EDITOR-IN-CHIEF:

Dr. Nnamdi O. Madichie

EDITORIAL BOARD MEMBERS:

Dr. Knowledge Mpofu (LSBM)
Dr. Anna Kopec-Massey (LSBM)
Dr. Melissa Kerr (LSBM)
Dr. Paul Agu Igwe (University of Lincoln)
Dr. Fred Yamoah (Brunel University, UK)
Dr. Rakesh Jory (University of Southampton, UK)
Dr. Kamel Fantazy (University of Winnipeg, Canada)
Professor Robert Hinson (University of Ghana)
Professor Sonny Nwankwo (University of East London)
Professor Satyendra Singh (University of Winnipeg, Canada)
Arif Zaman (LSBM)
Krystle Lewis (LSBM)

DISCLAIMER

The views expressed in this paper are those of the author alone and do not necessarily reflect the views of the London School of Business and Management. These Working Papers have not been subject to formal review or approach. They are distributed in order to make the result of the current research available to a wider academic audience, and to encourage further debate, discussions and suggestions on the topical issues in the areas covered.
Contents

Engaging active learning for research impact
Nnamdi O. Madichie (pp. 3-5)
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Consumers’ perception, and experience of self-checkouts in UK supermarkets
Claudia Maugeri (pp. 6-31)
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Organisational Performance in the UK Construction Industry
Shuja Shajahan (pp. 32-53)
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Do adult education craft courses reflect the holistic needs of the learners intending to start their own business? A Case Study of (ALL) Adult Learning Lewisham
Omosola Fiberesima (pp. 54-70)
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Enhancing Students Employability Skills via use of the Association of Chartered and Certified Accountants Student Membership
Usha Mistry (pp. 71-89)
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
Engaging active learning for research impact

Nnamdi O. Madichie, PhD
Director, Centre for Research & Enterprise
London School of Business and Management
99 Gower Street, London WC1E 6AA
Email: cre@lsbm.ac.uk

The editorial board of the London Business and Management (LSBM) Working Paper Series (WPS) are pleased to welcome our dedicated readers to the first issue of the third volume in the series. The LSBM WPS was launched in 2016 following the establishment of the Centre for Research & Enterprise by the series editor. The original plan, which is already coming to fruition, was to establish a conducive environment for research for the entire LSBM community with aspirations to engage in knowledge co-creation, interactive knowledge-sharing, and capacitated research-informed teaching practices that makes them eligible for programme delivery at the higher levels of academic provision – notably Levels 6 and above. These aspirations not only respond to the broader research-informed teaching agenda for UK higher education providers – both in the private and public sector, but also ensures a collegial research, teaching and learning environment for all.

Indeed, and in alignment with the higher education Quality Code of the UK higher education sector, and consistent with the research excellence framework (REF), and the teaching excellence framework (TEF), LSBM has not only become responsive to, but also in compliant with, the broader agenda of research, collegiality and community – as enshrined in its research strategy.

Since its establishment in 2016, the Centre for Research & Enterprise (CRE), has played a major role in forging partnerships with reputable stakeholders across the board – including Professional Statutory Regulatory Bodies (PSRB) such as the Chartered Management Institute (CMI) and the Association of Chartered Certified Accountants (ACCA); institutional networks such as the Association of Commonwealth Universities (ACU); National university partners like the University of East London, University of Northampton, University of Worcester, Liverpool John Moore’s University, as well as international university partners e.g. University of Ghana, and others such as the Cape Peninsula University of Technology, Central University of Technology, and University of KwaZulu Natal in South Africa.

The benefits accruing from these partnerships are reflected upon our student body, which is mirrored against the aforementioned countries – notably Canada, Ghana, Nigeria, South Africa – all member states of the Commonwealth. Interestingly also, most of these countries are also members of the Association of Commonwealth Universities (ACU) to which LSBM became the 500th member only recently.

Consequently, the editorial review board of the LSBM WPS is drawn from a pool of some of the aforementioned institutions and/ or countries – University of Ghana, University of Lincoln, University of Southampton and Winnipeg University in Canada.

It is worth highlighting that the papers in this first issue of 2018 have either been reviewed as part of the research activities at LSBM including completed student projects as well as papers presented at internal and/ or external conferences, which means that all papers have undergone a series of in-house editorial reviews from “friends of LSBM” dotted across the UK (e.g. Brunel University London, and the University of Southampton), as well as other Commonwealth countries (e.g. Canada, Nigeria, and South Africa) – and ranging in contributions from revised students’ dissertations, albeit with additional post-grading commentaries from module tutors and members of the editorial board of the Working Paper Series.

Collectively there are five (5) contributions to the current issue, three of which are revised business research projects from recent undergraduate students at the London School of Business and Management. The other two papers are contributed by those who have inspired these students in various ways. One of such latter contributions, aligns with a situation of co-created knowledge with a professional body for the Accounting Degree – i.e. the Association of Chartered Certified Accountants (ACCA) authored by the Head of Programme Development at LSBM. The other is an
extended introduction of the issue by the Director of the Centre for Research & Enterprise at the LSBM. The latter commentary introduces the papers in the issue, and this is closely followed-up by three of the students’ – albeit alumni – contributions. These latter contributions are revised papers by previous LSBM students who are not only LSBM Alumni but have gone on to hold offices at LSBM after graduation. Indeed, one of such contributors is currently employed as Professional services staff at LSBM, and the other is the current Student Guild Manager who now understands the bigger picture having been at both sides of the action – former student and now LSBM staff.

In the first paper, Claudia Maugeri sought to understand consumers’ perception of UK supermarkets self-checkout machines in order to design suitable recommendations for improving the service. She argues that supermarkets have changed their business model by focusing on the adoption of self-checkout machines for a variety of reasons ranging from the pressing need to cut costs, keeping abreast of the changing needs of consumers and society, as well as the most obvious – i.e. technological advancements. The first part of the study focuses on identifying the drivers of change that enabled supermarkets to change their business models couched upon an external environmental analysis (political, economic, social and technological – PEST). Theoretically she sought the use of the “Attribute Model,” to re-articulate consumers’ perceptions of, and attitudes towards self-service checkout machines. The study is based on mixed methods approach, starting with qualitative interviews and following this up with the use of structured questionnaires. The analysis of survey data from 130 supermarkets’ consumers suggested areas for improvement especially for the undecided consumers.

In the second paper, Shuja Shajahan, another former LSBM graduate, now turned entrepreneur and employer in East London, focuses on the impacts of technology on organisational performance in the context of the construction industry in the United Kingdom (UK). The UK construction industry is comprised of both small and large firms – most of which operate under strict regulation of the UK government, which has made this industry one of the strongest sectors of the economy. Citing reports of the Office of National Statistic 2017, he opines that industry experts and researchers have argued that the construction industry in the UK has experienced major improvement in productivity and performance since the adoption of automated production and technology in operational activities. Consequently the main preoccupation of his study is to investigate the impact of technology on organizational performance in the UK construction industry – with a view to recommending strategies for further development of the sector.

Omosola Fiberesima, in the third paper, seeks to investigate the extent to which adult education craft courses reflect the holistic needs of the learners intending to start their own business. It assesses the current provision in the London Borough of Lewisham as a case illustration in order to ascertain whether the training provider’s delivery matches the expectations of the adult learners it caters for. From the multiple data collection methods – i.e. questionnaires, interviews and observation of learners, tutors, curriculum leaders and a business owner, the findings showed some signs of a mismatch. Adult learners were found to be, not quite ready for what the whole package involved, and in some cases, the wrong criteria were used to assess business success by departments. The government’s perception of adult learning with focus on policy, raises some questions as to the appropriateness of community learning centres for entrepreneurial venture skills development or whether there are better approaches or avenues that a more fit-for-purpose.

Usha Mistry, in the fourth paper, highlights the value of Enhancing Students Employability Skills via use of the Association of Chartered and Certified Accountants (ACCA) Student Membership. According to her, there has been an array of literature has been written about definition of employability, role of employers, higher education providers, and students, in developing these skills. This paper explores, at a totally different perspective, the role of student membership with a professional body whilst studying for their degree. As part of its employability provision, a higher education provider in London provides free ACCA student membership to all their BA (Hons) Accounting and Financial Management students. This encourages accounting degree students to enhance their employability skills by making use of a broad range of services offered by the ACCA student membership. Action based research using online questionnaires, focus group meetings and weekly email reminders regarding use of student membership services were used. The key finding is that students begin to identify with the profession (Pre-Professional Identity) and start thinking like a qualified accountant.

Indeed, the ACCA student membership offers an opportunity for students to plan ahead in terms of developing both technical and employability skills, assisting them in being more prepared for the world
of work. Further analysis reveals what students learnt from ACCA, where there's global members sharing their work experience, webinars, networking and job vacancies available from internship, graduate employment to fully qualified accountant. In addition, the findings suggest that students can benefit from the ACCA student membership on their CV, helping them get a head start in demonstrating networking skills (Social Network Theory) to potential employers, including portraying passion about their accounting career. The results from this paper have implications for both research and practice, particularly illuminating to higher education providers’ the importance of integration of Professional Statutory Regulatory Bodies (PSRB) of student membership into the curriculum taking cognisance of the recent decades of corporate failures.

Overall the papers in this issue are a clear demonstration of the effective leadership at the London School of Business and Management as it goes through organisational change (see Mpofu, 2017) and strategy. This process has involved careful planning, building systems, motivation, high performing teams, structures and skills development. Indeed, by forging links with professional bodies and accommodating the views and input of employers in the curriculum design, has had an impact in boosting the confidence of our students whose works are showcased in our working paper series. Indeed, two of the contributors to this issue (Maugeri and Fiberesima) are now employed at the institution, and the third student paper is contributed by a student (Shuja) who has moved on into self-employment.

References


Consumers’ perception, and experience of self-checkouts in UK supermarkets

Claudia Maugeri

Abstract
The aim of this study is to highlight consumers’ perception of self-checkout machines in UK supermarkets in order to design suitable recommendations to improve the service. Supermarkets have changed their business model by focusing on the adoption of self-checkout machines. Although reasons can range from the need to cut costs, technological advancements, and the changing social needs of society, one common factor is important – understanding consumers’ needs. This study, therefore, draws upon the Attribute Model to investigate consumers’ perception of self-checkout machines. Mixed methods have been used, starting with qualitative method (interviews) and then followed-up with the quantitative method (questionnaires). The analysis of survey data from 130 supermarkets’ consumers suggested that improvement have to be made, especially in order to address consumers who still find using self-checkout machines difficult or do not use the technology at all.

Keywords: Self-service checkouts, Consumer behaviour, Business research project, Attribute models.

Introduction
In the last decade, supermarkets have undergone major changes (Chaudhuri, 2015). As stated by Chaudhuri (2015), large supermarkets (for example; Tesco) are closing down large stores in order to focus on smaller, like Tesco Express, shops. To date Tesco has closed 50 larger Tesco stores, including one giant store in Wolverhampton (BBC, 2015). In 2014 Tesco owned 3000 stores, of which 1600 were the smaller Tesco Express outlets. A similar pattern can be observed with Sainsbury’s which according to Barford (2016) is focusing on convenience stores rather than big supermarkets.

The PESTLE (political, economic, social technological, legal, and environmental), analysis suggests that technology is an external force belonging to the macro environment that businesses cannot control (Kotler, 2013). Technology can comprise computers, internet and online shopping. Employees have been replaced by Internet; as an example, it can be mentioned how, according to The Guardian's writers Treanor & Collinson (2017), HSBC bank has planned to close down 62 branches in 2017 blaming the new technology. Technological changes have been one of the reasons why supermarkets have changed. Thanks to technology, and its application to self-service technology, supermarkets have changed their business model. Meuter et al. (2005) defined self-service technology products that enable consumers to independently use a service without the aid of employees; part of this technologies are the self-service checkout machines.

Self-service checkout machines, firstly introduced in supermarkets in early 2008, are increasing in number (Evans, 2016).Tesco Metro in Liverpool Street (London) was the first supermarket to convert 20 of the 42 tills in the store to self-checkout terminals in 2009 (Financial Times, 2016) - a milestone in what has become a constant change in supermarkets.

As Orel & Kara (2003) point out, supermarkets may choose to adopt self-checkout machines to provide better consumers experience, cut costs on employees, continue in line with technological process; moreover, they have refined the processes involved in delivering customer value proposition (Johnson, et al., 2008). The other side of the story is that self-checkout machines could become a big flop; as an example, it can be mentioned how, according to Kjær (2012), Netto stores had removed the self-checkout machines in the Danish market.

Moreover, according to Mishra (2013), the failure can be determined by the gap between what customers expect from self-checkout machines (the new business model) and what is actually offered, in other words the gap between servers’ perception and customers’ perception. According to Luo et al. (2004), consumers’ perception of time is important and determine whether or not consumers are satisfied; moreover, according to Sjoberg (1998), people have feelings about any kind of technology that affect the perception on that particular technology.
There are significant changes that supermarkets are experiencing that are affecting the way they are delivering customer value proposition and it is evident that without the advent of new technologies most of these changes could have not been implemented; it is evident that technology is indeed affecting their business model. Following the preface above, because of the cited problems, this study aims to answer the following research question – What is consumers’ perception of using self-checkout machines as part of their grocery shopping experience in UK supermarkets?

This study explores the technological changes in supermarkets in regard to self-checkout machines that led to a new business model, in order to evaluate consumers’ perception of these changes and recommend a suitable strategy. Two main objectives drive the study: First is to evaluate existing models on consumers’ perception of self-checkout machines throughout primary research. Second, it to suggest how supermarkets can benefit from consumers’ perception of the changes in order to further improve their services.

**Literature Review**

Organisations that operate in a business environment have to deal with external forces that will affect them in their process of delivering products and services to consumers (Jobber, 2013). Truthfully, as Kotler (2013) stated, in the external environment threats and opportunities can be found for organisations to survive in a competitive environment. Whilst the micro environment includes forces nearer to the organisations that can be controlled (such as consumers, competitors, suppliers), the macro environment comprises forces that are not under organisational control (Brassington, 2007). Macro environment forces can be identified under the acronym of PESTEL (political, economic, social, technological, legal and environmental) framework. The literature review is undertaken following these dimensions in order to identify the key or main drivers of changes leading to the use of self-checkout machines at UK supermarkets. The discussion kicks off with the economic factor and then moves on to the technological factors with a view to linking both of these to the business models of the marketers.

**Economic Factors**

Economic factors include “unemployment rate, taxation, interest rate, economic growth, inflation and interest rate” (Sloman, 2014); 2008 recession experienced by businesses has definitely affected UK businesses that experienced lowered level of profits (Britton, et al., 2015); as a matter of fact, supermarkets too. Andrews (2009) asserted that self-checkout machines were invented in order to cut costs and reduce labour costs after the economic crisis that also touched supermarkets’ industry. Thanks to self-checkout machines, one employee can control up to six self-checkout lanes whilst customers now perform the job usually performed by the cashier; moreover, the space occupied by self-checkout machines is smaller than the space occupied by a regular till by allowing to add other shelves with products or other machines and cut costs (NCR Corporation, 2008); UK recession has been one of the driver that pushed supermarkets in finding cutting costs solutions like self-service technology.

**Technological Factors**

According to Sloman (2014) technological factors strongly affect individuals’ life. In addition to that, Koumparoulis (2013) stated that technology development has changed the way businesses operate including supermarkets. Nowadays businesses are stimulated by a competition which is based on innovative services, IT technology and global communication. But first, it is important to identify which technological changes helped the creation of self-checkout machines (SCM). Self-checkout technology is defined by Meuter et al. (2005) as the technology that enables consumers to use a service without employees’ help; as part of this technology there are the self-checkout machines. Self-service technologies include for example airline self-check-in machines, gasoline self-checkout machines and grocery self-checkout machines (Orel & Kara, 2013).

Customers are able to scan barcodes or input items, such as bread and croissants by using the touch screen display; a voice will accompany the steps; once finished, items will be placed into the bagging
area where weight is verified in comparison with stored data (Orel & Kara, 2013). Once customers finished scanning the items, payments methods will be chosen from selected choices, for example cards or cash options (ibid.). Technologies such as barcode scanners, mobile computers, barcode printers, barcode software, and inbound package tracker, point of sale system, stock control software & management system and complete asset tracker system are just few of the technologies needed in order to enable self-checkout machines (Wasp, 2017). It is clear that changes in the industry are often linked with new technologies. It is true that new technologies are the main features, but in order for them to transform the industry, change has to happen into the business model which is able to connect the new technology with new market needs (Kavadias, et al., 2016).

Social Factors

Taken from a societal perspective, it is worth highlighting that the social actors – notably societal factors impacting upon businesses such as change in demographics, attitudes and trends (Brassington, 2007). Freedman (2016) added that nowadays there is an increased number of buyers choosing to do their shopping daily in opposition to previous shoppers being used to shop once a month or once a week. As a consequence, shoppers will reach satisfaction in self-checkout machines (Demirci, 2014); therefore, the reason behind supermarkets focusing on new technologies and self-service machines is to increase customer’s loyalty (Demirci, 2014) – they are changing because consumers’ behaviour is changing.

Supermarket’s Business Model

Business model is defined as the way a company create and delivers customers’ value (Kavadias, et al., 2016). According to Johnson et al. (2008) the first step in creating a successful business model is by focusing on satisfying consumers’ needs. As shown in Figure 1, the elements of a business model according to Johnson et al. (2008) are interconnected, and the most important element is Customer value proposition (CVP).

