are their background. Is it important for you that IT staff possess strong finance background? On the other hand, is it important for you that Finance staff (controllers) you are partnering with, do possess strong IT background, Why? Do you prefer any group above any other? Why?</td>
<td>Sub question-e-f</td>
</tr>
<tr>
<td>How and to which extend the control function assisted in the decision making process in E-commerce based on the following steps derived from the IMA-framework or any other framework that effectively were used; as an illustration (Developing Strategy, Assessing Readiness, Designing the Project, Integrating the Solution, Measuring Effectiveness(financial and non-financial metrics)? How did you experience their cooperation. The result was what you expected.? If not, what are de reasons?: for instance the implementation is not yet companywide implemented? The controllers are not available? Do they have other priorities? E-commerce has not been assigned to them as a task? Are they not equipped with the necessary IT skills? Are IT profiles with strong Finance background preferred above those controllers? Are there any other reason?</td>
<td>Sub question e-f-g</td>
</tr>
<tr>
<td>You are Head of E-commerce, you also do have a controlling Background. Is your previous experience as controller useful for the implementation and running of e-commerce, if yes, on which areas/steps? Could you explain?</td>
<td>Sub question e-f</td>
</tr>
<tr>
<td>How would you rate your finance/controlling partners skills in relation to the implementation of e-commerce on a scale of 1 to 5.</td>
<td>Sub question e-f</td>
</tr>
<tr>
<td>- Business processes</td>
<td></td>
</tr>
<tr>
<td>- Analytical thinking</td>
<td></td>
</tr>
<tr>
<td>- Strategic thinking</td>
<td></td>
</tr>
<tr>
<td>- Support of decision making</td>
<td></td>
</tr>
<tr>
<td>- Use of IT tools</td>
<td></td>
</tr>
<tr>
<td>- Interpretation of financial and non-financial data</td>
<td></td>
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<tr>
<td>- Adapt to changes</td>
<td></td>
</tr>
<tr>
<td>- Communication skills</td>
<td></td>
</tr>
<tr>
<td>- Understanding of Company’s environment</td>
<td></td>
</tr>
<tr>
<td>- Proactivity</td>
<td></td>
</tr>
<tr>
<td>Globally How has this e-commerce implementation and running project impacted the support you get from finance/controlling?</td>
<td>Sub question e-f</td>
</tr>
<tr>
<td>Globally How has this e-commerce implementation and running project impacted the support you get from finance/controlling?</td>
<td>Sub question e-f</td>
</tr>
<tr>
<td>How do you think the business partnering role of the controller will develop in the next 5 years, in the light of the ongoing e-commerce project within the company?</td>
<td>Sub question e-f</td>
</tr>
<tr>
<td>Do you have any other thoughts about these issues?</td>
<td>Exit-question</td>
</tr>
</tbody>
</table>
Appendix III: B2C CYCLE: A business-to-consumer (B2C) e-commerce relationship

Picture 1

Source: http://bus237-ecommerce.blogspot.be

Picture 2

Source: http://bus237-ecommerce.blogspot.be