

Chapter 1: Contemporary Issues in Accounting – An Introduction

Darren Byrne

1.1 Introduction

Numbers are traditionally the accountant's domain. Businesses trust that professional accountants and auditors will maintain, monitor and deliver the required figures to report their activities. But increasingly a mastery of numbers is not the only task expected of the modern accountant or finance professional. Business decision-makers need to have confidence in the data that they use to make decisions, but they also need to understand what is behind the headline figures. They need to follow the trends to anticipate new business markets and opportunities, to be aware and mindful of the environment in which they operate and have confidence in the ability of their accountants to step up and contribute to a range of contemporary issues.

In this book, we seek to go 'Beyond the Numbers'; we consider a range of current developments in accounting that can help accounting and finance professionals to be well placed to contribute to the future of businesses, to the economy, and to our collective social welfare.

This book explores the developing challenges and opportunities within the business world which are likely to impact on the accounting profession in the foreseeable future. It outlines several approaches to ensuring that the accountants of the future are equipped with a useful awareness of some of the key topic areas that are quickly becoming a reality.

In this sense, the book helps to bridge the gap between academia and practice and thus equips students with the knowledge to discuss and contribute to topical issues within the profession and to be able to then implement this knowledge skilfully and appropriately. It will also appeal to practitioners who may be looking for concise introductions to several contemporary issues which are likely to impact upon their profession in the future. Many of these chapters outline the changing external business environment and updates on several important developing issues. Many of the authors also demonstrate a range of the accounting industry's responses to these changes within their specialist area of expertise.

Although we cannot claim to predict the future; we have made reasonable speculation of the issues that are seen to be contemporary, and we have been able to objectively observe what we see happening within our industry, all to provide the reader with that knowledge. All the contributors have researched the literature and made use of their considerable experience within finance or accounting to extrapolate the near future and to support readers' awareness with our expectations of the future.

What is meant by 'contemporary'? Merriam Webster (2018) define contemporary as simply, "marked by characteristics of the present period: modern, current". Therefore, it is what is modern and it is what is happening now. In this book, 'Contemporary Issues in Accounting', we discuss our observations on accounting issues that are emerging or are already having some impact on the accounting profession.

Our experiences are wide – many of the contributing authors here have had long, interesting and challenging careers in accounting and finance – and they talk objectively about issues both present and future within their profession as they see it, ably supported by some non-accounting professionals whose subject disciplines are found to interweave with that of the accountant. We hold the view that the accountant has a unique central and deeply embedded role in an organisation. This team-style delivery that you will see evident in this book is purposefully designed. Non-accounting professionals have many discerning and relevant skills and knowledge that help them see the world from a different contributory perspective to the accountant, and vice-versa. Accounting professionals need to work with, discuss with and challenge themselves and their own knowledge though others.

A recent headline in the accounting periodical, PQ Magazine (2017 p1) claimed, "Audit isn't sexy enough anymore". It seems to us that the world of business is continually evolving, business is big news. The cover article in PQ Magazine discussed how fewer people are being drawn to a career in audit. The skill-set of potential recruits was questioned; "Accountancy could be asked to take a back seat as firms look to recruit more data and risk analysts, and cyber security experts." (PQ Magazine 2017 p1) Skills and in particular, technology skills are likely to be an area of significant change in accountancy which we address in several chapters as we discuss the impacts of Big Data and other technologies such as blockchain. Data collection is also an important concept in performance measurement, and we consider when there is too much data: 'measuring the shadow of the shadow'. The skills-gap is also covered in a later chapter on self-leadership which discusses some of the softer skills which will be required in future professionals.

The word 'professional' is used frequently throughout this introductory chapter – this is by design. We believe that the profession – despite some occasional scandalous financial behaviour that is laid at the doorstep of the accounting profession - will thrive, albeit change. There is continued scrutiny of the accountability of business and accounting firms, particularly in the wake of the business collapses (for example following the recent collapse of Carillion (The Guardian, 2018)). This trend to greater transparency will no doubt continue, with increased emphasis on ethics and humanity, in terms of being accountable to wider society. Whilst the profession may increasingly rely on technology for basic data capture and analysis, which should eliminate many errors intrinsic to human data input, it will still require the human touch to unlock the value contained within it.

This aspect of humanity as the impact of oneself on one's environment is also evident in Lee and Warren's (2017) work, where they refer to an 'undesirable accountant stereotype' held in the public perception of accountants within society.