The higher customers’ satisfaction the better the company will succeed (Johnson, et al., 2008); customers’ satisfaction is achieved when their needs are understood and problems are solved; hence, once needs are identified, the tailored offering can be created - according to the profit formula. The profit formula is a formula that defines how companies can create value for customers by also creating value for themselves. The profit formula consists into the revenue model, cost structure, the margin model and the resource velocity. Revenue model is about how much profit can be made. Cost structure, driven by the cost of the main resources, consists in the cost allocation (for example economy of scale, indirect or direct costs). Margin model is about how much each transaction contributes in order to achieve aimed profit levels. Resource velocity is about how quick resources need to be used in order to achieve desired profits.

The other components of the business model are key resources and key processes. Key resources are assets such as technology, people, buildings and/or products that will deliver the value proposition to customers (Johnson, et al., 2008). Key processes are managerial and operational processes that enable the company to deliver customers’ value in a successful way that can be easily repeated (ibid.). Key processes include for example training, budgeting, sales and services. Overall it can be said that value proposition is about creating value for customers whilst profit formula is about creating value for the company; both values are achieved through the use of key resources and processes.

NCR Corporation asserted that self-checkout machines have been installed due to customers’ request in speeding up the process on the till (NCR Corporation, 2008); therefore, customers’ value proposition is achieved by refining the key processes - introducing the self-checkout machines, driven by resources such as technology; the profit formula is created by cutting costs.
Consumers’ perception of self-checkout machines

Perception is defined as “the process by which people translate sensory impressions into a coherent and unified view of the world around them” (Business Dictionary, 2015); furthermore Martin (2005) explained the definition by considering it a psychological process that involves stimuli selected by consumers in a way that creates sense for them. Ho (2012) stated that when consumers shop, they do take into consideration the experience of shopping such as atmosphere and environment. Therefore, analysing consumers’ perception of self-checkout machines is fundamental for supermarkets in order to understand consumers’ needs and satisfy them. Langreh (1979) stated that since 1974 supermarkets have started adopting price scanning check out. According to a study conducted by Dermirci (2014), self-service technologies (SSTs) are constantly increasing in number and consumers are facing everyday new technologies when shopping. In order to understand consumers’ perceptions of self-service, two models developed by Dabholkar (1996) will be used, “The Attribute-Based Model” (Figure 2).

The Attribute-Based Model

The Attribute-Based Model was the starting point for several studies on consumers’ perception on self-service technologies. This model (see Figure 1) seeks to highlight the reasoning behind decision making when using self-service technologies. According to the Attribute-Based Model, five attributes of delivery...
are important to possible clients: speed of delivery, ease of use, reliability, enjoyment and control (Dabholkar, 1996).

**Figure 2. The Attribute-Based Model**

![Image](image)

Source: (Dabholkar, 1996, p. 31)

*Speed of delivery* is about the time consumers assume the service should be completed (Dabholkar, 1996). The time in regards of the process excluding the waiting time. *Ease of use* refers to the ease of using the service; moreover, consumers could be having difficulties when using the process, perhaps due to the lack of clarity of the service. If the service is not easy to use, this can concern consumers and stop them for using the machine in the future (Dabholkar, 1996). According to Dabholkar (1996), *reliability* is about the perception of consumers on how the service will be fully fulfilled without any external issue. *Enjoyment* comes when interacting with the machine (Dabholkar, 1996). *Control* measure how much control customers think they have over the self-service technology. Consumers in fact can use the self-checkout machine simply because they feel they are in control, without the need of employees’ help.

The attribute model was the starting point for more studies on consumers’ perceptions when using self-service technology. Linked to that model there is a study conducted by Dabholkar et al. (2003). This research wanted to look at consumers’ preferences when using the machines. Results showed that only ease of use was determinant attribute of consumers’ preference (Dabholkar, et al., 2003). Confirming this thesis there are Walker et al. (2006); according to the authors, consumers’ perception in using self-checkout machines are fundamental for the ability of using that particular technology. In fact, Walker et al. asserted that the perceived user-friendliness and difficulty of the machine will affect the ability of consumers in using it. Another finding was that another main reason for using self-checkout machines was due to the ability to make the process quicker; moreover, they found that one of the reasons why consumers were not using self-checkout machines was to have interactions with employees on the till. But more importantly, they did find out that age did not affect the perception of self-checkout machines because there were no difference among groups (Dabholkar, et al., 2003).

On the other hand, a study conducted by Orel & Kara (2013) showed that there is a difference between age groups because young people were using self-checkout machines more than other age groups, perhaps due to their confidence in using Internet and technologies. Orel & Kara (2013) also found that self-checkout machines were considered difficult to use perhaps due to not clear on-screen directions. Walker et al. (2006) asserted that the perceived user-friendliness and difficulty of the machine will affect the ability of consumers in using it. When using the self-checkout machines, there are perceived factors that have to be taken into consideration, when evaluating consumers’ perception on the self-checkout machines. One factor is perception of risk (Walker & Johnson, 2006), or in other words, the uncertainty created by the action of purchasing a product. For example, consumers can be afraid that the self-checkout machine does not work and this can affect their positive perception of the overall service. Weijters et al. (2007) showed that the reasons behind using the self-checkout machines was ease of use, reliability and quick service. Marques (2016) added that there is a constant seek for satisfaction whilst shopping that is achieved when consumers can succeed in having a quick and smooth buying experience. Furthermore, Zielke et al. (2008), using the same Attribute Model (1996) discovered that employees’ support, the quick response from the personnel when needed, was an attribute that influenced satisfaction.
Methodology

This research uses a deductive approach – an approach that starts off with the theory (in this case a model) – i.e. The Attribute Model (Dabholkar, 1996), and through the collection of data (interviews & questionnaires) to evaluate and test this model (Saunders, et al., 2015). With this approach this research wants to look at the previous research from a different perspective and try to find gaps. In order to further understand the method, the following paragraphs break down the steps of the methodology.

In order to achieve a coherent research project, there are different methods that can be used; the research in fact can use qualitative, quantitative or use mixed methods (Saunders, et al., 2015). Qualitative research differs from quantitative research because the latter uses numeric data whilst qualitative research makes use of words and images and other non-numeric data (Saunders, et al., 2015). Quantitative is a term that also address a data collection method that involves questionnaires, graphs that are able to generate data that can be analysed (Saunders, et al., 2015). On the other hand, qualitative research method will make use of non-numeric data such as interviews or open questions (ibid.). This research has used a multiple method, qualitative and quantitative, with the correspondent quantitative analytical procedure (Saunders, et al., 2015); this method is called mixed method (simple) study. Figure 3 illustrates different methodological choices available for business research purposes.

![Figure 3 Methodological choice](image)

This research has used a sequential mixed methods research (Figure 4 shows the steps involved in this research chosen method). The research can be “exploratory, descriptive, explanatory, evaluative or a combination of these” (Saunders, et al., 2015). This study is descriptive because it wants to describe changes experienced in supermarkets but also exploratory, because it wants to seek the consumers’ perception of supermarkets changes (Saunders, et al., 2015). The reason behind a mixed method is because of the successful study conducted by Jenkins et al. (2012) that used both methods. In order to answer the research question(s), this project has made use of both secondary and primary data. Secondary data includes published data, journal articles and reports (Saunders, et al., 2015). According to Bulmer et al. (2009), secondary data will link to a different knowledge, once analysed.

![Figure 4 Sequential exploratory](image)

This research project collected and analysed data from scholarly online platforms such as ResearchGate and GoogleScholar, published articles, library books. Into specific, secondary data have been collected in order to answer the first objective of the research and identify drivers of changes that led to the new business model based on the use of self-checkout machines; the reason behind that lays on the resource saving quality intrinsic into their nature (Vartanian, 2011).
Data sources
Primary data have been collected by means of interviews and a questionnaire and the results of the qualitative and quantitative data have been analysed to identify possible trends related to the research question.

Interviews
According to Saunders et al. (2016) interview is a focused conversation between two or more individuals; it requires the interviewer to create a relationship with the interviewee who is asked precise and concise questions that he is willing to answer. This research used semi-structured interviews; the interviewer has a list of topics or questions that may need to be covered; the main reason for using interviews was to gather respondents’ vocabulary in order to design the questionnaire and having a broader perception about the topic (Saunders, et al., 2015). In order to gather data the conversation was recorded.

Questionnaire
According to Vaus (2014), questionnaire is the term used to address all data collection methods that involve a person asked to respond the same “set of questions” in an established way. This data collection method is because it is one of the most used method in the survey strategy when doing a descriptive or explanatory research (Saunders, et al., 2015). The questionnaire used in this research to collect data it is referred to as Self-completed questionnaires (Saunders, et al., 2015); moreover, one type as Delivery collection questionnaire and the other type Web Questionnaire. Figure 5 below shows the different types or questionnaire.

![Figure 5 Types of questionnaires](source)

Participants were asked to answer on a Likert-type rating. This rating scale asks respondents how strongly she/he agrees or disagree with a statement on a five-point rating scale (Saunders, et al., 2015). The questionnaire comprised two parts. The first part was devoted to demographic data such as gender and age. The second part devoted to self-checkout machines. Agreement and disagreement will be rated using 5-point Likert-type scale including ‘Strongly disagree’, ‘Disagree’, ‘Neutral’, ‘Agree’, ‘Strongly agree’ (Saunders, et al., 2015). The questionnaire results are anonymous and confidential.

Once the data was entered into a spreadsheet, completed questionnaires have been destroyed.

The online or “web” questionnaires were prepared using the “Google Form” tool and distributed via the internet accessed through a hyperlink sent out to the research participants on this platform. The delivery and collection of the questionnaire, were initiated following-on from a pre-tested pilot of an initial pilot of 5 potential respondents in order to ascertain some indication of the time consumed in the survey completions and the alignment of these to the research question and responses derived from these.

Sampling
Sampling technique can be divided into two groups: Probability sampling; and Non-probability sampling (see Figure 6). For probability sampling each sample is selected from the target population and it is known and equal to each other (Saunders, et al., 2015). On the other hand, for non-probability sample the chance that each case is selected from the population is not known but there is the possibility to generalise about the population.
For the purpose of this research, convenience sampling was used. Convenience sampling is part of the Haphazard sampling; this particular technique is used when the sampling is selected without any particular principle but just because it is easy to obtain (Saunders, et al., 2015); therefore, the sampling was selected by mean of a Facebook pool whilst another selected among family and friends; the aim is to conduct analysis on different perception groups. As shown in Figure 5, this research used Haphazard convenience sampling technique called convenience or availability sampling.

The data from questionnaires was collected from 130 supermarkets consumers older than 18 years of age. The sample was non-random with regard to gender, and participants did not belong to any particular occupation. 100 from online (Facebook and emails), 30 from family and friends. According to Paraskevas & Saunders (2012), in order to conduct Semi-structured/In-depth interviews, the minimum sample size should be 5-25. Therefore, the interviews were conducted on 5 individuals among family and friends. This approach is different to the proposal; the number of the sample has increased from 120 to 130. The reason for that is to try to gather a bigger sample and to be more accurate. The layout also changed from the proposal – from only quantitative, this research has become qualitative and quantitative; in fact, originally it did not include the interviews that have been subsequently used in order to learn the respondents’ vocabulary and to prepare the questionnaire. Originally, the proposal sought to explore the perception of online shopping, self-checkout machines and the switch from bigger supermarkets to smaller convenience store; because of time constraint and the limitation of words, this research has focused only on self-checkout machines.

In order for this research to succeed and the research question to be answered, resources were needed. Due to the nature of the research, time was needed. The project needed to be accomplished within 3 months. The first month has been dedicated to research, by analysing secondary data. The second month has been spent in creating the questionnaire and conduct interviews. In the third month data has been entered into a spread sheet and analysed. SPSS software was needed to analyse data obtained with the questionnaire.

Data analysis and discussion
In order to answer the research question, descriptive and inferential statistics were used. Descriptive statistics were used in order to describe the demographic of the sample as well as the frequency of usage of self-checkout machines. Data were also analysed using SPSS software with ANOVA tests; these tests were performed in order to identify whether there are statistically significance difference between groups. Table 1 shows the results of the descriptive analysis of data in regard to the demographic of the sample.
Table 1. Demographic characteristics of the sample (N=130)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Categories</th>
<th>Count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>52</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>78</td>
<td>60</td>
</tr>
<tr>
<td>Age</td>
<td>18 – 30 years</td>
<td>34</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>31 – 40 years</td>
<td>45</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>41+</td>
<td>51</td>
<td>39</td>
</tr>
<tr>
<td>Employment status</td>
<td>Full-time</td>
<td>55</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Part-time</td>
<td>28</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Not-employed</td>
<td>19</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Retired</td>
<td>28</td>
<td>21</td>
</tr>
</tbody>
</table>

The questionnaire was distributed to 130 people. Each questionnaire was completed and there were no case of incomplete. The low rate of rejection may be due to the connection with the author of the questionnaire.

The usage of self-checkout machines

The following Table 2 illustrates the results from the questionnaire. The result shows that 78% of the respondents use self-checkout machines in opposition to 22% that have never used it. This result is impressive, and a suitable strategy will be recommended in order to increase the number of users. Moreover, the results show that the majority of users is 41+ (37%) in opposition of 30% of users whose age is 18-30. This result contradicts to Orel & Kara (2013) findings that confirmed that younger people were the highest users of self-checkout machines.

Table 2. The usage of self-checkout machines

<table>
<thead>
<tr>
<th>Variable</th>
<th>Categories</th>
<th>Count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usage of self-checkout machines</td>
<td>Yes</td>
<td>102</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>28</td>
<td>22</td>
</tr>
<tr>
<td>Gender</td>
<td>Female</td>
<td>58</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>44</td>
<td>43</td>
</tr>
<tr>
<td>Age</td>
<td>18 – 30 years</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>31 – 40 years</td>
<td>34</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>41+</td>
<td>38</td>
<td>37</td>
</tr>
</tbody>
</table>

Ease of use

In regard to self-checkout machines ease of use, the results are widely spread as Table 3 shows. A further analysis shows that there is statistically difference between different age consumer groups (see Figure 6 and Appendix I for descriptive statistics).

Table 3. The ease of use

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value label</th>
<th>Count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy to use</td>
<td>Strongly disagree</td>
<td>36</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Neutral</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Agree</td>
<td>23</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Strongly agree</td>
<td>21</td>
<td>21</td>
</tr>
</tbody>
</table>

According to previous research (Dabholkar, 1996) (Dabholkar, et al., 2003) (Weijters, et al., 2007) ease of use is one of the main reasons for using the self-checkout machine. This result on the other hand, shows that the age group of 41+ do not find self-checkout machines easy to use; the previous research stated that ease of use is the reason for satisfaction, therefore this is an interesting and alarming finding that has to be taken into account. The following findings will show why self-checkout machines are not considered easy to use.
Figure 7 Self-checkout machines are easy to use according to different age groups

![Bar chart showing the ease of use of self-checkout machines by different age groups.]

Anova statistics showed that there are significance differences between the age groups (see Figure 8 for descriptive statistics). Again, 41+ respondents think that instructions are not clear as shown in Figure 7. This is an important result because as stated in previous research, (Dabholkar, 1996) (Dabholkar, et al., 2003) (Weijters, et al., 2007), ease of use and the clarity of the screen directions should help customers being in control hence being satisfied.

This could be linked to the previous result of how 41+ age group do not find the technology easy to use. According to Walker & Johnson (2006), consumers are satisfied when they are in control and they do not need employees but can-do things alone when using the self-checkout technology; therefore, it is important to take into consideration this finding.

Figure 8. Clear on-screen directions

![Bar chart showing the clarity of on-screen directions by different age groups.]

Faster checkout processes

According to Dabholkar et al. (2003) and Weijters et al. (2007) one of the reasons for using self-checkout machines is because they make the checkout process quicker. Results shown in Table 4 confirms previous researches.

Table 4 Make the checkout process quicker

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-30</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>31-40</td>
<td>3</td>
<td>5</td>
<td>7</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>41+</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-30</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>31-40</td>
<td>3</td>
<td>5</td>
<td>7</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>41+</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
</tbody>
</table>
On the other hand, although previous research stated that there is no difference between groups (Dabholkar, et al., 2003), results show the opposite. According to Anova results, there is a significance difference between age groups. As clearly visible in Figure 9, there is a difference in perception between 31-40 age groups and 41+. According to the Figure 9, there is more disagreement from consumers 41+ than 31-40. This data should be taken into consideration because shows that 41+ disagree with the statement that self-checkout machines are able to speed up the checkout process, maybe because as shown in the previous results, they believe that this technology is not easy to use and there are not clear on-screen directions.

**Avoiding contact with the cashier**

Table 5 shows that consumers’ perception of self-checkout machines regarding the statement “avoiding contact with the cashier” as one of the reason to use it revealed a general disagreement in the response. This result contradicts with Dabholkar at al. (2003), who stated that one reason for using self-checkout machines was from the enjoyment coming from avoiding the employees. Moreover, although Dabholkar at al. (2003) confirmed that there was no difference in perception between groups, Anova shows that there is a statistical significance difference between 18-30 and 31-40 against 41+.

**Table 5 Avoiding contact with the cashier**

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Variable</th>
<th>Value label</th>
<th>Count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reasons for using self-checkout machines</td>
<td>Avoiding contact with the cashier</td>
<td>Strongly disagree</td>
<td>29</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disagree</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Neutral</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agree</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly agree</td>
<td>22</td>
<td>21</td>
</tr>
</tbody>
</table>

As shown in Figure 10, the majority of 41+ consumers confirmed that they do not use self-checkout machines to avoid the cashiers. This result is very important because it means that 41+ consumers may feel the need to have relation with the cashiers, maybe because the machines are not easy to use.
Figure 10 Avoiding contact with the cashier, according to age range

Avoiding human relation with the cashier

Personnel support
Respondents highly agreed when asked how much they agreed with the statement “there is personnel support when needed” (see Figure 11 where 47% either agreed or strongly agreed). On the other hand, a closer look at the Anova statistic show that there is a statistic different in perception among groups. Figure 12 shows that the majority of 41+ think that employees are not fast to help when needed. The result is significant because, as stated by Zielke et al. (2008), employees’ support influence consumers’ satisfaction in using the service. 41+ respondents may feel the need for more personnel support because of few reasons; one of the reason could be attributed to the fact that they do not find that instructions on the screen are clear, moreover, they do not find the machines easy to use.

Figure 11. Personnel support
Conclusions and Implications

Although there are significant global changes in the sector, this research was limited to the UK supermarket sector and took only into account self-checkout machines, mainly due to a timing issue. Another limitation is that the majority data were collected by Google Form that has limited the interaction between researcher and respondents. Although the questionnaire was shared on different social media platforms, the questionnaire grasped more females perhaps due to the fact that the author has more females’ contacts. The difference between male and female respondents could be attributed to the demography that consisted in a larger number of females. 33% respondent users are 31-40 years old, a minority of 30% age category of 18-30 years old and the majority with 37% belonging to the category of 41+ years old. It is fundamental to keep in mind the way the sample has been selected; in fact, this result contrasts with Orel & Kara (2013) who asserted that younger people tend to use technology as self-checkout machines because of the fact that they are knowledgeable with internet and technologies.

This research aimed to analyse consumers’ perception of UK supermarkets’ self-checkout machines. The first part showed how things have changed in the industry with the introduction of the self-service technology caused by external drivers of change such as economy, technology and change in the society. Thanks to a secondary research the Attribute-Based Model (1996) was used as a starting point for the research on consumers’ perception on self-service technology (SST) over the years. The model showed how speed of delivery, ease of use, reliability, enjoyment and control affected consumers’ perception when using the self-checkout machines. The model was the starting point for several studies that confirmed these factors determinant when using the SST (Dabholkar, et al., 2003).

Although this research confirmed part of the previous research such as the Attribute-Based Model (1996), there are also differences and new findings that will be discussed below. One of the main findings was that 22% of the respondents have never used SST. A close look showed that 47% of respondents who never used SST were 41+, 39% were 31-40 and only 14% were 18-30 years old (see Figure 12).

Although previous research confirmed that (Dabholkar, et al., 2003) there was no difference on perception according to age groups, this research findings showed the opposite. The results shows that the highest proportion of respondents that have never used self-checkout machines are 41, therefore supermarkets should focus on improving their services in order to gather this missing market share. In fact, the other results showed that 41+ respondents are the one in need of more support. 41+ respondents did confirm that SST are not easy to use, one of the main reasons being ‘difficult on-screen directions’. As a consequence of that, the same age group (41+) does not find SST as a way to speed up the checkout process; previous research showed that one of the main reasons for using the SST was due to the ability to speed up the process (Dabholkar, et al., 2003), therefore, according to 41+
respondents, SST do not speed up the process therefore this can be a reason for not using it. Although the majority of the respondents age groups (18-40) use SST to avoid tills’ employees, 41+ do not, which means that they still need employees contacts when going grocery shopping: at the same time, they do not consider having fast personnel support when needed, which can be due to the frustration caused by not being able to independently use the machines.

This research showed that there is a difference in perception in using SST between different age groups, result that contrast with previous research (Dabholkar, et al., 2003); because of that, supermarkets are recommended to focus on this age group in order to facilitate their experience when using the SST and in order to also gather the missing 22% who have never used the technology.

In terms of implications from this study, these can be broken into three components: (i) training employees near the self-checkout machines; (ii) improving self-checkout machines on screen directions; and (iii) creating an aid software that demo how to use the self-checkout machine.

Firstly, supermarkets should train employees near the self-checkout machines, in order to encourage consumers using them. The employees could educate new users that are reluctant in using the machines. The key is training employees whilst running the lanes to keep an eye on needing customers. Once customers are educated, it will be easier for them doing it alone. Moreover, self-checkout machines should improve their on-screen directions, being more intuitive especially for mature consumers that are not technology-friendly.

Secondly, there is a need to create a software to be installed in the SST that customers could easily access by simply pressing a button; the software should be a demo to demonstrate how to use the self-checkout machines. Supermarkets should only buy the software once and install in all the machines. SST is a way for supermarkets to cut costs, by using machines that could replace human work.

Thirdly, creating aid demo software for consumers that are not able to use the machine is an innovative strategy. According to Bessant & Tidd (2011) innovation is about repositioning a product in the mind of consumers. The main strategic goal is to reposition the idea of self-checkout machines in the mind of 41+ consumers, in order to change their perception and meeting their needs and most of all, having a positive response from all consumers’ age groups. The main recommendation is to continue the research on self-checkout machines perception by focusing on people who do not use the technology. Although a lot of research focused on users, there is a gap in the research for people who have never used the machines.

References


Financial Times, 2016. Supermarkets increase self-checkouts. [Online] Available at: https://www.ft.com/content/a49db04c-ac52-11de-a754-00144feabd0


Appendix I – Data Sets

Figure A1. Anova – Self-checkout and cashier Contact

ANOVA

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>46,964</td>
<td>2</td>
<td>23,492</td>
<td>12.431</td>
</tr>
<tr>
<td>Within Groups</td>
<td>197,055</td>
<td>99</td>
<td>1,689</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>243,019</td>
<td>101</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Post Hoc Tests

Multiple Comparisons

Tukey HSD

<table>
<thead>
<tr>
<th>(a) What is your age?</th>
<th>(b) What is your age?</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-30</td>
<td>31-40</td>
<td>-400</td>
<td>.344</td>
<td>.479</td>
<td>-1.22 - .42</td>
</tr>
<tr>
<td>41+</td>
<td>400</td>
<td>1.153</td>
<td>.338</td>
<td>.002</td>
<td>-1.15 - .42</td>
</tr>
<tr>
<td>31-40</td>
<td>31-40</td>
<td>1.553</td>
<td>.325</td>
<td>.000</td>
<td>-1.95 - .35</td>
</tr>
<tr>
<td>41+</td>
<td>31-40</td>
<td>-1.553</td>
<td>.325</td>
<td>.000</td>
<td>-2.32 - .78</td>
</tr>
</tbody>
</table>

*. The mean difference is significant at the 0.05 level.

Figure A2. Make the process quicker

ANOVA

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>23,260</td>
<td>2</td>
<td>11,630</td>
<td>6.560</td>
</tr>
<tr>
<td>Within Groups</td>
<td>190,318</td>
<td>99</td>
<td>1,922</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>213,578</td>
<td>101</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Post Hoc Tests

Multiple Comparisons

Tukey HSD

<table>
<thead>
<tr>
<th>(a) What is your age?</th>
<th>(b) What is your age?</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-30</td>
<td>31-40</td>
<td>-610</td>
<td>.347</td>
<td>1.000</td>
<td>-.84 - .82</td>
</tr>
<tr>
<td>41+</td>
<td>982</td>
<td>1.090</td>
<td>.323</td>
<td>.013</td>
<td>.18 - 1.79</td>
</tr>
<tr>
<td>31-40</td>
<td>31-40</td>
<td>982</td>
<td>.323</td>
<td>.013</td>
<td>-1.79 - -1.77</td>
</tr>
<tr>
<td>41+</td>
<td>31-40</td>
<td>992</td>
<td>.327</td>
<td>.009</td>
<td>-1.77 - -2.1</td>
</tr>
</tbody>
</table>

*. The mean difference is significant at the 0.05 level.
Figure A3. Self-checkout machines are easy to use

Oneway

ANOVA

Self-checkout machines are easy to use.

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>144,367</td>
<td>2</td>
<td>72,183</td>
<td>82.786</td>
</tr>
<tr>
<td>Within Groups</td>
<td>113,800</td>
<td>99</td>
<td>1,142</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>258,167</td>
<td>101</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Self-checkout machines are easy to use.

Tukey HSD

<table>
<thead>
<tr>
<th>(A) What is your age?</th>
<th>(B) What is your age?</th>
<th>Mean Difference (A-B)</th>
<th>Std Error</th>
<th>Sigg</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-30</td>
<td>31-40</td>
<td>-0.91</td>
<td>0.36</td>
<td>-1.02</td>
<td>-1.56 - -0.47</td>
</tr>
<tr>
<td>18-30</td>
<td>41+</td>
<td>2.94</td>
<td>0.36</td>
<td>8.37</td>
<td>8.01 - 8.73</td>
</tr>
<tr>
<td>31-40</td>
<td>18-30</td>
<td>0.34</td>
<td>0.36</td>
<td>-0.81</td>
<td>-1.17 - -0.47</td>
</tr>
<tr>
<td>31-40</td>
<td>41+</td>
<td>2.94</td>
<td>0.36</td>
<td>8.37</td>
<td>8.01 - 8.73</td>
</tr>
<tr>
<td>41+</td>
<td>18-30</td>
<td>-2.94</td>
<td>0.36</td>
<td>-3.08</td>
<td>-3.51 - -2.51</td>
</tr>
<tr>
<td>41+</td>
<td>31-40</td>
<td>-2.94</td>
<td>0.36</td>
<td>-3.08</td>
<td>-3.51 - -2.51</td>
</tr>
</tbody>
</table>

* The mean difference is significant at the 0.05 level.

Figure A4. Personnel support

ANOVA

If I make mistakes using self-checkout machines, knowledgeable employees are ready to help.

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>31,770</td>
<td>2</td>
<td>15,885</td>
<td>9.141</td>
</tr>
<tr>
<td>Within Groups</td>
<td>172,044</td>
<td>99</td>
<td>1,738</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>203,814</td>
<td>101</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Post Hoc Tests

Multiple Comparisons

Dependent Variable: If I make mistakes using self-checkout machines, knowledgeable employees are ready to help.

Tukey HSD

<table>
<thead>
<tr>
<th>(A) What is your age?</th>
<th>(B) What is your age?</th>
<th>Mean Difference (A-B)</th>
<th>Std Error</th>
<th>Sigg</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-30</td>
<td>31-40</td>
<td>-0.247</td>
<td>0.330</td>
<td>.735</td>
<td>-1.03 - .54</td>
</tr>
<tr>
<td>18-30</td>
<td>41+</td>
<td>1.965*</td>
<td>0.322</td>
<td>.007</td>
<td>.24 - 1.77</td>
</tr>
<tr>
<td>31-40</td>
<td>18-30</td>
<td>1.247</td>
<td>0.330</td>
<td>.735</td>
<td>-0.84 - 1.03</td>
</tr>
<tr>
<td>31-40</td>
<td>41+</td>
<td>1.262*</td>
<td>0.311</td>
<td>.000</td>
<td>.51 - 1.99</td>
</tr>
<tr>
<td>41+</td>
<td>18-30</td>
<td>1.065*</td>
<td>0.322</td>
<td>.007</td>
<td>-1.77 - -2.24</td>
</tr>
<tr>
<td>41+</td>
<td>31-40</td>
<td>1.257*</td>
<td>0.311</td>
<td>.000</td>
<td>-1.59 - -2.51</td>
</tr>
</tbody>
</table>

* The mean difference is significant at the 0.05 level.
Figure A5. Clear on-screen directions

**Oneway**

ANOVA

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>22,062</td>
<td>2</td>
<td>11,031</td>
<td>5.139</td>
<td>.008</td>
</tr>
<tr>
<td>Within Groups</td>
<td>212,626</td>
<td>99</td>
<td>2.147</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>234,588</td>
<td>101</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Post Hoc Tests**

**Multiple Comparisons**

Dependent Variable: Self-checkout machines have clear on screen directions.

Tukey HSD

<table>
<thead>
<tr>
<th>(J) What is your age?</th>
<th>(J) What is your age?</th>
<th>Mean Difference ($-$J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-30</td>
<td>31-40</td>
<td>-4.414</td>
<td>.367</td>
<td>.500</td>
<td>-1.29 - 1.46</td>
</tr>
<tr>
<td>41+</td>
<td>31-40</td>
<td>-6.61</td>
<td>.358</td>
<td>.143</td>
<td>-1.17 - 1.53</td>
</tr>
<tr>
<td>31-40</td>
<td>18-30</td>
<td>4.14</td>
<td>.367</td>
<td>.500</td>
<td>-0.48 - 1.29</td>
</tr>
<tr>
<td>41+</td>
<td>18-30</td>
<td>1.094</td>
<td>.346</td>
<td>.000</td>
<td>0.27 - 1.92</td>
</tr>
<tr>
<td>41+</td>
<td>31-40</td>
<td>-6.61</td>
<td>.358</td>
<td>.143</td>
<td>-1.53 - 1.77</td>
</tr>
</tbody>
</table>

*The mean difference is significant at the 0.05 level.*
Figure B2. Never used SST

NEVER USED SELF-CHECKOUT MACHINES

- 18-30: 14%
- 31-40: 47%
- 41+: 39%

Figure B3. Self-checkout machines

Self-checkout machines

- Man: 43%
- Woman: 57%

Figure B4. Age of respondents

Age of the respondents

- 18-30: 34, 26%
- 31-40: 45, 35%
- 41+: 51, 39%
Figure B5. Employment status of the respondents

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time</td>
<td>30, 30%</td>
</tr>
<tr>
<td>Part-time</td>
<td>34, 33%</td>
</tr>
<tr>
<td>Not-employed</td>
<td>28, 28%</td>
</tr>
<tr>
<td>Retired</td>
<td>38, 38%</td>
</tr>
</tbody>
</table>

Figure B6. Usage of self-checkout machines (by age range)

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-30</td>
<td>30, 30%</td>
</tr>
<tr>
<td>31-40</td>
<td>34, 34%</td>
</tr>
<tr>
<td>41+</td>
<td>38, 38%</td>
</tr>
</tbody>
</table>
Figure B7. Avoid contact with the cashier

AVOID HUMAN RELATIONSHIP WITH THE CASHIER

- Strongly disagree: 28%
- Disagree: 21%
- Neutral: 17%
- Agree: 14%
- Strongly agree: 20%

Figure B8. Making the checkout process quicker

Make the checkout process quicker

- Strongly disagree: 17%
- Disagree: 24%
- Neutral: 18%
- Agree: 27%
- Strongly agree: 14%
Figure B9. Self-checkout machines are easy to use

EASY TO USE

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

21% 22% 12% 10% 35%

Figure B10. Control: “Clear on-screen directions”

clear on screen directions

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

26% 33% 10% 10% 21%
Appendix II – Questionnaire
Consumers’ perception on self-checkout machines.

Thank you for agreeing on taking part in this survey. The questionnaire has been created for data collection purpose in order to analyse consumers’ perception on self-checkout machines in UK supermarkets’ industry. Please answer the following questions, to finish the questionnaire 3-4 minutes will be needed. Be assured that all your answers will be kept confidential and anonymous.

To begin our survey, we have some questions about yourself.

1. What is your gender?
   □ a. Male
   □ b. Female

2. What is your age?
   □ a. 18-30
   □ b. 31-40
   □ c. 41+

3. What is your employment status?
   □ a. Full Time
   □ b. Part Time
   □ c. Not employed
   □ d. Retired

Now, we have questions on the use of self-checkout machines.

4. Have you ever used self-checkout machine?
   □ a. Yes
   □ b. No (hand back the questionnaire)

5. In which supermarket have you used the self-checkout machine more often?
   □ a. Tesco
   □ b. Sainsbury's
   □ c. Waitrose
   □ d. Marks & Spencer
   □ e. Other (please specify) ____________
With this question, we want to find out what you think about self-checkout machines. To what extent do you agree or disagree with the following sentences?

6. I use self-checkout machines because they help me avoid human relationship with the cashier.
   □ a. Strongly disagree
   □ b. Disagree
   □ c. Neutral
   □ d. Agree
   □ e. Strongly agree

7. I use self-checkout machines because they make the checkout process quicker.
   □ a. Strongly disagree
   □ b. Disagree
   □ c. Neutral
   □ d. Agree
   □ e. Strongly agree

8. I use self-checkout machines because there is a shorter waiting time.
   □ a. Strongly disagree
   □ b. Disagree
   □ c. Neutral
   □ d. Agree
   □ e. Strongly agree

With this questions we want you to tell us about the usage of the self-checkout machines.

9. Self-checkout machines are easy to use.
   □ a. Strongly disagree
   □ b. Disagree
   □ c. Neutral
   □ d. Agree
   □ e. Strongly agree

10. Self-checkout machines have clear on screen directions.
   □ a. Strongly disagree
   □ b. Disagree
   □ c. Neutral
   □ d. Agree
   □ e. Strongly agree
11. If I make mistakes using self-checkout machines, knowledgeable employees are ready to help.

□ a. Strongly disagree
□ b. Disagree
□ c. Neutral
□ d. Agree
□ e. Strongly agree

12. If bags run out whilst using self-checkout machines, someone is there to quickly replace them.

□ a. Strongly disagree
□ b. Disagree
□ c. Neutral
□ d. Agree
□ e. Strongly agree

About the Author
Claudia Maugeri graduated with a BA (Hons) Business Management from the London School of Business and Management (LSBM) in July 2017. She currently works in the registry department of her alma Mater as an Academic Administrator responsible for two courses i.e. the top-up BA Business and Management and the MBA. She finds her current role rewarding considering that it involves putting to measurable practice, her interpersonal skills developed in the course of her study at LSBM.
Organisational Performance in the UK Construction Industry

Shuja Shajahan

Abstract
The UK construction industry is characterised by several strong competitors and the sector is strictly regulated by the government. As a result, it has become very difficult for the firms to operate in a sustainable way. But the use of technology in all the business processes helped these companies to innovate new products by minimising their costs without compromising efficiency and quality. Consequently, the UK construction industry has experienced significant growth after adoption of automated technologies and equipment. This study investigated the role of technology and its relationship with other drivers of organizational performance. The study concludes that the use of technology has helped UK construction industry to achieve higher degree of service quality, innovation, product quality, and customer satisfaction.