Their findings focused upon the perception of accountants' own professional identity in relation to their own career aspirations. Their study suggested that accountants align their professional duties with their own personal values, strengthening interpersonal communication as they develop, but that they actively attempt to improve the image of the accountant's impact upon their immediate and wider environment and community – this being done by being intertwined with their professional career development. In other words, their job did not take over their life, it was described as a 'subset' of it. Lee and Warren (2017) concluded that accountants "attempt to recraft their role and portray an image that reflects an interactive, advisory, leadership identity to which they aspire and wish to project" (2017 p.1917).

Hence this book presents a set of chapters that will help you, the accounting professional, to be able to be aspirational, to work towards a fuller knowledge of the interwoven aspects of your professional career. We have chosen pertinent themes and areas of current note that you will find that you need to be well versed upon.

1.2 Guide to the structure of this book

This book is arranged into two sections following this initial introduction.

Section One outlines in more detail over three chapters what we believe the most pressing challenges are. Sustainability, the Triple Bottom Line and Corporate Social Responsibility are assessed in Chapter 2, where the wider impact of businesses and governments on society and the environment are discussed. Chapter 3 introduces the challenges of a circular economy - where we discuss the new model for our economic existence and the role of the accountant within that model. The last chapter in this section, Chapter 4 looks at the advent and progress of accounting technology. Here the proliferation of technology change is considered, Big Data, Cloud Computing, Artificial Intelligence and blockchain are explained and contextualised for the accountant.

Section Two, consisting of five further chapters, outlines accounting and business' responses to these external environment challenges. In Chapter 5 we cover 'fair' corporate tax strategies in the context of being perceived as a good corporate citizen. We look at how corporate reporting has developed beyond the numbers in Chapter 6 to include narrative that underpins the broader strategic focus of the company. Developments in auditing, along with what is expected of the audit function and the skills needed by future auditors are covered in Chapter 7. Chapter 8 recognises how firms need to adapt their performance management systems to account for their many diverse priorities, and finally Chapter 9 outlines how further skills development in accounting can help individuals to adapt to the ever-changing business environment, developing for example, 'self-leadership' skills.

Our concluding Chapter 10 brings many of these issues together as we summarise - looking at the way forward for the accounting profession beyond the numbers.

1.3 Who have we aimed this book at?

This book differs from standard texts, in that chapters are standalone introductory pieces to provide useful precis of key topics and how they apply to the accounting professional in particular. It aims to deliver key readings on 'hot topics' that not addressed in other texts which the accounting profession is already tackling or are likely to need to tackle in the future. Hence the book provides accounting students with a good grounding in a broad range of highly relevant non-technical accounting themes which will impact upon their careers. It looks at the bigger environment in which future accountants will be operating, involving considerations of strategic corporate governance issues and highlighting competences beyond the standard technical accounting skillsets.

The book is aimed at supporting a modular undergraduate university course on contemporary issues for accounting students (for programmes such as BA in Accounting & Finance or BA in Business Accounting). It will also be a valuable addition to the reading lists on a number of modules taught on postgraduate programmes, such as Master of Business Administration (MBA), MSc International Business, MSc Accounting & Finance.

Students studying for professional accounting qualifications may also be interested in this work as a general introduction to broader business issues of which the professional bodies increasingly demand an awareness.

Finally, the book will also provide useful teaching material for academics who may be running a 'Contemporary Issues' style module on any accounting or business course.

1.4 Introductions to the chapters

There are several key themes which weave throughout many of the chapters of this book: future business, sustainable business, corporate social responsibility, circular economy, accounting and business technology, tax strategy, corporate reporting, corporate environment, corporate accountability, audit and governance, performance management, change management skills, leadership and the professional accountant.

To structure these themes a little more lucidly, we have two sections, the first about the key external environmental challenges which are emerging, and the second which represents the responses of the accounting profession to some of these challenges.