Keywords: Automated technology, UK Construction sector, Organisational Performance

Introduction
The UK construction industry is comprised of both small and large firms; most of these companies operate under strict regulation of the UK government, which has made this industry one of the strongest industries of the economy. Most of the companies in this industry rely on the extensive use of technology; from production to operation. Industry experts and researchers have argued that the construction industry in the UK has experienced major improvement in productivity and performance since the adoption of automated production and technology in operational activities (ONS, 2017). However, there are many organizations in this industry that have failed to improve their performance even after adopting technology in its business processes while others have excelled (Dewan and Min, 2012). Barney (2014) stated, investment in technology does not always guarantee improved performance. Therefore, the study focuses on what is the impacts of technology on organizational performance in the context of construction industry of the UK. The issue of this study is to understand and measure, what is the impact of technology on organizational performance in the UK construction industry.

Previous studies (Buhalis, 2012; Farhanghi et al. 2013; Lenz, 2013) have provided mixed outcomes, some studies reported that technology improves the performance of organizations, while other studies have found no significant improvement in performance. In addition, some studies (Buhalis, 2012; Gunday et al. 2014) have also argued that innovating or investing in technology may result in significant changes in the structure of an organization but may result in reduced performance.

Barney (2014) believes technological advancements have improved performance in organizations in a range of industries. In the construction industry, many organizations have introduced a range of technological innovations in their operations to improve efficiency in communication and operations. Farhanghi et al. (2013) go as far as to state that technology has become an important factor for a firm’s survival and growth because it provides the foundation for the effective control of internal activities, which improves efficiency and increases profitability. Buhalis (2012) also found that technology is one of the significant drivers of organizational performance. Lenz (2013) states that industry reports indicate that global investments in technology by corporations will reach $5 trillion in 2015, despite economic slowdown in major economies of the world.

However, some studies ((e.g. Weill, 1992; Chen et al., 2014) have argued that large investments in technology do not guarantee improved organizational performance. Also, results concerning the effects of technology on organizational performance have remained mixed and findings vary widely from industry to industry (Barney, 2014; Tajuddin et al., 2015).
However previous studies – apart from perhaps Davis (1989) and Venkatesh (2003) – did not provide much generalized conclusion concerning the relationship between technology and organizational performance with specific reference to the construction sector. For these reasons, this study will investigate this issues from the perspective of the UK's construction industry to ascertain whether technology has any significant influence over organizational performance. The aim of this study is to investigate the research question “What is the impact of technology on organizational performance in the UK construction industry.” The objectives of this study are, therefore, to examine the role of technology in the construction industry; To determine the relationship between technology and organizational performance in the UK construction industry; and to recommend strategies to companies in the UK construction industry to improve organizational performance.

The introduction section one, discusses the background and context of this study alongside the research aim, objectives, questions and rationale for undertaking the research. Section two, critically reviews relevant literatures to draw a conceptual framework for further investigation. Section three, details about the methodologies used in solving the research question. Section four, provides the findings obtained from analyses along with a comparative discussion on the findings. The final section five, provides a comprehensive conclusion based on the findings obtained through analyses in addition to a set of recommendations.

**Literature Review**

Technological advancements have changed the forms of organizational activities that are being performed efficiently through utilizing the technology framework, it has enabled organizations to perform operational and production activities more efficiently within a short span of time. However, the contribution of technology to organizational performance and efficiency has been the subject of debate among other researchers (Barney, 2014; El-Mashaleh et al., 2006). Buhalis (2012) has argued for the significant contribution of technology while Tajuddin et al. (2015) have reported no significant contribution of technology to organizational performance. The issue remains mostly unresolved especially in the context of the UK construction industry. In this chapter, the researcher has critically reviewed several types of research on technology and its effects on organizational performance.

Technology is defined as the application of scientific knowledge for practical purposes, especially in an industry (Dennis, 2012). Other definition of technology states that it is a framework that applies computers to keep, revise, retrieve, transfer, and manipulation of data in the context of an organizational setting. Technology has been researched extensively by many researchers from different contexts. An investigation of Franke (2013) argued that technology enables efficient processing of information which enables an organization to reduce bureaucratic complexities of tasks. Furthermore, it has been argued that technology offers an organization with increased efficiency in data management from different business processes including production, marketing, sales, finance etc. which ultimately impacts the performance of an organization. In the organizational context, technology has been argued to have positive effects on the performance and efficiency of organizations (Tajuddin et al., 2015).

**Organizational Performance**

The definition of organizational performance can be provided from different perspectives but only organizational perspective has been considered in this study. However, organizational performance has been defined by Rouse and Daellenbach (2013) as the analysis of an organization’s presentation or exposure as compared to its goals and objectives. On the other hand, Barney (2014) has argued that organizational performance denotes an organization’s overall profitability, market value, productivity, competitive advantage, and efficiency. However, in the UK construction industry, organizational performance is considered as the function of productivity, profitability, and financial performance indicators (DETR, 2000). On the other hand, DTI (2002) has reported that organizational performance of construction companies is measured based on customer satisfaction, people, innovation and environmental aspects of operations. Therefore, it can be observed that the definition of organizational performance may vary widely across the industries.

**Factors of Organizational Performance for The Construction Industry**

Researchers who have studied organizational performance have identified several underlying factors of organizational performance. Buhalís (2012) found that innovation and service quality are two major factors of organizational performance, while Gunday et al. (2014) have argued that product quality and customer satisfaction are other two major factors of organizational performance. Several other researchers like Farhanghi et al. (2013) have also found that service quality, customer satisfaction,
innovation, and product quality are among the major and significant factors of organizational performance. Outlines available researches that have identified different factors of performance in context of construction industry of two largest economies i.e. UK and USA. It could be seen that Service quality, Innovation, Customer satisfaction and Product Quality, has been considered as an important factor of organizational performance.

**Service Quality**, defined by Gunday et al. (2014) as the assessment between the expected and actual standard of service delivered by an organization to its customers. In the construction industry, service quality is measured by comparing perceived expectation of the customers before delivering the construction service with perceived performance of the company. However, the analysis of Dewan and Min (2012) has focused on determining the relationship between technology and service quality through analyzing country-level data. The study has indicated that technology has a significant influence on service quality. The analysis of Dewan and Kraemer (2010) focused on investigating the substitution of technology for other factors of production and its influence on the organizations. The study indicated that service quality has become an important driver of organizational performance and it is affected by technology. Based on these findings, following research hypothesis is developed:

**H1**: Technology has a positive impact on Service Quality.

**Innovation**, in the simplest form, is new idea or method or device. According to the definition of DTI (2002), innovation is the application of better solutions that helps meeting new existing market needs or new requirements or unarticulated requirements in construction industry. In the construction industry, technological innovations like construction robots and Top-mix Permeable (A concrete laying solution) allowed construction engineers to develop high quality construction products within very short time with efficiency. However, the analysis of Chen and Huang (2015) mainly focused on examining the relationship between technology and innovation. The study reported that innovation is a significant driver of organizational performance and technology has a positive impact on innovation. Moreover, the analysis of Gunday et al. (2014) clearly indicated that technology has significantly positive impact on innovation which results in higher organizational performance. Based on the review of these findings, following research hypothesis is developed:

**H2**: Technology has a positive impact on Innovation.

**Customer satisfaction**, is one of the major factors of organizational performance because it measures how well a company meets the expectations of its customers. Customer satisfaction is particularly important for every business because it provides a metric to businesses that helps them understand the business and effective way of managing and improving operations. In observation of Iscan et al. (2014) primarily focused on the determination of the relationship between technology and customer satisfactions of an organization. The study has indicated that there is a significant relationship between customer satisfaction and technology because a portfolio of satisfied customers positively drives the performance of any organization in the form of higher productivity and performance. The analysis of Hawajreh and Sharabati (2013) also has indicated that technology has strong ties with customer satisfaction. Based on the review of these findings, following research hypothesis is developed:

**H3**: Technology has a positive impact on Customer Satisfaction.

**Product Quality**, is another important driver of organizational performance in the construction industry. The report of DETR (2000) has shown that product quality of construction companies plays a positive role in improving its overall performance. The study of Venkatraman et al. (2013) has argued that for delivering improved quality of construction products it is essential to recruit efficient human capital as well as automated production processes. When a construction company aims at delivering high quality products to its customers it alternatively improves the satisfaction of its customers which, on the other hand, improves the profitability of the organization. As a result, product quality helps improving the organizational performance of construction companies. However, the investigation of Buhalis (2012) indicated that technology has a strong and positive relationship with product quality of an organization. The analysis of Venkatraman et al. (2013) also argued that technology has a significant impact on product quality. Based on the review of these findings, following research hypothesis is developed:

**H4**: Technology has a positive impact on Product Quality.
Thus, it can be hypothesized that technology impacts on the organizational performance of the construction companies of the UK through affecting service quality, innovation, customer satisfaction and product quality.

Empirical researches based on the effects of technology on organizational performance exhibits mixed outcomes. But the focus is on selected hypothesis of service quality, innovation, customer satisfaction and product quality.

**Service Quality:** In the construction industry is measured by comparing perceived expectation of the customers before delivering the construction service with perceived performance of the company. The analysis of Dewan and Min (2012) indicated that there are strong positive association between service quality and technology. The analysis of Dewan and Kraemer (2010) indicated that service quality has become an important driver of organizational performance and it is affected by technology.

**Innovation:** The analysis of Osterman (2011) examined the impact of technology on innovation. This study indicated that the adoption of technology within the existing business process had a significant impact on innovation. However, it has been argued that innovation has a significant contribution towards the sustainability of an organization and innovation gets significantly affected by the degree of utilization of technology framework of an organization. Furthermore, technology enables an organization to process larger amounts of data within shortest possible time to make the innovation process more efficient (Lenz, 2013). Thus, the ability of an organization to innovate new products and services also increases.

**Customer Satisfaction:** Is particularly important, Chen and Huang (2015) analysed the relationship between customer satisfaction and technology and reported a statistically significant and positive relationship between technology and customer satisfaction. This relationship has also been supported by Iscan et al. (2014), which indicated that a portfolio of satisfied customers positively drives the performance of any organization in the form of higher productivity and performance.

**Product Quality:** The analysis carried out by Pyburn (2013) focused on analyzing the ways of linking technological frameworks with product management strategies. The study has indicated that technology has a significantly positive relationship with product quality of the selected organizations. Similarly, the investigation of King (2011) also indicated that technology has a positive relationship with product quality. The study of Venkatraman et al. (2013) has argued that a construction company aims at delivering high quality products to its customers, it alternatively improves the satisfaction of its customers, thus, improves the profitability of the organization.

**Conceptual Framework**
The review of literature on the UK construction industry clearly demonstrated that service quality, innovation, customer satisfaction and product quality are the major factors of organizational performance. It has also been found that these factors of organizational performance get significantly affected by the technological framework of the organization. Thus, the framework of this research, based on the review of the literature, is illustrated in Figure 1.
Research Methodology
Research methodology is defined as the systematic procedure of solving a research problem or answering a research question, it is the process of determining appropriate techniques and methods to solve the research problem (Saunders et al. 2013.; Yin, 2013).

Research Philosophy
Research philosophy can be defined as the view of the researcher concerning the reality of nature and the way the researcher views the research. Positivism, interpretivism, realism, and pragmatism are four research philosophies (Bryman and Bell, 2013). To measure the effects of technology as well as organizational performance the researcher was required to contact with the construction companies. This is because technological adoption and internal performance measures are confidential for the
organizations given the competitiveness of the industry. Therefore, the researcher was required to analyse quantitative meanings and has considered that only evidence-based meaning, that can provide acceptable knowledge. Moreover, it may be very difficult for the researcher to collect qualitative data from large samples because of unavailability of managers and strict time schedule of this study. As a result, the researcher has considered analysing data that are collected from small samples in quantitative manner. For these reasons the researcher has considered using positivism philosophy for this study.

**Research Approach**

When a research focuses on developing new theory based on analysis of current scenarios and results, it is said to be following an inductive research approach. On the other hand, when a research focuses on testing existing theories based on analysis of current phenomena and results it is said to be following a deductive research approach (Kumar, 2015; Bryman and Bell, 2014). The aim and objectives of this research required the researcher to test existing understanding concerning the impact of technology on organizational performance. From Figure 3, it can be seen how inductive and deductive approaches construct research outcomes. However, as the researcher expected to get quantitative replies, it was not possible to develop new theories; rather the researcher tested existing understanding regarding the issue. Therefore, this research has adopted a deductive approach.

![Figure 3: Research Approaches](source: Kumar (2015)).

The methodological choice adopted is shown in Figure 4, where the researcher explains the need to rely on a mono method as the intention was to explore the impact of technology on organizational performance from the employees of construction companies.

**Figure 4: Methodological Choice**

![Methodological Choice](Saunders et al. (2013)).
Research Strategy
Strategy of a research is related to data collection and sampling strategy. Research strategies define how the process of data collection that will be carried out and how the responses will be collected. However, ethnography, archival research, interview, survey, grounded theory is some of the research strategies (Yin, 2013). In this research project, the researcher will follow survey strategy as the researcher will require quantitative response from the construction companies of the UK. It will be very difficult to obtain data on organizational performance measurement as well as technological adoption from construction companies because of the nature of confidentiality of these data. As data on organizational performance and use of technology are sensitive therefore it will be difficult to obtain management-level data. For this reason, the researcher planned to collect data from the employees of construction companies through survey.

Data Collection and Analysis
This study requires both primary and secondary data, to meet the purpose of this research. Primary data on organizational performance and technology will be collected from employees of construction companies in the UK. The data will be collected through online survey. A close-ended structured questionnaire has been prepared for the employees to respond to. The questionnaire has been generated based on 5 points Likert-scale by using SurveyMonkey. The researcher will conduct the survey through providing SurveyMonkey web link to each participant. Each participant will visit the web link and provide their response accordingly. SurveyMonkey automatically stores responses and provides summary of responses. Therefore, the researcher will not require any medium to collect survey questionnaires from the employees. As it has been said, the researcher will get quantitative responses from the questionnaire and, therefore, the data will be analysed quantitatively. There are different software packages that can be used to analyse quantitative data including SPSS, EViews, and MS Excel. SPSS and EViews will not be used because these two software packages require data collected from larger sample. Thus, for analysing data, this study will use MS Excel because it is widely used to analyse quantitative data collected from smaller sample.

Sampling Strategy
Sampling is the process of selecting the representative subset of individuals from the population to estimate the characteristics of the whole population (Saunders et al., 2013). This research will be carried out on the employees of UK construction companies. There are a significant number of construction companies in UK; therefore, it will not be possible for the researcher to collect responses from the employees of all companies. Thus, the researcher relied on the convenient sampling strategy to determine the sample. This sampling strategy will allow the researcher to collect responses from the available employees of construction companies. However, the researcher will provide the SurveyMonkey link to 55 employees of construction companies. Therefore, the sample size of this research was 55 employees.
Findings

The impact of technology on service quality has been assessed in this regression, where the value of Multiple R was 0.792 which is also a measurement of correlation. This indicates strong positive association between these two variables. R Square value was 0.627 which implies that 62.7% of variation in service quality can be explained by the variation in technology (Figure 5). The ANOVA indicates that the value of significance of this result is 0.000 which is way lower than 0.05. This finding demonstrates that technology has strong positive and statistically significant linear relationship with service quality.

![Figure 5. Service Quality](image)

<table>
<thead>
<tr>
<th>Regression Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
</tr>
<tr>
<td>R Square</td>
</tr>
<tr>
<td>Observations</td>
</tr>
</tbody>
</table>

The Coefficient table indicates that intercept of this regression is 0.750 which means that the expected value of service quality will be 0.750 if the value of technology equals zero (0). However, the coefficient of technology is 0.829 which is statistically significant as well, because p-value is less than 0.05. This finding indicates that if UK construction companies invest 1 unit behind technology it will increase service quality by 0.829 units. Therefore, it can be said that technology has positive and statistically significant impact on service quality.

Impact of Technology on Innovation

Examining whether technology impacts innovation. Regression analysis indicated that Multiple R was 0.862 which means that technology has strong positive association with innovation. R Square value of 0.742 indicates that 74.2% of variation in innovation can be explained by the variation in technology (Figure 6). ANOVA, on the other hand, indicates that the value of significance of this model is less than 0.05 (see Figure 6). Thus, it can be said that technology has strong positive and statistically significant linear relationship with innovation.

![Figure 6. Technology and Innovation](image)

<table>
<thead>
<tr>
<th>Regression Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
</tr>
<tr>
<td>R Square</td>
</tr>
<tr>
<td>Observations</td>
</tr>
</tbody>
</table>

However, the Coefficient table reports that the value of regression intercept is 0.911; this implies that expected value of innovation will be 0.911 if there is no investment behind technology. The coefficient of technology has a value of 0.778, which means if construction companies increase technology by 1 unit it will result in 0.778 units of innovation. The coefficient is statistically significant as well. So, technology exhibits strong positive and statistically significant impact on innovation.

Impact of Technology on Customer Satisfaction

Customer satisfaction helps an organization to monitor its overall performance. However, the regression analysis indicates that Multiple R is 0.922 which refers to strong linear association between the two variables (see Figure 7). R Square of 0.850 also implies 85.08% of variation in customer satisfaction is
explained by the variation in technology. ANOVA also found the regression model to be statistically significant.

**Figure 7. Customer Satisfaction**

<table>
<thead>
<tr>
<th>Regression Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
</tr>
<tr>
<td>R Square</td>
</tr>
<tr>
<td>Observations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.445</td>
</tr>
<tr>
<td>TECH</td>
<td>0.902</td>
</tr>
</tbody>
</table>

*Coefficient table reports that regression intercept is 0.445573879 meaning that customer satisfaction is expected to be equal to intercept if technology equals zero (0). Coefficient of technology is 0.902694847 indicating that 1-unit increase in technology will increase customer satisfaction by 0.902694847 units. The coefficient of technology is found to be statistically significant. Hence, it can be said that technology has positive and statistically significant impact on customer satisfaction.*

**Impact of Technology on Product Quality**

Whether technology plays positive role in improving product quality has been assessed through this regression. Analysis shows that Multiple R is 0.735192701, which can be referred to describe strong positive linear association between the variables. R Square of 0.540508307 implies 54.05% of variation in product quality is explained by the variation in technology (Figure 8). ANOVA also indicates the statistical significance of this regression model. Consequently, it can be said that technology and product quality are strongly associated to each other with statistical significance.

**Figure 8. Technology and Product Quality**

<table>
<thead>
<tr>
<th>Regression Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
</tr>
<tr>
<td>R Square</td>
</tr>
<tr>
<td>Observations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>1.375</td>
</tr>
<tr>
<td>TECH</td>
<td>0.682</td>
</tr>
</tbody>
</table>

*Coefficient table reports a value of 1.375853 in intercept and 0.68292105 as coefficient of technology. Both intercept and coefficient are statistically significant. This implies that 1-unit increase in technology will increase product quality by 0.68292105 units. Hence, it can be concluded that technology has statistically significant impact on product quality.*
Table 1. Summary of Hypotheses

<table>
<thead>
<tr>
<th>Alternate Hypothesis</th>
<th>Statistical Values</th>
<th>Accepted/Rejected</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H1: Technology has a positive impact on Service Quality.</strong></td>
<td>R Square: 0.627361394</td>
<td>Accepted</td>
</tr>
<tr>
<td></td>
<td>Coefficient: 0.828926168</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Significance: 0.0000</td>
<td></td>
</tr>
<tr>
<td><strong>H2: Technology has a positive impact on Innovation.</strong></td>
<td>R Square: 0.742734357</td>
<td>Accepted</td>
</tr>
<tr>
<td></td>
<td>Coefficient: 0.777588222</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Significance: 0.0000</td>
<td></td>
</tr>
<tr>
<td><strong>H3: Technology has a positive impact on Customer Satisfaction.</strong></td>
<td>R Square: 0.850832376</td>
<td>Accepted</td>
</tr>
<tr>
<td></td>
<td>Coefficient: 0.902694847</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Significance: 0.0000</td>
<td></td>
</tr>
<tr>
<td><strong>H4: Technology has a positive impact on Product Quality.</strong></td>
<td>R Square: 0.540508307</td>
<td>Accepted</td>
</tr>
<tr>
<td></td>
<td>Coefficient: 0.68292105</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Significance: 0.0000</td>
<td></td>
</tr>
</tbody>
</table>

It has been argued that service quality is an important indicator of organizational performance. Empirical analysis of Dewan and Min (2012) regarding the impact of technology on service quality indicated strong positive association between these two variables. Current study also found that technology and service quality have strong positive association. In addition, Dewan and Kraemer (2010) found that technology positively affects service quality which is also reported in current study. This implies that the findings of current study are supported by the findings of Dewan and Min (2012) and Dewan and Kraemer (2010). Innovation plays a major role in improving performance of an organization especially in the construction industry. The role that technology plays in accelerating innovation is empirically proven as Osterman (2011) found significant positive impact of technology on innovation. Lenz (2013) also found that adoption of technology helps accelerating innovation within an organization. Current study has found strong positive association between these two variables with statistical significance. Therefore, current study supports the findings of Osterman (2011) and Lenz (2013).

This study has found that technology has strong positive association with customer satisfaction and it significantly affects the satisfaction of customers. Iscan et al. (2014) argued that customer satisfaction and technology are significantly correlated. In addition, Chen and Huang (2015) found significant impact of technology on customer satisfaction. Thus, the findings of current study are empirically recognized and supports Iscan et al. (2014) and Chen and Huang (2015).

Product quality is argued to be affected by using technology in the manufacturing process. Pyburn (2013) has found that adoption of technology in the production process improves quality of products, also reported a significant association between technology and product quality. In addition, Venkatraman et al. (2013) has also reported that technology helps increasing product quality which alternatively improves customers' satisfaction. Current study has found that both these variables exhibit strong association and technology significantly influences product quality. Therefore, findings of current study are supported by Venkatraman et al. (2013) and Pyburn (2013).

Discussion and Evaluation

It has been hypothesised that technology impacts four major drivers of organizational performance in the UK construction industry and the literature review has exhibited that. This section provides discussion on the findings obtained through data analysis and furthermore discusses on the relation to the findings of literature review.

Reliability Analysis

The analysis of internal consistency is referred as reliability analysis. This is measured by using Cronbach Alpha, which measures the reliability of scales used for analysis. Higher value of Cronbach Alpha is generally considered highly reliable for further data analysis although it may not be unidimensional (Jha, 2014). However, the reliability analysis has found that the alpha value is 0.935 which is very high. This implies that the hypothesis of this study (i.e. technology, service quality, innovation, customer satisfaction, and product quality) are relatively high in internal consistency.
Correlation Analysis
To determining the relationship between the factors of organizational performance and technology was one of the objectives of this study. To meet this objective, the researcher has performed correlation analysis to observe the association between each variable. Following the presents of the correlation matrix, the correlation coefficient between technology and service quality (0.792061484) exhibits strong positive linear relationship as the value is higher than 0.70. This implies that technology plays a strong positive role in influencing service quality of UK construction companies. The correlation between technology and innovation also exhibits strong positive linear relationship (0.861) which also implies strong positive influence of technology over innovation. The same finding has also been found for both customer satisfaction and product quality. The correlation coefficient of customer satisfaction was 0.922 and product quality was 0.735; both these coefficients signify the strong positive influence of technology over customer satisfaction and product quality in UK construction industry. Therefore, it can be said that technology has strong positive correlation with all four factors of organizational performance.

Based on the primary aim of this study, the association between technology and drivers of organizational performance has been discussed but to what extent technology impacts organizational performance has been measured by using regression analysis. Independent variable for regression was technology while dependent variables were service quality, innovation, customer satisfaction, and product quality.

The ethical guidelines while preparing and performing this research set by the university have been followed. Furthermore, the researcher attached a consent form along with the questionnaire (See Appendices) so that voluntary participation can be ensured. In addition, the researcher mentioned about the confidentiality of responses as collected data will be only used for academic purposes and never be publicly disclosed and added a feedback box for any questions or concerns regarding the survey.

Conclusions
UK Construction Industry is characterised by faster growth with increased number of competitors. In such a fast moving and competitive industry companies face several challenges in its business processes. One of the major challenges for the construction companies is efficient utilisation of technology. It has been observed that companies that have adopted technology in its overall business process have gained higher market share and increased level of customer satisfaction as well. This scenario depicts the importance of technology in the construction industry. However, this study has analysed the role of technology in improving organizational performance of construction companies in the UK.

Organizational performance can be measured by different parameters but studies in context of construction industry exhibited that service quality, innovation, customer satisfaction, and product quality are major constructs of performance. Analysis of current study found that technology has strong positive linear association with all four performance variables. In addition, technology has found to be significantly affecting all these four performance variables. This finding implies that technology has become an essential aspect for all construction companies because technology not only helps improving product and service quality but also motivates innovation and improves customers’ satisfaction.

The UK construction industry is characterised by several strong competitors and these companies are strictly regulated by the government. As a result, it has become very difficult for the companies to operate in sustainable way. But the use of technology in all the business processes helped these companies to innovate new products by minimising their costs without compromising efficiency and quality. Consequently, the UK construction industry has experienced significant growth after adoption of automated technologies and equipment. Current study investigated the role of technology and its relationship with drivers of organizational performance. Current study concludes that the use of technology has helped UK construction industry to achieve higher degree of service quality, innovation, product quality, and customer satisfaction.

Overall, the findings of current study clearly indicate the importance of technology in the UK construction industry. Although companies in the UK construction industry utilises technology very well but smaller companies still lack in effective utilisation of technology in its business processes. It has been argued in first chapter that many construction companies still fail to adopt technology in all the business processes. Based on the findings of current study it can be recommended that: First, UK Construction
companies that have failed to utilise technology in the overall business process are required to link technology with its operational activities because it helps improving the product and service quality. Second, to increase customers' satisfaction, smaller construction companies should adopt technology in production and service delivery system because technology improves both product and service quality which alternatively improves customers' satisfaction. Third, Innovation is a major driver of organizational performance and without innovation it is very difficult to survive in such a competitive industry. Therefore, it is recommended that smaller construction firms should efficiently utilise technologies in offering innovative products to its customers.

References


### Appendices

**Table A1. Factors of Organizational Performance of Construction Industry**

<table>
<thead>
<tr>
<th>Name of Author and Year</th>
<th>Country</th>
<th>Factors of Organizational Performance of Construction Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wong (2004)</td>
<td>UK</td>
<td>Resources, Innovation, Staff Experience, Safety, Service Quality, Time, Cost, Contractor Experience, Site Management</td>
</tr>
<tr>
<td>DTI (2002)</td>
<td>UK</td>
<td>People, Customer Satisfaction, Environmental Safety, Innovation</td>
</tr>
</tbody>
</table>

Note: Based on Empirical Researches.
<table>
<thead>
<tr>
<th>Study</th>
<th>Country</th>
<th>Key Performance Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>CII (2011)</td>
<td>USA</td>
<td>Cost, Schedule, Accident, Productivity, Product Quality, Rework, Changes, Customer Satisfaction</td>
</tr>
<tr>
<td>El-Mashaleh et al. (2006)</td>
<td>USA</td>
<td>Schedule Performance, Customer Satisfaction, Safety, Service Quality, Cost Performance, Profitability</td>
</tr>
</tbody>
</table>
Table A2: ANOVA – Two-Factor (without Replication)

<table>
<thead>
<tr>
<th>Summary</th>
<th>Count</th>
<th>Sum</th>
<th>Average</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.75</td>
<td>4</td>
<td>7.167</td>
<td>1.792</td>
<td>0.063</td>
</tr>
<tr>
<td>2.25</td>
<td>4</td>
<td>12.333</td>
<td>3.083</td>
<td>0.472</td>
</tr>
<tr>
<td>4.75</td>
<td>4</td>
<td>17.333</td>
<td>4.333</td>
<td>0.222</td>
</tr>
<tr>
<td>3.75</td>
<td>4</td>
<td>18.000</td>
<td>4.500</td>
<td>0.333</td>
</tr>
<tr>
<td>4.00</td>
<td>4</td>
<td>16.333</td>
<td>4.083</td>
<td>0.472</td>
</tr>
<tr>
<td>3.25</td>
<td>4</td>
<td>10.833</td>
<td>2.708</td>
<td>0.340</td>
</tr>
<tr>
<td>4.50</td>
<td>4</td>
<td>14.833</td>
<td>3.708</td>
<td>0.0439</td>
</tr>
<tr>
<td>1.25</td>
<td>4</td>
<td>5.833</td>
<td>1.458</td>
<td>0.174</td>
</tr>
<tr>
<td>2.50</td>
<td>4</td>
<td>12.500</td>
<td>3.125</td>
<td>0.469</td>
</tr>
<tr>
<td>3.50</td>
<td>4</td>
<td>13.667</td>
<td>3.417</td>
<td>0.25</td>
</tr>
<tr>
<td>3.25</td>
<td>4</td>
<td>15.167</td>
<td>3.792</td>
<td>0.396</td>
</tr>
<tr>
<td>4.50</td>
<td>4</td>
<td>16.333</td>
<td>4.083</td>
<td>0.0278</td>
</tr>
<tr>
<td>4.25</td>
<td>4</td>
<td>16.667</td>
<td>4.167</td>
<td>0.037</td>
</tr>
<tr>
<td>4.25</td>
<td>4</td>
<td>17.000</td>
<td>4.25</td>
<td>0.083</td>
</tr>
<tr>
<td>3.75</td>
<td>4</td>
<td>15.833</td>
<td>3.958</td>
<td>0.155</td>
</tr>
<tr>
<td>4.00</td>
<td>4</td>
<td>15.833</td>
<td>3.958</td>
<td>0.118</td>
</tr>
<tr>
<td>2.00</td>
<td>4</td>
<td>10.500</td>
<td>2.625</td>
<td>0.081</td>
</tr>
<tr>
<td>2.25</td>
<td>4</td>
<td>10.333</td>
<td>2.583</td>
<td>0.25</td>
</tr>
<tr>
<td>4.75</td>
<td>4</td>
<td>18.500</td>
<td>4.625</td>
<td>0.081</td>
</tr>
<tr>
<td>4.50</td>
<td>4</td>
<td>17.833</td>
<td>4.458</td>
<td>0.174</td>
</tr>
<tr>
<td>4.00</td>
<td>4</td>
<td>13.833</td>
<td>3.458</td>
<td>0.174</td>
</tr>
<tr>
<td>4.25</td>
<td>4</td>
<td>18.667</td>
<td>4.667</td>
<td>0.056</td>
</tr>
<tr>
<td>4.50</td>
<td>4</td>
<td>17.833</td>
<td>4.458</td>
<td>0.099</td>
</tr>
<tr>
<td>3.50</td>
<td>4</td>
<td>15.833</td>
<td>3.959</td>
<td>0.563</td>
</tr>
<tr>
<td>1.25</td>
<td>4</td>
<td>6.000</td>
<td>1.500</td>
<td>0.019</td>
</tr>
<tr>
<td>2.50</td>
<td>4</td>
<td>9.167</td>
<td>2.292</td>
<td>0.044</td>
</tr>
<tr>
<td>3.75</td>
<td>4</td>
<td>16.333</td>
<td>4.083</td>
<td>0.194</td>
</tr>
<tr>
<td>4.75</td>
<td>4</td>
<td>19.167</td>
<td>4.792</td>
<td>0.0625</td>
</tr>
<tr>
<td>4.50</td>
<td>4</td>
<td>18.167</td>
<td>4.542</td>
<td>0.174</td>
</tr>
<tr>
<td>4.00</td>
<td>4</td>
<td>16.500</td>
<td>4.125</td>
<td>0.063</td>
</tr>
<tr>
<td>3.00</td>
<td>4</td>
<td>14.500</td>
<td>3.625</td>
<td>0.229</td>
</tr>
<tr>
<td>4.50</td>
<td>4</td>
<td>14.667</td>
<td>3.667</td>
<td>0.056</td>
</tr>
<tr>
<td>4.25</td>
<td>4</td>
<td>17.333</td>
<td>4.333</td>
<td>0.222</td>
</tr>
<tr>
<td>4.50</td>
<td>4</td>
<td>18.500</td>
<td>4.625</td>
<td>0.081</td>
</tr>
<tr>
<td>2.50</td>
<td>4</td>
<td>9.667</td>
<td>2.417</td>
<td>0.176</td>
</tr>
<tr>
<td>4.50</td>
<td>4</td>
<td>17.500</td>
<td>4.375</td>
<td>0.081</td>
</tr>
<tr>
<td>4.25</td>
<td>4</td>
<td>18.833</td>
<td>4.708</td>
<td>0.118</td>
</tr>
<tr>
<td>3.75</td>
<td>4</td>
<td>16.333</td>
<td>4.083</td>
<td>0.194</td>
</tr>
<tr>
<td>3.50</td>
<td>4</td>
<td>15.833</td>
<td>3.958</td>
<td>0.155</td>
</tr>
<tr>
<td>2.25</td>
<td>4</td>
<td>11.667</td>
<td>2.917</td>
<td>0.194</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>17.500</td>
<td>4.375</td>
<td>0.229</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>16.833</td>
<td>4.208</td>
<td>0.063</td>
</tr>
<tr>
<td>4.25</td>
<td>4</td>
<td>18.333</td>
<td>4.583</td>
<td>0.176</td>
</tr>
</tbody>
</table>
### ANOVA

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P-value</th>
<th>F crit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rows</td>
<td>149.727</td>
<td>54</td>
<td>2.773</td>
<td>15.406</td>
<td>8.36104E-42</td>
<td>1.417</td>
</tr>
<tr>
<td>Columns</td>
<td>0.463</td>
<td>3</td>
<td>0.154</td>
<td>0.857</td>
<td>0.464488465</td>
<td>2.660</td>
</tr>
<tr>
<td>Error</td>
<td>29.155</td>
<td>162</td>
<td>0.179</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>179.346</td>
<td>219</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cronbach Alpha = 1 - (0.179969448 / 2.772736626) => 0.935093205

### Table A3: Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>TECH</th>
<th>SQ</th>
<th>INNO</th>
<th>CS</th>
<th>PQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>TECH</td>
<td>1</td>
<td>0.792</td>
<td>0.862</td>
<td>0.922</td>
<td>0.735</td>
</tr>
<tr>
<td>SQ</td>
<td>0.792</td>
<td>1</td>
<td>0.756</td>
<td>0.792</td>
<td>0.724</td>
</tr>
<tr>
<td>INNO</td>
<td>0.862</td>
<td>0.756</td>
<td>1</td>
<td>0.854</td>
<td>0.816</td>
</tr>
<tr>
<td>CS</td>
<td>0.922</td>
<td>0.792</td>
<td>0.854</td>
<td>1</td>
<td>0.783</td>
</tr>
<tr>
<td>PQ</td>
<td>0.735</td>
<td>0.724</td>
<td>0.816</td>
<td>0.783</td>
<td>1</td>
</tr>
</tbody>
</table>
Appendix – Regression Tables