1.4.1 Section One: External Environment Challenges

Our benchmark for our discussions concerning external environment challenges starts with Chapter 2, with a comprehensive and up-to-date background of Sustainability, the Triple Bottom Line and Social Corporate Responsibility by Elaine Conway. Defining and using a discussion of sustainability, Conway explains how economic growth is not sustainable with finite resources. Adaptation and transformation become key watchwords in this arena. A social disparity between rich

and poor is observed and, along with global environmental issues, we find that a 'wicked problem' emerges (Mulligan 2018). Conway outlines the United Nations seventeen Sustainable Development Goals, and debates how businesses and individuals contribute to these through policy and personal commitment. Elkington's (1997) Triple Bottom Line concept is reprised. We learn about many recent examples from across the globe regarding the three pillars of sustainability, or 'P's' of People, Planet and Profits (Elkington's environmental, social and economic categories rephrased). The accountant's role in measuring these pillars, in terms of 'metrics' is presented, alongside a discussion regarding whom is morally responsible for risk and performance within these metrics. A final section allows Conway to remind us of the debate upon Corporate Social Responsibility (CSR). Conway states that societal perceptions of what business is expected to do has evolved (Lacey, Kennett-Hensel, and Manolis 2015; Hemingway and Maclagan 2004), and aligns CSR to good corporate governance. Conway concludes by suggesting that organisations should focus on only a few activities, 'to maximise the likelihood that they are achieved', and that a 'wider skillset' than that of the traditional accountant is required; that they will need 'to engage with and assure a much broader set of metrics'. We learn more about these aspects from Thompson in Chapter 7, and regarding skillsets from Byrne and Lees in Chapter 9.

Chapter 3 introduces us to the concept of the circular economy, Simon Peter Nadeem, Jose Arturo Garza-Reyes and Denise Glanville neatly give us a broad overview of the circular economy. They set this in the global context of resource depletion, relating this to increasing levels of technology that contribute to the extraction, production and consumption of these resources, a debate about which many of us are becoming increasingly aware. Informing us of the latest elements of this debate, we find out exactly what the concept of the circular economy entails. Recycling, efficiencies and sustainable consumption are watchwords in this discussion – but we are introduced to many more facets. The authors regularly cite the Ellen MacArthur Foundation within the chapter, which holds as its mission to "accelerate the transition to a circular economy" (The Ellen MacArthur Foundation 2018) but also present frameworks proposed by Ken Webster (Webster 2015) and the Circle Economy organisation (Circle Economy 2016) within their discussion. We learn about three barriers/challenges to circular economy; the lack of a structured policy, technological advancements, and public participation (Geng and Doberstein 2008). The implications for accounting information systems and hence accountants are considered, with a review of the status of adoption across the world. Nadeem, Garza-Reyes and Glanville relate the extent of adoption of the circular economy with that of increased provision of information in companies' narrative reports, a theme we return to in Chapter 6. They cite the lack of experience of these new circular economy models as being the main challenge to implementation, even the resistance to change presented by accounting practices (which should perhaps be an enabler). The authors also cite many real-world examples of successful implementations; for example, Germany, China and Japan are cited as early adopters. The chapter ends by considering the interventions required for the implementation of the circular economy and organisational level requirements,

including the need for engagement with the circular economy as part of longer term strategic objectives.

Liz Crookes and Elaine Conway present the last of our three chapters setting the scene upon the external environment in Section One. They refer to the effects of emerging technologies on the role of the accountant within Chapter 4. Thus, we are introduced to the realms of what future business will look like from the accountant's perspective. Big Data forms a pivotal part of this chapter, here the authors give us a comprehensive explanation of what Big Data is, explaining this in terms of the five V's; Volume, Velocity, Variety, Veracity and Value (Laney 2001; Shafer 2017; Marr 2017). Many examples of Big Data are evident around us, particularly in a business sense, for instance, when we go shopping Electronic Point of Sale Terminals capture data about us, and in logistics Radio Frequency Identification tags are used for tracking real-time data. These create immense quantities of data and this is outlined in this chapter. Accountants thus have a pivotal role in managing data, particularly managing financial data and identifying trends therein. The implications of Big Data usage are immense, Crookes and Conway discuss how it can even be used in medicine, within the security services and in public transport to name but a few applications. Their chapter also sheds light on the application of Big Data within accounting. They recommend that management accountants will have to be more skilled in working with larger datasets than they have previously. Other emerging technologies are also discussed in this chapter: Cloud Computing, Artificial Intelligence and Blockchain. We learn that even though cloud computing is undoubtedly beneficial in terms of lower operating costs and scalable operations, it also presents concerns too, for example data security, with more and more firms becoming more reliant on holding their business-critical data in third party depositories (Armbrust et al. 2010), and with new legislation concerning General Data Protection Regulation (EU Parliament 2016) evolving. Artificial Intelligence is explained, and current developments in each of its facets; process automation, cognitive insight and cognitive engagement are offered to update our knowledge. Crookes and Conway introduce the ethical concept of control within the discussion at this point. Blockchain is left to the end of the chapter and although last – is by no means least. We learn how blockchain is the technology that underpins cryptocurrencies and the authors suggest that it is 'potentially a fundamental game changer', referring to the potential for businesses on a global scale. Here the authors outline the benefits, the challenges and the implications upon the skillsets of future accountants and auditors, suggesting that they will increasingly be valued as a 'bridge' between the data specialists who manage the data and the business world who need to unlock the value contained within it (ICAEW 2017).