Appendix A-1. Regression Between Technology and Service Quality

<table>
<thead>
<tr>
<th>SUMMARY OUTPUT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression Statistics</td>
<td></td>
</tr>
<tr>
<td>Multiple R</td>
<td>0.79206148</td>
</tr>
<tr>
<td>R Square</td>
<td>0.62736139</td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>0.62033048</td>
</tr>
<tr>
<td>Standard Error</td>
<td>0.60771284</td>
</tr>
<tr>
<td>Observations</td>
<td>55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ANOVA</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>df</td>
<td>SS</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Regression</td>
<td>1</td>
</tr>
<tr>
<td>Residual</td>
<td>53</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Standard Error</th>
<th>t Stat</th>
<th>P-value</th>
<th>Lower 95%</th>
<th>Upper 95%</th>
<th>Lower 95.0%</th>
<th>Upper 95.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.7504</td>
<td>0.3368</td>
<td>2.22</td>
<td>0.0000</td>
<td>1.0049</td>
<td>0.6529</td>
<td>1.4260</td>
</tr>
<tr>
<td>TECH</td>
<td>0.8289</td>
<td>0.0877</td>
<td>9.44</td>
<td>0.0000</td>
<td>1.0049</td>
<td>0.6529</td>
<td>1.4260</td>
</tr>
</tbody>
</table>

Appendix A-2. Regression Between Technology and Innovation

<table>
<thead>
<tr>
<th>SUMMARY OUTPUT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression Statistics</td>
<td></td>
</tr>
<tr>
<td>Multiple R</td>
<td>0.861820374</td>
</tr>
<tr>
<td>R Square</td>
<td>0.742734357</td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>0.737880288</td>
</tr>
<tr>
<td>Standard Error</td>
<td>0.435332759</td>
</tr>
<tr>
<td>Observations</td>
<td>55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ANOVA</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>df</td>
<td>SS</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Regression</td>
<td>1</td>
</tr>
<tr>
<td>Residual</td>
<td>53</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Standard Error</th>
<th>t Stat</th>
<th>P-value</th>
<th>Lower 95%</th>
<th>Upper 95%</th>
<th>Lower 95.0%</th>
<th>Upper 95.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.911</td>
<td>0.241</td>
<td>3.777</td>
<td>0.0000</td>
<td>1.395</td>
<td>0.427</td>
<td>1.395</td>
</tr>
<tr>
<td>TECH</td>
<td>0.777</td>
<td>0.063</td>
<td>12.36</td>
<td>2.98373E-17</td>
<td>0.903</td>
<td>0.651</td>
<td>0.903</td>
</tr>
</tbody>
</table>
### Appendix A-3. Regression Between Technology and Customer Satisfaction

**SUMMARY OUTPUT**

**Regression Statistics**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>0.922405755</td>
</tr>
<tr>
<td>R Square</td>
<td>0.850832376</td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>0.848017893</td>
</tr>
<tr>
<td>Standard Error</td>
<td>0.359545437</td>
</tr>
<tr>
<td>Observations</td>
<td>55</td>
</tr>
</tbody>
</table>

**ANOVA**

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Significance F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>1</td>
<td>39.0798</td>
<td>39.0798</td>
<td>302.3049</td>
<td>0.0000</td>
</tr>
<tr>
<td>Residual</td>
<td>53</td>
<td>6.8514</td>
<td>0.1292</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>45.9313</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Coefficients</th>
<th>Standard Error</th>
<th>t Stat</th>
<th>P-value</th>
<th>Lower 95%</th>
<th>Upper 95%</th>
<th>Lower 95.0%</th>
<th>Upper 95.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.445573</td>
<td>0.1992644</td>
<td>2.236093</td>
<td>0.02957</td>
<td>0.045900</td>
<td>0.845247</td>
<td>0.045900</td>
<td>0.845247</td>
</tr>
<tr>
<td>TECH</td>
<td>0.902694</td>
<td>0.0519180</td>
<td>17.38691</td>
<td>0.0000</td>
<td>0.798560</td>
<td>1.006829</td>
<td>0.798560</td>
<td>1.006829</td>
</tr>
</tbody>
</table>

### Appendix A-4. Regression Between Technology and Product Quality

**SUMMARY OUTPUT**

**Regression Statistics**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>0.735</td>
</tr>
<tr>
<td>R Square</td>
<td>0.540</td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>0.532</td>
</tr>
<tr>
<td>Standard Error</td>
<td>0.599</td>
</tr>
<tr>
<td>Observations</td>
<td>55</td>
</tr>
</tbody>
</table>

**ANOVA**

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Significance F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>1</td>
<td>22.367</td>
<td>22.367</td>
<td>62.344</td>
<td>0.0000</td>
</tr>
<tr>
<td>Residual</td>
<td>53</td>
<td>19.014</td>
<td>0.358</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>41.381</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Coefficients</th>
<th>Standard Error</th>
<th>t Stat</th>
<th>P-value</th>
<th>Lower 95%</th>
<th>Upper 95%</th>
<th>Lower 95.0%</th>
<th>Upper 95.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>1.375</td>
<td>0.332</td>
<td>4.14</td>
<td>0.000</td>
<td>0.710</td>
<td>2.041</td>
<td>0.710</td>
<td>2.041</td>
</tr>
<tr>
<td>TECH</td>
<td>0.683</td>
<td>0.086</td>
<td>7.89</td>
<td>0.000</td>
<td>0.509</td>
<td>0.856</td>
<td>0.509</td>
<td>0.856</td>
</tr>
</tbody>
</table>
Survey Questionnaire

Direction on how to answer the questionnaire:
Please give [√] mark in the boxes. For example, if you agree to a statement:
[ ] Strongly Disagree
[ ] Disagree
[ ] Neutral
[√] Agree
[ ] Strongly Agree

Company Demographic (Please use to [√] answer in the box)
1) Your construction company operates-
[ ] Nationally
[ ] Internationally
[ ] Both

2) How many employees does it employ-
[ ] 1 to 10
[ ] 10 to 30
[ ] 30 to 50
[ ] 50 to 100
[ ] 100+

Role of Technology
3) My company appreciates the use of technology at all stages-
[ ] Strongly Disagree
[ ] Disagree
[ ] Neutral
[ ] Agree
[ ] Strongly Agree

4) Performance of the company has got influenced by the use of technology-
[ ] Strongly Disagree
[ ] Disagree
[ ] Neutral
[ ] Agree
[ ] Strongly Agree

5) After installation of technologically advanced equipment and system, performance of my company has increased-
[ ] Strongly Disagree
[ ] Disagree
[ ] Neutral
[ ] Agree
[ ] Strongly Agree

6) In the construction industry, technology helps developing expertise on industrial processes, products, and services-
[ ] Strongly Disagree
[ ] Disagree
[ ] Neutral
[ ] Agree
[ ] Strongly Agree
Service Quality
7) Use of technology in delivering construction services helps increasing customers’ expectations towards service quality-
   [ ] Strongly Disagree
   [ ] Disagree
   [ ] Neutral
   [ ] Agree
   [ ] Strongly Agree

8) Construction service quality of my company has improved after installing technological services and equipment-
   [ ] Strongly Disagree
   [ ] Disagree
   [ ] Neutral
   [ ] Agree
   [ ] Strongly Agree

Innovation
9) Innovation is the key to sustainability in the construction industry-
   [ ] Strongly Disagree
   [ ] Disagree
   [ ] Neutral
   [ ] Agree
   [ ] Strongly Agree

10) Innovation in construction services and products is dependent on technology-
    [ ] Strongly Disagree
    [ ] Disagree
    [ ] Neutral
    [ ] Agree
    [ ] Strongly Agree

11) The pace of innovation within my company has increased after adoption of technologically advanced equipment and solutions-
    [ ] Strongly Disagree
    [ ] Disagree
    [ ] Neutral
    [ ] Agree
    [ ] Strongly Agree

Customer Satisfaction
12) Customer turnover rate of my company is high-
    [ ] Strongly Disagree
    [ ] Disagree
    [ ] Neutral
    [ ] Agree
    [ ] Strongly Agree

13) The number of loyal customers of my company has increased after we invested in technology-
    [ ] Strongly Disagree
    [ ] Disagree
    [ ] Neutral
    [ ] Agree
    [ ] Strongly Agree
14) Number of customers we serve is increasing day by day-
   [ ] Strongly Disagree
   [ ] Disagree
   [ ] Neutral
   [ ] Agree
   [ ] Strongly Agree

**Product Quality**

15) Product portfolio of my company has increased after investing in technology-
   [ ] Strongly Disagree
   [ ] Disagree
   [ ] Neutral
   [ ] Agree
   [ ] Strongly Agree

16) Automation and the use of construction robotics helped my company to produce high quality
    construction products-
   [ ] Strongly Disagree
   [ ] Disagree
   [ ] Neutral
   [ ] Agree
   [ ] Strongly Agree

Please provide any feedback regarding the survey:

_________________________________________________________________________________

Your contribution is highly appreciated. Thank you for your participation in this research survey.

---

**About the Author**

Shuja Shajahan, graduated with a BA (Hons) in Business Management in 2017 from London School of Business and Management (LSBM). He is currently pursuing a place on an MBA programme with further aspirations to enrolling on a PhD programme in the near future. He has recently established a Security Training Academy and Recruitment Consultancy called BVC Training & Recruitment Services on Barking Road in the London Borough of Newham.
Do adult education craft courses reflect the holistic needs of the learners intending to start their own business? A Case Study of (ALL) Adult Learning Lewisham

Omosola Fiberesima

Abstract
This study seeks to investigate the extent to which adult education craft courses reflect the holistic needs of the learners intending to start their own business. It assesses the current provision in the London Borough of Lewisham as a case illustration in order to ascertain whether the training provider’s delivery matches the expectations of the adult learners it caters for. From the multiple data collection methods – i.e. questionnaires, interviews and observation of learners, tutors, curriculum leaders and a business owner, the findings showed some signs of a mismatch. Adult learners were found to be not quite ready for what the whole package involved, and in some cases, the wrong criteria were used to access business success by departments. Nevertheless, much good practice emerged, and the wealth of untapped resource unveiled. The government’s perception of adult learning with focus on policy, raises some questions as to the appropriateness of community learning centres for entrepreneurial venture skills development or whether there are better approaches or avenues that a more fit-for-purpose.

Keywords: Adult Learning; Craft courses; Entrepreneurship education; London Borough of Lewisham

Introduction

According to the University and College Union (UCU, 2009) adult learning has been difficult to define as its scope is very wide and means different things to varied agencies, government, training providers and society in general. Community education, adult education, vocational education are a few names used interchangeably however the definition of the European Commission 2001 is used as the anchor for this research which has categorised adult learning at three broad levels – i.e. formal learning; non-formal learning; and informal learning. The main focus of this study is on non-formal learning not leading to formal certification. Irrespective of this, however, learning at any of the levels, is intentional from the learner's perspective.

As part of the investigation some initial statistical background in necessary to set the context. For example, in 2009/2010, some 4.6 million adult learners participated in some form of government-funded further education (Barnes, 2011), and according to the Office of National Statistics (ONS) about 570,600 learners participated in community learning courses in 2014/2015 (ONS, 2017). Both of these figures the significance of the provision in the context of the United Kingdom (UK).

In recent years, learners are adding the prospects of starting a business out of the acquired craft skills beyond the popular “cottage” style of trading (CIA, 2017) excited by different government initiatives to support the growth of small businesses (DBIS, 2013). Furthermore, the key areas of current research, floristry, soft furnishings, fashion design, balloon display and cake decorating (see Madichie, 2013 for an illustration on celebrity chefs), seem to be making an impact on the economy within the UK. Online Home Furnishing shopping’s annual revenue is £2billion with an annual growth of 11.0%, employment figures of 5725 and 230 businesses; the Floristry industry with a revenue of £1billion, 14,156 businesses; clothing industry with £40billion and 11,133 business (IBIS, 2017). Nevertheless, these figures do not guarantee a success story for new entries neither does it reflect the number of business that failed during the same period.

Furthermore, Lobel (2016) highlighted that four in 10 businesses survive 4 years attributed to varied factors explored later within the research. The initial literature review conducted for the study briefly researched the entrepreneurial mind-set, the craft industry and constructivism, hence a progression with this research whiles investigating skills provided. This also entails expanding on learning theories including constructivism having a great impact on how curriculum is designed, and content delivered. The Individual Learning Plan (ILP), a document used to identify the needs of learners at the beginning
of craft courses under scrutiny, have indicated intentions to start a business as top priority. However, the learners who have gone on to achieve this have been significantly low. This has raised the need to investigate the root causes of the problem in a more holistic manner by exploring the skills needed to start a business, the needs currently provided within these courses at adult education level and mapping these against delivery and learners expectations. Most community education centres in the UK run varied craft courses as part of widening participation within the communities fostering economic, social and civic regeneration (UCU, 2009).

Overall this study aims to investigate skills currently provided by the crafts departments within adult education for learners intending to start a business and evaluate if the training providers delivery matches learners expected outcome of starting a craft business. The central research question addressed is whether adult education crafted courses reflect the holistic needs of the learners intending to start their own business in the community using a case study of the London Borough of Lewisham. Following this introduction, a review of the literature is undertaken, and this is followed by a specification of the research methodology, findings and conclusions in subsequent sections.

Literature Review

Literature on why businesses fail focussing on the craft industry already defined in the initial review. Theoretical models around adult learning including constructivism are investigated to have a better understanding of learning, the curriculum and its delivery, matching it to the expectations of adult learners. The positioning of adult learning within the UK economy, requires targeted strategies to support the initiatives managed and run by adult learning providers. According to IER (2016), “The core principle of adult education is the conviction that learning should not be restricted to a once-in-a-lifetime opportunity”. As Robert Halfon, UK Minister of Skills once pointed out, “lifelong learning is firmly back on the government’s agenda” (Spellman, 2017).

However, the focus seems to be on unemployment and skills relating to this and the Work Institute report that adult learning continues to decrease with drops from 35% in 2013 to 41% in 2014 on numeracy and literacy skills. Some of the key recommendations in the IER (2016) report were strategies that did not include business initiatives (IER, 2016). The challenges faced by adult learning and skills have shown that there are about 9.2 million people with skills levels below level 2 (Kent, 2015) and research indicating that there is a strong relationship between skills and productivity claiming a deficit of £375 billion if skill is overlooked. This also applied at Adult Education Lewisham were the strategy do not promote business, but skills attached to numeracy and literacy.

Therefore, at government level the interest within adult education does not lie so much in business but in raising the skill level to enabling adults to gain employment or return into employment. (Spellman, 2017) In a world where “Globalisation seems unstoppable, and its impact on the economy, employment and the labour market appears not to be able to be controlled or altered”, something has to be done.

According to Schunk (2012 p. 2), “Learning involves acquiring and modifying knowledge, skills, strategies, beliefs, attitudes, and behaviours”. Though there has been an agreement that learning is important, a universal definition from theorist, practitioners and researchers have not been concluded (Schunk, 2012). Nevertheless, the following definition seems the most accepted “learning is an enduring change in behaviour or in the capacity to behave in a given fashion, which results from practice or other forms of experience” (Schunk, 2012, p. 3). Huang (2002) discusses Knowles theory of adult learning called andragogy involving six principles including “the need to know, self-directed learning, prior experience of the learner, readiness to learn for life experiences, problem solving orientation in learning and high motivation to learn” (Huang, 2002, p. 29). The constructivism theory channelled in the classroom and online feed into these principles creating good start for adults within adult education where blended learning has found its ways into the educational system.

Constructivism has been considered a learning theory (Schunk, 2012) hence according to Tabias (2010), a number of scholars including Dewey, Piaget, Bruner, Von Glasersfeld and Vygotsky theory stimulated constructivism suggesting that a person’s interactions with the environment assist learning and greatly influencing the learner’s outcome. This is a revolutionary shift from the traditional model of teacher dominance (Schunk, 2012) However, Pepin (2010) highlights that “constructivist perspective
denies the possibility that non-knowledge can give way to knowledge. All new knowledge must necessarily be constructed upon prior knowledge" (Pepin, 2010).

Furthermore, constructivism described as “a psychological and philosophical perspective contending that individuals form or construct much of what they learn and understand” (Schunk, 2012, p. 229), a process of building knowledge instead of acquiring it. Popovic (2014) highlights that constructivism creates the world of an active learner with adequate experience, enabling knowledge creation, a model working for the non-formal education (UCU, 2009). This is buttressed through acknowledging the different business-related skills already acquired by the craft learners before embarking on craft study and the integration of this with new knowledge.

According to Brooks & Brooks (1999), constructivism has influenced thinking around the curriculum and instructions, which allows students to learn a topic from varied perspectives. However, the challenge is teachers omitting important information or facts embedded with the curriculum, though within non-formal curriculum it works out to the advantage of the learner where each person has a different interpretation and construction of knowledge process as identified on the Individual Learning Plan. Therefore, constructivists make extensive use of supportive learning tasks, as well as peer tutoring, believing that students will learn more readily from having dialog with each other about tangible problems (Schunk, 2012). The online environment also helps extend the application of constructivism enabling continuity of independence and experiential learning enjoyed by the adult learner.

**Business skills**

Skills are described as “a combination of ability knowledge and experience that enables a person to do something well” (Boyatzis & Kolb, 1995, p. 4). A survey conducted by Patricia Van Den Akker, Director of Design Trust for Small is Beautiful Conference (Akker, 2016) revealed that four hundred creative businesses gave detailed responses on “Why do many creative businesses fail?” at top of the list was lack of direction and vision, highlighting many creatives business started mainly for the love of the craft hence no real road map in place.