1.4.2 Section Two: Accounting Responses to External Environment Challenges

Juliet Hogsden considers the contemporary corporation tax environment. Within Chapter 5, she outlines how this environment is now much more complex due to many of the issues covered in the first section of the book. Corporation tax strategies must be managed carefully. Globalisation has been a huge influence upon corporate tax strategies as compliance requirements evolve, and companies seek to take 'opportunities' in this still developing arena. Directors and accountants must be

mindful of the public scrutiny that this entails, and the author discusses how companies' management of their 'fair share' of tax payments can impact upon their reputation and their brand. Management of these opportunities is an all-important skill that accountants must master. Hogsden argues that companies need to proactively manage the stringent compliance and disclosure requirements. Drawing on concepts of ethics and technological advances, the author introduces us to many examples of international tax planning opportunities. We are reminded of the debate behind tax planning in terms of the law, about ethical and moral practice and what constitutes a 'fair share of tax' and the author provides us with examples of real case-studies, most notably that of Starbucks. The Fair Tax Mark is introduced, an accreditation which has been developed to encourage business to show responsible tax leadership and improve transparency (Fair Tax Mark 2018). Governments' perspectives are also analysed here and the activities of the OECD (2017) for example, the Common Reporting Standard regarding tackling tax avoidance is outlined. An argument is proffered upon the role of professionals; tax professionals should be supported in keeping up to date with tax legislation, and, as Hogsden argues, investment in reliable and rigorous accounting information systems and internal controls should be put in place to effectively manage the compliance risks that are described thoroughly within this chapter.

Chapter 6 'Corporate Reporting – numbers to narrative' authored by Parminder Johal provides an insight into the changing shape and scope of the corporate reporting function by focusing on the move towards the inclusion of narrative content in financial reports published by businesses. Johal describes narrative reporting as, 'the umbrella under which organisations can manage their communication of non-financial information', and this chapter initially provides us with a succinct precis of the historical reporting requirements of recent times. The corporate reporting debate we learn has extended from simple statutory requirements to the inclusion of much more: non-financial information, environmental reporting, corporate social responsibility, sustainability and integrated reporting. A review of how these reporting requirements are working in practice is outlined, whereby the provision of guidance from professional bodies, committees, political lobbyists, boards and frameworks leading to the present balance between mandatory reporting requirements and voluntary, is analysed in a practical context. Furthermore, narrative reporting, Johal says, is a way of 'plugging the information needs gap', and it lends itself to the 'creation of greater transparency'. A final contemporary section considers the impact that recent events, for example the EU's Non-Financial Reporting Directive and Brexit, have had and will have, upon the corporate reporting function. Items of debate here include: how the EU directive requirement for disclosure lies with large companies, and how a narrative upon the impact of Brexit will be expected by shareholders and stakeholders alike, with future further narrative requirements probably needing to be balanced alongside reporting numbers.

David Thompson's aim in Chapter 7, is to outline the key challenges to audit. He argues for enhanced audit quality to deal with the key challenges such as innovation and other external factors covered earlier in Section One. Introducing us to recent developments in the industry, for example, ICAEW's Audit Quality Forum and the

Audit Firm Governance Code, Thompson outlines where the industry is attempting to improve upon its quality procedures. The FRC too, with their updated ethical code for auditors is cited as further iterative development to protect quality and assurance within the profession. Linking these developments to ethical principles and professional scepticism, Thompson contends that good mentorship in audit firms could help with these quality issues. Moving more specifically to a discussion regarding skills requirements for auditors, here we find extensive links to other chapters in this book regarding the changing environment that auditors operate within. Modern technology has led to increased innovation within the auditing world, Artificial Intelligence, Computer Assisted Audit Techniques, embedded audit software, Big Data, Blockchain and RFID; many of the innovative concepts that we have met elsewhere in this book reappear here. And although perhaps a little daunting, the auditor of the future will need to acquire at least a working knowledge of each of these in their role. Narrative reporting too, although covered elsewhere in this book, leads to its own intrinsic skills needs. As Thompson recognises, 'it may be necessary for the auditor to be capable of auditing not just the figures, but this extended narrative as well'. See Johal's Chapter 6 for further discussion regarding narrative reporting. Both Thompson and Johal observe the difficulties with dealing with subjective aspects of reporting and hence its credibility. Chapter 7 also links the work of the auditor to that required in pursuit of environmental audits (another external influence that we have touched upon in Section One). Again, we find that the role of the accountant or auditor is undergoing an evolution, requiring an enhanced skillset. Thompson says that auditors need to 'endeavour to evolve to stay relevant', to stay 'fit for purpose'; and advocates self-preservation in the field of audit.