Although passion is essential, it is not enough to sustain the business (Wagner, 2013). The research indicated a distinct difference in mind-set between the creative professionals and the business savvy creatives (Akker, 2016). However, Deborah Meaden (Meaden, 2017) one of the dragons on Dragon’s Den who invested £50,000 in Alison Whitmarch in the Christmas edition of 2012 says passion was what won the day as Alison described her unique cakes (Meaden, 2017). This buttresses what Ngek Brownhilder Neneh highlighted in an exploratory study on entrepreneurial mindset in the small and medium enterprise sector, adding relevant skills as complementary to attributes such as risk taking and creativity (Neneh, 2012). However, this is not an everyday occurrence, as it shows the power of the skills developed by the entrepreneur and highlights help is available.

Darlington (2010) argues that strategic skills are necessary in order to have a workable business plan navigating the short and long-term goals indicating this is a catalyst for understanding the market and its environment. With customers at the heart of any business, Darlington (2010) keys in on the importance of human resource management skills, marketing skills linking them to sales, advertising, promotional and public relations skills, referring to these skills as ingredients for success and growth. Akker (2006) states many businesses in the UK start with people having no basic business skills, which are essential criteria in both Netherlands and Belgium. Accounting, bookkeeping and marketing are taught as part of the creative studies and businesses cannot start without certification. Hank Darlington validates this in an article “Why some businesses succeed, and others don’t” highlighting inadequate accounting skills lead to incomplete financial records, not knowing how to interpret financial statement and inefficient control of costs or expenses (Darlington, 2010, p. 50). Nevertheless, debate on the relevance of studying business by students who are no longer motivated by curiosity or apply the entrepreneurial mind but instead want to land a high-paying job or study by default (Economist, 2011).

Interestingly in a report by Anderson (2014), issues raised regarding business failures were tilting towards blaming the tax system, burden of regulation, not enough government support, business rates and the general cost of running a business shifting the responsibility on the government. High competition was another contributing factor highlighting the inability of the businesses to discern its environment.

In order to find out the relevant skills necessary or knowledge to be acquired to start-up and sustain a business a review into the foundational components that constitutes a successful or failing business...
regardless of size or structure are explored, especially with UK’s statistics of 383,000 business births and 252,000 business deaths in 2015 (Rhodes, 2016). London accounts for 101,000 births and 57,000 deaths the demographic area of the focal group (Rhodes, 2016). Sole trading defined by Chamber (2010) as the simplest way to run a business and considered the starting point for learners attending adult learning transitioning into a business.

The importance of an entrepreneurial mind-set cannot be overemphasised (Neneh, 2012), as its ability to progress any businesses lacking additional skills considerations are bound to struggle. Nevertheless, Department of Innovation and Skills maintains that the success of any business depends on how well business skills are utilised (BIS, 2015). Wagner (2013) reiterates that the foundation of any business shapes its failure or success stating eight out of ten fail due to not having effectively utilised the right skillsets.

**Methodology**

According to Saunders et al (2016), the research onion presents the methodological framework that enables a rounded and grounded research. The layers include different philosophies, approaches, theories and methodologies each with distinct functions though effectively linked together. The research philosophy is considered as a system of beliefs and assumptions regarding development and knowledge containing important assumptions about the way people view the world. The four main philosophies identified in the literature are: positivism, pragmatism, realism and interpretivism (Saunders, et al., 2016). Arguably, one’s research questions have a lot to do with the philosophy adopted. Consequently, and based on the research question and objectives for this study, the interpretivist philosophy is adopted (see Table 1 for the orientations of the main two traditions).

The approach to this research is inductive aiming to explore a topic and develop theoretical explanation from a compilation of relevant information, data collection and analysis (Saunders, et al., 2016). This will consist of the primary Information gathered via from the curriculum leaders, tutors and learners in the form of interviews, questionnaires and observations.

<table>
<thead>
<tr>
<th>Deductive approach</th>
<th>Inductive approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Positivist</td>
<td>• Interpretative</td>
</tr>
<tr>
<td>• Quantitative</td>
<td>• Qualitative</td>
</tr>
<tr>
<td>• Follows a predetermined design</td>
<td>• Follows a flexible research design that may be continually adapted</td>
</tr>
<tr>
<td>• Confirms theory</td>
<td>• Develops theory</td>
</tr>
<tr>
<td>• The necessity to select samples of sufficient size in order to generalise conclusions.</td>
<td>• Less concern with the need to generalise</td>
</tr>
</tbody>
</table>

Secondary data sourced within adult education, government initiatives, Ofsted and lifelong learning initiatives for more understanding on the chosen research question (Saunders, et al., 2016). Contrary to the deductive approach (see Table 1) that has more to do with scientific principles starting off with a theory, then hypothesis, data collection, findings, hypothesis confirmed or rejected, and the revision of strategy referred to as “waterfall” the inductive approach is described as the “hill climbing” process starting with observation, pattern, tentative hypothesis and theory (Yeong, 2011).

In the article “Toward a Definition of Mixed Methods Research” Johnson et al. (2007) explored different definitions of the mixed methods approach:

“Mixed methods research refers to the use of data collection methods that collect both quantitative and qualitative data giving a richer, more meaningful, and ultimately more useful in answering the research questions.”

The qualitative approach within the mixed method creates the opportunity to explore and discover ideas through a less rigid, semi-structured system allowing words, sentences through interviews and questions extract information that may inform new knowledge or develop new theories (Young, 2011).
In this case, information from the learners’ as to why they intended to start their business or whether tutors believed, they delivered enough content within their specialist curriculum for learners to start and run a successful business. The qualitative data works well with the inductive approach, however the close involvement of the researcher highlights that the results can be subjective or bias. Furthermore, collating data and analysing can be time consuming with insufficient data to test hypothesis or build theory (Young, 2011).

The quantitative approach to this study compliments the data collected through specific questions, to define, measure or establish distinct variables within the content of research such as finding out how many of the learners are ready or competent to start their business based on the skills acquired during the time of studying only their specialist craft. The quantitative part of this study is structured with less involvement of the researcher hence results are objective aligning itself with the deductive approach (Barcik, 2016). Alternative interpretation of data of previous studies can draw out wider implications for current research, while the overall findings structured in a specific format enables proper analysis (Choy, 2014). Nevertheless, the lack of large sampling size and lack of resources sometimes limits the conducting of a thorough quantitative evaluation (Choy, 2014).

In terms of research strategy, the case study method was adopted because it provided the opportunity to engage and investigate with the different categories of people around the research question. The case study is based around Adult Learning Lewisham (ALL) with a mission statement that aims to “be an outstanding provider of adults, skills and community learning - inspiring and motivating our learners to fulfil their potential and flourish” (ALL, 2016, p. 2). Adult Learning Lewisham provide for at least 9,000 enrolments in partnership with council services and other providers (ALL, 2016, p. 2). Though the single case study (Barcik, 2016), was applied certain participants had worked or studied with other adult learning providers outside of the Lewisham borough therefore extending the primary research beyond ALL – a single case.

Conducting a case study for the purpose of this study allowed for the collection of some interesting data even though the methodological choice and reasoning is usually harder to justify (Barcik, 2016). However, case studies tend to work with any of the choices of research nature, explanatory, exploratory or descriptive though it is criticised for lack of systematic handling of data, can take too long, affect time affecting time limits. Yin (2009) defines a case study research method as:

“An empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used…”

Nevertheless, this approach has allowed focus within a real-life context, applying a single case study (Barcik, 2016) within adult education, however still enabling generalisation across other adult education community providers. This has been made possible because preliminary research highlighted that most participating in the primary research have one form of experience of other providers within the community adult education setting across boroughs hence findings will go beyond the immediate research scope (Barcik, 2016).

Interviews

Interviews within this research, allow asking purposeful, pre-planned questions, listening attentively in order to attain further reliable and relevant data to aid the research (Saunder, et al., 2016). This involved conversations with the curriculum leaders who operate at tactical level responsible for the running of the department of varied craft disciplines such as the floristry, balloon design and gardening department, an area run by one person. Questions such as, what does Adult Learning Lewisham (ALL) consider achievements on a business focused craft course? This enables the interviewee to listen out for key points within the conversation. The two interviews conducted with the curriculum leaders interviewed enabled more content however, certain questions were harder to compare due to the uniqueness and the flexibility sometime fed into the interviewing process (Barcik, 2016).

The semi-structured interviews applied purposed to probe answers with the opportunity to attain more explanation from interviewee also giving the interviewer more scope to build on and created an in-depth picture of research as supposed to structured interviews, which does not allow for much flexibility (Saunder, et al., 2016). The interviewer engaged the cake decorating and floristry tutor with relevant
questions such as, *Are you able to teach business skills in your floristry focused workshops? What kind of business skills do your learners request for in class?* However, the number of interviewees had to be limited due to the time-consuming process of data collection and data analysis (Saunders, et al., 2016). Recording interviews was permitted within this research based on the open nature of the topic however recording can also restrict information if interviewee feels uncomfortable due to organisational dynamics or sensitivity of research.

**Questionnaires**

Questionnaires were the main form of method used to collect primary information from the learners described by deVaus (2002) as the method in which individuals respond to the same questions in a fixed arrangement (Barcik, 2016). The main attribute variable used in this research is gender as the specific research targets and already established niche of older adults within community education with ages between 30 and 80 years old. However, the characteristics of the respective craft has been explored to identify a common ground for the rest of the research process within the five different craft specialisms covered in the research which are cake decorating, floristry, balloon display, soft-furnishings and fashion design.

Opinion variable questionnaires were used to record how respondents feel about something are applied and the likert scale aids this process (Saunders, et al., 2016). The Likert scale described as a tool of measuring attitudes, characters and personality traits translated from qualitative information into quantitative data. A series of questions with five responses applied in this research as (1) strongly agreed; (2) agreed; (3) Neutral (4) disagree (5) strongly disagree, which are used to determine the level of response to the question asked (Boone & Boone, 2012). The likert scale was used to determine the attitude towards the delivery of both the specialism and business skills.

The first five questions (i.e. Q1-5) were about the craft, exploring the learners understanding and capability of intended craft. It was important to find out if the learners were confident with both specialist skill and the delivery of the specialist course. It was also important to establish why they were on the course. The next set of questions (Q6-13) were about the learner’s general business knowledge enabling them to reflect on their personal experience. This was to find out if these skills were enough to sustain their business journey. These were followed by another batch (Q14-18) used in exploring the business skills taught or embedded while on any of the craft specialist courses. This was to understand what business skills adult education provided learners intending to start a business. A final question (Q19) focused specifically on business skills progression routes within adult education. This was to find out about the availability of business options provided and if it had any impact on their business journey.

The final method applied is observation drawing on what the researcher has witnessed over a significant period already part of a community that enable a different level of comparison while reflecting and exploring what people do within the context of the research. This has also helped bridge the information gap sometimes derived from participants not wanting an interview or not able to fill the questionnaire (Saunders, et al., 2016).

**Findings**

Five different areas of craft specialism from two different craft departments are used to analyse the research question finding out if the adult education craft courses reflected the holistic needs of the learners intending to start their own business. The Crafts department of Adult Learning Lewisham used as the case study where approximately 300 creative craft workshops are run with an average of nine learners per workshop.

Twenty-eight learners responded to the questionnaire, from five different craft specialisms each questionnaire had nineteen questions, a combination of open-ended questions and Likert. Nineteen questions were drawn-up and had three main area of enquiry. Some of the questionnaires filled out during workshop sessions and others completed over the phone depending on their availability as some had completed the course enrolled on. This in some cases enabled further discussion with respondents. All participants were female.
Three specialist tutors were interviewed: one floristry tutor and two cake decorating tutors, alongside two curriculum leaders and finally a formal balloon design/floristry learner running her own business, applying the semi-structured format for all interviews. Figure 1 shows the breakdown of study respondents in their respective areas of specialism, bearing in mind some learners engaged in more than one area.

**Figure 1. Areas of specialisation**

![Figure 1. Areas of specialisation](image)

**Why have you enrolled on your craft workshop with adult education?**

Everybody responded to this question, some choosing more options than others. The response indicated that all learners had a common goal and for the purpose of this study intended to start a business hence enrolling on their respective courses. Question 8 also highlighted the fact that they knew what best described their intended business. However, when asked if they had a business plan or knew how much capital was required to start the business, the response made the learners start pondering over their initial responses to a question, “why have you enrolled on your craft course,” is highlighted in Figure 2 (reasons for enrolment) and Figure 2 (intentions).

**Figure 2. Reasons for Enrolment**

![Figure 2. Reasons for Enrolment](image)

When the question “which best describes your intended business?” was posed to respondents, it was clear that they were interested in both selling a product and offering a service, which suggests that these activities were not mutually exclusive of each other (see Figure 3).
The responses to question 12 (do you have a business plan) and 13 (do you know how much start-up capital is required for your business) of the questionnaire are highlighted in Figure 5.

Five statements aimed to find out if the learners had a good understand of their areas of specialism and could produce craft items to a saleable standard. It was also important to know if the delivery by providers had aided this process. The Figure 5 and Figure 6 indicate that the learners were happy with their craft and the delivery hence both of these criteria were achieved. With particular response to the question “how many of the following have you achieved or acquired?” both “familiarity with right materials, tools and equipment,” as well as “confidently produce a craft item to standard for sale” ranked equally highly (see Figure 5).
parameters of the specialist course. It was also important to know if the learners were aware of the kind of business they intended to start hence question 8

**What has instigated your intention to start your own business?**
The common responses to the question above were “To enjoy financial freedom and be independent”; “to make money”; “to be my own boss and do something I enjoy”; while a few “wanted to satisfy their customers”; “were told by friends and family they will buy their product”

Figure 6. Achievements

![Achievements Graph]

**What business skills did you expect to learn while on your specialist course?**
The main response to Q7 was “to learn how to cost products”, followed by one learner who wanted to know how to “write a business plan” besides that the response was related to learning craft skills not the business skills while one respondent was not sure. This highlighted that the learners had limited knowledge or experience of the business skills required which is understandable, because they have enrolled on the course to attain this knowledge. However, question 11 highlights the skills already attend via experience, an entrepreneurial mind-set and life’s journey equally relevant business skills (see Figure 7).

Figure 7. Available Skills

![Skills Bar Chart]
Are you confident enough to start your business at the time of filling this questionnaire?
Inserting this question before asking detailed information about their business skills was intentional and revisited after the end of question 18 or 19 depending on the respondent’s last question. Those that ticked the option “No” responded to question 10 requesting why.

Which of the following are hindering you from starting your business?
A common factor to this question was “lack of confidence” which could insinuate that something they needed on the business journey was missing. The data from question 14 -18 gives more insight as there is already a link with question 7 asking what business skills did respondents expect to learn while on the specialist course analysed earlier (see Figure 10).

![Figure 8. Correlation between confidence/ constraints of learners](image_url)

| Are you confident enough to start your business at the time of filling this questionnaire. | Which of the following are hindering you from starting your business? |
|---|---|---|---|---|
| Yes | No | Do not know where to get the right information | Lack of confidence | Not sure how or where to start | Do not have the adequate information to start |
| Yes | 1 | -0.1942 | 0.194 | 1 | |
| No | -1 | 1 | | | |
| Lack of confidence | -0.701 | 0.701 | 0.194 | 1 | |
| Not sure how or where to start | 0.542441459 | 0.542441459 | 0.256076256 | 0.542441459 | 1 |
| Do not have the adequate information to start | -0.46249729 | 0.46249729 | 0.036514837 | 0.46249729 | 0.411103208 | 1 |

![Figure 9. Craft Course Offerings](image_url)
How many of these have you achieved or acquired?
The result highlighted that a number of business skills required to start a business were not covered on the course. Figure 12 also verifies that the key business skills have not been acquired. Question 15 reflects the duration the learner spent on the course and Question 16 the time spent on the business skills in the class. While most learners did blocks of 6-15 weeks (see Figure 11) over time, Figure 12 seems to indicate that the time spent on the business skills was not enough. The responses in this figure were to the question – “how much time is spent within your craft workshop to learn the business skills highlighted in Question 11?”

Unfortunately, due to time constraints, restricted writing scope the full details of the interviews were not fully explored. The interviews tutors and curriculum leaders were very informative and useful as it gave scope and understanding from the provider’s viewpoint. Different solutions and insights were derived which can be immediately implemented within adult education. The floristry tutor had a post-graduate certificate in Floristry and enterprise while one of the cake-decorating tutors had her first degree in Business studies and both agreed that the need to expand the business focus for those wanting to start their business was crucial. However, it became apparent that there were different pockets of short business courses that could kick-start the process if structured properly. The most informative information came for the food Design, Media, Music and Food curriculum leader who already had an apprenticeship form program in place that gave the learners hands-on experience of the business world while studying and had the option to find out if the business was for them. A subscription membership is set up for printing students, which has a Facebook and Etsy presence.

**Figure 10. Course Achievements**

<table>
<thead>
<tr>
<th>Skill</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Strategy</td>
<td>1</td>
</tr>
<tr>
<td>Identifying and understanding types</td>
<td>4</td>
</tr>
<tr>
<td>Know your competitors and</td>
<td>4</td>
</tr>
<tr>
<td>Understand effective customer</td>
<td>7</td>
</tr>
<tr>
<td>Understanding budgeting skills and</td>
<td>3</td>
</tr>
<tr>
<td>How to write a business plan</td>
<td>0</td>
</tr>
<tr>
<td>How to cost your product or service</td>
<td>2</td>
</tr>
<tr>
<td>Know the vision, mission and goals</td>
<td>16</td>
</tr>
</tbody>
</table>

**Figure 11. Craft Duration**

- 6-10 weeks: 17 learners
- 15 Weeks: 3 learners
- 1 Year: 2 learners
- 2 Years: 4 learners
The whole research highlighted that learners had a good understanding of the area of specialism but not of the business skills. Some said they were able to start their business at the initial stage of the questionnaire but later realised they were not fully prepared for the business world. A majority were dissatisfied with the level of business skills provided by the training provider. The duration of the courses also highlighted that it was too short to be fully equipped with both area of speciality. The lack of confidence was attributed to the lack of understanding. The literature review within this research confirmed findings that came out of the research echoing the needs for crafters to obtain business skills at all cost in order to run a viable and sustainable business (Akker, 2016).