Hilary Coyle asks us, 'Why do we need to measure performance?' in Chapter 8. Opening with a discussion that sets out some key seminal theories within the literature, Coyle debates the merits of individual target setting and performance measurements. Noting too, as many chapters have done before, the constantly changing business environment, Coyle explains how a well-designed performance measurement system can help the strategic objectives of the organisation. However, this can depend upon the quality of the data that is collected. Coyle offers a retrospective look at the development of the Balanced Scorecard technique used in performance measurement, showing us how it provides a link between the strategic objectives of the organisation and the targets and measures it believes necessary to successfully implement that strategy. Citing Bourne (2013), Coyle explains how the Balanced Scorecard has survived the test of time, but it has its detractors, which are also discussed. The debate we learn, now centres around the number of measurements that are made: are there too many? Which ones should be used? The organisational environment used as an exemplar to discuss the concepts introduced within this chapter is that of the UK local government sector. Literature is presented that brings us up-to-date with the public-sector view. How can we know when we are looking at good performance? Performance can depend upon which measures are chosen, and there are time issues involved with setting up a system of measurement. We have created a "performance measurement industry" (Arnaboldi et al. 2015 p2). The accountant must bear in mind the costs involved of a performance management system, ensuring that these do not outstrip the benefits

gained. Coyle concludes by reminding us, the finance professionals, that “there is no right or wrong way to measure performance and each organisation will be different”.

In Chapter 9, we are treated to a more specific discussion regarding the skillsets required of the accounting and finance professional touched upon in many chapters beforehand. Darren Byrne and David Lees invite us to go beyond the numbers yet again, and to learn about self-leadership and the skills that employers look for in future employees. Using the medium of the typical university undergraduate 'project-based' module as a vehicle for skills development, the authors explain how non-technical modules such as a business impact project or consultancy project ideally lend themselves to developing student's skillsets and hence careers in more ways than may be initially apparent. Communication skills, creativity and problem-solving skills are much in demand from employers, and these are practised within these project-based modules. Indeed, drawing upon work by Paszkiewicz and Gembka (2014), Byrne and Lees reiterate how qualifications could soon become dated, and that candidates who have developed the ability to exhibit soft competencies will become more employable. The case for these skills is made through a review of literature associated with accounting and finance, predominantly from an employer's perspective. Self-leadership is one such soft skill, and employers expect students to be 'work-ready' when they graduate. The use of projects whilst at university to support skills enhancement, for example, in terms of the development of authenticity, responsibility and the capacity to self-lead is discussed. Sometimes these skills are cited as more important than technical skills. Manz's model (2015) of the Self-Leadership High Road is used to illustrate this concept further. Byrne and Lees urge you to “take ownership for managing your own growth”, including emotional intelligence and other professional behavioural skills which remain relatively untapped within many academic accounting courses. The chapter ends by returning to the value of independent, but supported, study to foster development of these added skills for the benefit of students' professional careers.

Finally, Elaine Conway provides a neat, concise and thought-provoking concluding chapter. Chapter 10 seeks to look at the way forward for the accounting profession to look beyond the numbers.

We hope you enjoy this book. You can read it in whichever order you like, all the chapters are independent of each other – but linked by some common contemporary issues. It will hopefully provide you with all the introductory knowledge that you were looking for and will encourage you to follow this up in more depth as the issues evolve. Naturally, some of these issues will become dated, but we recognise that is the nature of change. We enjoy engaging with these developing issues and are enthused by the ever-evolving world and profession in which we work.

References

- Armbrust, Michael, Ion Stoica, Matei Zaharia, Armando Fox, Rean Griffith, Anthony D. Joseph, Randy Katz, et al. 2010. "A View of Cloud Computing." *Communications of the ACM* 53 (4): 50. <https://doi.org/10.1145/1721654.1721672>.
- Arnaboldi, Michela, Irvine Lapsley, and Ileana Steccolini. 2015. "Performance Management in the Public Sector: The Ultimate Challenge." *International Journal of Public Sector Management* 31 (1): 1–22. doi:10.1111/faam.12049.
- Bourne, Mike. 2013. "What Is Balanced Scorecard." <https://connect.som.cranfield.ac.uk/p7m07c9otnu/>.
- Circle Economy. 2016. "About the Circular Economy." <http://circle-economy.com/circular-economy/>.
- Elkington, John. 1997. *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. Oxford: Capstone.
- Ellen MacArthur Foundation (2018) "Mission Statement" Available at <https://www.ellenmacarthurfoundation.org/> (Accessed 18/3/18)
- EU Parliament. 2016. "General Data Protection Regulation (GDPR)." <https://www.eugdpr.org/>.
- Fair Tax (2018) "The Fair Tax Certification Scheme" Available at <https://fairtaxmark.net/who-we-are/> (Accessed 18/3/18)
- Geng, Yong, and Brent Doberstein. 2008. "Developing the Circular Economy in China: Challenges and Opportunities for Achieving 'Leapfrog Development.'" *International Journal of Sustainable Development & World Ecology* 15 (3): 231–39. doi:10.3843/SusDev.15.3:6.
- Hemingway, Christine A, and Patrick W Maclagan. 2004. "Managers' Personal Values as Drivers of Corporate Social Responsibility." *Journal of Business Ethics* 50 (1). Springer Science & Business Media B.V: 33–44. <http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=12991584&site=ehost-live>.
- ICAEW. 2017. "Blockchain and the Future of Accountancy." <https://www.icaew.com/en/technical/information-technology/blockchain/blockchain-and-the-accounting-perspective>.
- Lacey, Russell, Pamela Kennett-Hensel, and Chris Manolis. 2015. "Is Corporate Social Responsibility a Motivator or Hygiene Factor? Insights into Its Bivalent Nature." *Journal of the Academy of Marketing Science* 43 (3). Springer Science & Business Media B.V: 315–32. <https://doi.org/10.1007/s11747-014-0390-9>
- Laney, Doug. 2001. "META Delta." *Application Delivery Strategies* 949 (February 2001): 4. <https://doi.org/10.1016/j.infsof.2008.09.005>.
- Lee D. Parker, Samantha Warren, (2017) "The presentation of the self and professional identity: countering the accountant's stereotype", *Accounting, Auditing &*

Accountability Journal, Vol. 30 Issue: 8, pp.1895-1924, <https://doi.org/10.1108/AAAJ-09-2016-2720>

Manz, Charles.C., (2015). Taking the Self-Leadership High Road: Smooth Surface or Potholes Ahead? *Academy of Management Perspectives* 29, 132–151.
doi:10.5465/amp.2013.0060

Marr, Bernard. 2017. *Big Data in Practice*. Audible Studios.

Mulligan, M. 2018. *Introduction to Sustainability*. 2nd ed. Oxford UK: Earthscan from Routledge.

OECD. 2017. *OECD Work on taxation 2016-17* Centre for Tax Policy and Administration www.oecd.org/tax (accessed 17.08.17).

Paszkievicz, Aleksandra and Sylwia Silska Gembka (YEAR – and in original chapter) "The Role of Soft Competencies in the Accountant's Work – Results of Empirical Research From Poland", Available from https://www.researchgate.net/profile/Sylwia_Silaska_Gembka/publication/308695804_The_Role_of_Soft_Competencies_in_the_Accountant%27s_Work_-_Results_of_Empirical_Research_from_Poland/links/57eba9ef08ae5a3c9e6354ab/The-Role-of-Soft-Competencies-in-the-Accountants-Work-Results-of-Empirical-Research-from-Poland.pdf (Accessed 31/1/18)

PQ Magazine (2018) March 2017 Available at <https://www.merriam-webster.com/dictionary/contemporary> (Accessed 17/3/18)

Shafer, Tom. 2017. "The 42 V's of Big Data and Data Science." *Elder Research*. <https://www.elderresearch.com/company/blog/author/tom-shafer>.

The Guardian (2018) *Carillion Collapse Prompts Fresh Scrutiny of UK Accounting Giants*", Available at <https://www.theguardian.com/business/2018/jan/30/carillion-collapse-prompts-fresh-scrutiny-of-uk-accounting-giants> (Accessed 7/3/18)

Webster, Ken. 2015. *The Circular Economy A Wealth of Flows*. UK: Ellen MacArthur Foundation Publishing.