Overall this research has raised a new set of questions requiring the need for more data to establish whether adult education is the right place for learning how to start a business or remain just the catalyst for such a journey.

Conclusions

The study has several limitations – one of which was the timeframe was a limitation and challenge. The amount of information collected became overwhelming and not all could be processed or used due to word count restrictions. The scope of study was restricted mainly to one provider though the information was relevant across the board. Other method such as focus groups was not possible due time constraints. The research question provided an opportunity to delve into a topic needing clarity and close to the heart of the researcher seeing learners not attaining the possible potential. However, it has equally highlighted that more thought should be considered at strategic level in order to see real change, adult learning within the community sector is more than a recreational ground but a place that can add value to the economy of its environment.

The crafts departments need to utilise the different short business courses run with the adult education sector more effectively by making them compulsory. This will indicate the seriousness of the becoming an entrepreneur while learner are properly educated from the beginning the seriousness and implications of starting a business. The crafts departments need to rethink and evaluate what success of a business craft course means, from being proficient in the crafts to being business savvy as well. Good practice to be shared and adopted ensuring that adult education contributes effectively to the economic framework. Adult education strategies should embed focussing on entrepreneurship and not employment skills alone (IER, 2016) and experiences of adult learners are fully utilised (Schunk, 2012). The same way job clubs are aiding employability. The government should integrate a visible entrepreneurial and business agenda into adult learning initiatives in order to engage in creating wealth for the economy. Learners on a business venture via adult learning should be educated and guided effectively to maximise the outcome. Introduce the coaching and mentoring schemes with the opportunity to work with practicing entrepreneurs in the different fields. Applicable craft accreditation reinstated including an accreditation in business (City& Guilds, 2017).

References

Available at: http://www.telegraph.co.uk/finance/businessclub/11174584/Half-of-UK-start-ups-
fail-within-five-years.html
[Accessed 10 February 2017].
Anon., n.d. [Online].
Available at: https://www.youtube.com/watch?v=gzwGEBJGz8s&list=PLZDZwPWTxRmFHK1ak8xK1dRow-
v1pm3tS&index=30
[Accessed 10 March 2017].
Barcik, R., 2016. Case Study. [Online]
https://www.youtube.com/watch?v=ectS1ote8uA&index=19&list=PLZDZwPWTxRmFHK1ak8xK1dRowv1pm3tS [Accessed 10 March 2017].
Barcik, R., 2016. Qualitative and Qualitative Research Design. [Online]
Available at: https://www.youtube.com/watch?v=NOD2CZPaVLQ&index=15&list=PLZDZwPWTxRmFHK1-
ak8xK1dRowvl1pm3tS [Accessed 10 March 2017].
Available at: https://www.youtube.com/playlist?list=PLZDZwPWTxRmFHK1ak8xK1dRowvl1pm3tS
[Accessed 10 March 2017].
BBC, 2017. What is a business. [Online]
Available at: http://www.bbc.co.uk/education/guides/zrvb9j6/revision
[Accessed 7 April 2017].
[Online]
Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/457533/BIS-15-
456-entrepreneurship-skills-literature-and-policy-review.pdf
[Accessed 20 November 2016].
Journal of Management Psychology, 10(5), pp. 3-17.
[Online]
Available at: http://www.ascd.org/publications/educational-leadership/nov99/vol57/num03/The-Courage-to-Be-Constructivist.aspx
[Accessed 2 April 2017].
Available at: http://smallbusinessbc.ca/article/understanding-basics-business/
[Accessed 22 November 2016].
Available at: http://www.londonchamber.co.uk/DocImages/7706.pdf
[Accessed 7 April 2017].
Choy, L., 2014. The strengths and weaknesses of research methodology: Comparison and
complimentary between Qualitative and Quantitative approaches. Journal of Humanities and
Social Science, 19(4), pp. 99-104.
Available at: http://www.cottageindustriesassociation.co.uk/
[Accessed 7 April 2017].
City&Guilds, 2017. City & Guilds. [Online]
Available at: http://www.cityandguilds.com/
[Accessed 5 April 2017].
pp. 48-50.
Available at: https://www.gov.uk/government/publications/small-business-commitment/small-
business-great-ambition
[Accessed 7 April 2017].

Available at: http://www.economist.com/blogs/freeexchange/2011/04/education_1
[Accessed 7 April 2017].

Available at: http://www.greatbusiness.gov.uk/grow/
[Accessed 7 March 2017].


IBIS, 2017. Industry Research Reports. [Online]
Available at: https://www.ibisworld.co.uk/
[Accessed 7 April 2017].

IER, 2016. Adult Education: Too important to be left to chance. [Online]
Available at: https://www2.warwick.ac.uk/fac/soc/ier/research/adult_education/adult_education_too_import
ant_to_be_left_summary3.pdf
[Accessed 5 March 2017].

Journal of Mixed Methods Research, 1(2), pp. 112-133.

Available at: http://www.kelsi.org.uk/__data/assets/pdf_file/0020/54632/Adult-Learning-
[Accessed 5 April 2017].

[Accessed 10 March 2017].

Lobel, B. 2016. Four in ten small businesses die within five years. Retrieved from:
http://smallbusiness.co.uk/business-failure-four-ten-small-companies-dont-make-five-years-
2533988/

Madichie, N. O. 2013. Sex in the kitchen: changing gender roles in a female-dominated

Madichie, N. O., & Gbadamosi, A. 2017. The entrepreneurial university: an exploration of “value-
creation” in a non-management department. Journal of Management Development, 36(2),
196-216.

Available at: http://www.deborahmeaden.com/investment/propermaid
[Accessed 7 March 2017].

Neneh, N. B., 2012. An exploratory study on entrepreneurial mindset in the small and medium
enterprise (SME) sector: A South African perspective on fostering small and medium


Pepin, Y., 2010. Practical knowledge and school knowledge : a constructivist representation of
education. [Online]
Available at: https://www-cambridge-org.ezproxy.northampton.ac.uk/core/services/aop-
cambridge-core/content/view/B4CC3DAAC9774EB016D700BC96278521/9780511752865c11_p173-

Popovic, K., 2014. Everything you always wanted to know about constructivism in lifelong learning
but you were too ashamed to ask. [Online]
Available at: http://www.infonet-ae.eu/articles-science-55/2155-everything-you-always-
wanted-to-know-about-constructivism-in-lifelong-learning-but-you-were-too-ashamed-to-ask
[Accessed 1 April 2017].

Available at: http://www.parliament.uk/commons-library [Accessed 7 April 2017].


Appendices

Table A-1. Business Course Delivery

<table>
<thead>
<tr>
<th>The delivery of my course has been stimulating</th>
<th>I am satisfied with the overall specialist curriculum</th>
<th>The course has equipped me with enough business skills to start my business</th>
<th>I have been provided with the necessary information to start my business</th>
<th>I have been signposted to where I can find information to start my business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>4.125</td>
<td>Mean</td>
<td>1.96</td>
<td>Mean</td>
</tr>
<tr>
<td>Standard Error</td>
<td>0.228</td>
<td>Standard Error</td>
<td>0.19</td>
<td>Standard Error</td>
</tr>
<tr>
<td>Median</td>
<td>4.5</td>
<td>Median</td>
<td>2</td>
<td>Median</td>
</tr>
<tr>
<td>Mode</td>
<td>5</td>
<td>Mode</td>
<td>1</td>
<td>Mode</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.115</td>
<td>Standard Deviation</td>
<td>0.97</td>
<td>Standard Deviation</td>
</tr>
<tr>
<td>Sample Variance</td>
<td>1.245</td>
<td>Sample Variance</td>
<td>0.95</td>
<td>Sample Variance</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-0.147</td>
<td>Kurtosis</td>
<td>-0.55</td>
<td>Kurtosis</td>
</tr>
<tr>
<td>Skewness</td>
<td>-1.086</td>
<td>Skewness</td>
<td>0.66</td>
<td>Skewness</td>
</tr>
<tr>
<td>Range</td>
<td>3</td>
<td>Range</td>
<td>3</td>
<td>Range</td>
</tr>
<tr>
<td>Minimum</td>
<td>2</td>
<td>Minimum</td>
<td>1</td>
<td>Minimum</td>
</tr>
<tr>
<td>Maximum</td>
<td>5</td>
<td>Maximum</td>
<td>4</td>
<td>Maximum</td>
</tr>
<tr>
<td>Sum</td>
<td>99</td>
<td>Sum</td>
<td>49</td>
<td>Sum</td>
</tr>
<tr>
<td>Count</td>
<td>24</td>
<td>Count</td>
<td>25</td>
<td>Count</td>
</tr>
</tbody>
</table>

Strongly agree = 5, Agree = 4, Neutral = 3, Disagree = 2, Strongly disagree = 1

The mean, mode and median all indicate the central tendency of the given data. This displays the most likely response to the said question. The standard deviation and the sample variance can be used to demonstrate confidence in the deductions made. The range informs the wide of the data. Using these values, we can deduce the following.
I have utilised the separate business courses on offer. The separate courses give me all I need to know to start my business. The duration of the courses are adequate for the information needed to start my business. The business courses designed for my specialist craft has been relevant and useful.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Error</th>
<th>Median</th>
<th>Mode</th>
<th>Standard Deviation</th>
<th>Sample Variance</th>
<th>Kurtosis</th>
<th>Skewness</th>
<th>Range</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Sum</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have utilised the</td>
<td>4.190</td>
<td>0.263</td>
<td>5</td>
<td>5</td>
<td>1.209</td>
<td>1.462</td>
<td>1.448</td>
<td>-1.527</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>88</td>
<td>21</td>
</tr>
<tr>
<td>separate business</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>courses on offer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The separate courses</td>
<td>2.761</td>
<td>0.205</td>
<td>2</td>
<td>2</td>
<td>0.944</td>
<td>0.890</td>
<td>-0.254</td>
<td>0.921</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>58</td>
<td>21</td>
</tr>
<tr>
<td>give me all I need to</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>know to start my</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>business</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The duration of the</td>
<td>2.333</td>
<td>0.221</td>
<td>2</td>
<td>2</td>
<td>1.016</td>
<td>1.033</td>
<td>-0.711</td>
<td>0.502</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>49</td>
<td>21</td>
</tr>
<tr>
<td>courses are adequate for</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the information needed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to start my business</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The business courses</td>
<td>4.1</td>
<td>0.280</td>
<td>5</td>
<td>5</td>
<td>1.252</td>
<td>1.568</td>
<td>0.613</td>
<td>-1.279</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>82</td>
<td>20</td>
</tr>
<tr>
<td>designed for my</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>specialist craft</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>has been relevant and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>useful</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Strongly agree = 5,      |        |                |        |      |                    |                |          |          |       |        |         |     |       |
| Agree = 4, Neutral = 3,  |        |                |        |      |                    |                |          |          |       |        |         |     |       |
| Disagree = 2,            |        |                |        |      |                    |                |          |          |       |        |         |     |       |
| Strongly disagree = 1    |        |                |        |      |                    |                |          |          |       |        |         |     |       |

**Table A-2. Business Progression Routes Within Adult Education**

**About the Author**

Shola Fiberesima holds a BA (Hons) in Lifelong Learning and a BA (Hons) in Business Management (2017). She is passionate about bridging the entrepreneurial gap in certain creative crafts she also teaches crafts and business skills within Adult Education. Currently studying MSc Career Management and Coaching. Shola is currently the Student Guild Manager at the London School of Business and Management. She is in charge of, ensuring strategic priorities set by the student body are accomplished.
Enhancing Students Employability Skills via use of the Association of Chartered and Certified Accountants Student Membership

Usha Mistry
Email usha.mistry@lsbm.ac.uk

Abstract

An array of literature has been written about employability, role of employers, higher education providers, and students, in developing the skills. This paper explores the role of student membership of a professional body whilst studying for their degree. As part of its employability provision, a higher education provider in the U.K. provides free Association of Chartered and Certified Accountants (ACCA) student membership to all their BA (Hons) Accounting and Financial Management students. This encourages accounting degree students to enhance their employability skills by making use of a broad range of services offered by the ACCA student membership. Action based research using online questionnaires, focus group meetings and weekly email reminders regarding usage of student membership services were used to explore main themes of development of Pre professional identity and Social Networking Theory through this engagement. The key finding is that students with ACCA student membership begin to identify with the profession (Pre-Professional Identity) and start thinking like a qualified accountant. The ACCA student membership offers an opportunity for students to plan ahead in terms of developing both technical and employability skills, assisting them in being more prepared for the world of work. Further analysis has revealed what students have learnt from ACCA, where there are global members sharing their work experience. ACCA provides webinars, networking and information on job vacancies that range from internships through graduate employment to posts for fully qualified accountants. In addition, the findings suggest that students can benefit from including ACCA student membership on their CV, helping them get a head start in demonstrating networking skills to potential employers, including portraying passion about their accounting career.

The results from this research have implications for both further research and practice. For higher education providers it illuminates, particularly, the importance of integrating student membership of Professional Statutory Regulatory Bodies (PSRBs) into the curriculum, taking into account the recent decades of corporate failures.

Keywords: ACCA student membership, social network theory, Pre-Professional identity, accounting employability skills, PACE model.

Introduction

Given increasing graduate numbers, employers are looking for graduates who possess not only a good degree, but also relevant work experience, extracurricular achievements, networking skills, membership of professional bodies and societies, and voluntary/paid work experience, which together demonstrate both technical skills and the ‘soft skills’ that are increasingly required in the world of work. Currently enhanced employability skills are fostered in many forms at most higher education providers. Methods include, but are not limited to, embedding a personal development plan into degree programmes, inviting external speakers, and providing career advisory services, an internship module, reflective practice assessments, PSRB accreditation, volunteering opportunities, relevant societies, skills sessions and peer assisted learning (PAL). In addition to these opportunities for enhancing employability skills, offering free PSRB student membership to all accounting degree undergraduates has proved to be a fruitful way (according to this study and other students feedbacks) of increasing student awareness of the accountancy profession further..

The student membership gives students a sense of professional identity (Jackson 2016) and a development opportunity to become professional accountants right from the outset of the commencement their degree. Students, educational institutions, employees and employers connecting through PSRB membership brings about diverse sources of sharing of knowledge and expertise and
social networking which is (Burke et al 2016) important in finding jobs. According to (Burke et al. 2016), weak ties are useful in finding jobs because they are numerous, but a single stronger tie is more useful than a number of weaker ties.

The aim of this research was to examine whether accounting degree students’ identify more with the profession after using ACCA services in order to enhance their employability skills. To date, there appears to be no known other literature that explores Levels 4, 5 and 6 (years 1 to 3) of the accounting degree, regarding the area of PSRB student membership. This study contributes to literature by examining students' developmental skill sets through being connected and identifying with a professional body right from the outset of their degree. The research question for this paper is: ‘To what extent do students begin to identify with the profession from regular interaction with a professional body and a particular focus on developing their employability skills?’

The subsequent sections of this paper will look at literature reviews focusing on important theories, issues and key themes such as Social Network Theory (SNT), Pre-Professional Identity (PPI) and employability skills. The paper examines the PACE model which supports the accounting degree students in developing their employability skills. This will be followed by research methods employed, findings, discussions and conclusions, recommendations and implication of this study.

**PACE model**

Over the last few decades, a number of models have been developed for supporting the employability of those graduating from higher education. Some examples of these include: DOTS (Decision learning, Opportunities awareness, Transition learning, Self-awareness) (Watts 2006); USEM (Understanding, Skills, Efficacy, beliefs, Metacognition) (Yorke and Knight 2006); and Career-EDGE (Career, Experience, Degree, Generic skills, Emotional intelligence) (Poole and Sewell 2007). Others have tried with difficulty to integrate skills development into the module (Stoner and Milner 2010). A systematic review of these existing frameworks led to the development of the PACE model: see below, Figure 1.

The PACE model has been successfully implemented since 2016 in developing undergraduate accounting degree students’ employability skills by putting students and their personal development plans (PDPs) at the heart of its approach. Students and their PDPs are fully supported by Professional Statutory Regulatory Bodies, Academics, Career advisers and Employers (PACE). The model includes the importance of PSRB student membership in developing students’ employability skills – the focus of this research.

**Figure 1 Employability Skills Support Model – PACE**

The four elements work together as follows.

**PSRB:** Students are supported by two leading global professional accountancy bodies, ACCA and the Chartered Institute of Management Accountants (CIMA) through accreditation and by offering free student membership; by running events such as business games and career presentations; and by encouraging students to attend external PSRB events.
Academics – motivate students to develop both technical and soft skills via encouraging students to engage with their student memberships, getting them to interact with national and international communities, through attending events both in-house and external. Academics and Careers also support students with the LSBM accounting society and other projects such as Peer Assisted Learning (PAL).

Careers services – are embedded into the curriculum by conducting their own interactive lectures and workshops (in areas concerning of personal development plans, employer's requirements, CVs, cover letter, interviews, internship to graduate job application) during timetabled teaching sessions of core modules, at each level of the accounting degree.

Employers, entrepreneurs and other organisations are invited as guest lecturers; students can learn from and build networks with them. A wide range of high-profile speakers are invited to enrich students’ learning and networking opportunities. These include speakers from charities, PSRBs, entrepreneurs and employers.

The PACE model applies to students from diverse backgrounds, including mature students who may be going through a career change. Although professional bodies, academics, careers advisers and employers all support students in gaining employability skills, this research focuses mainly on one aspect of the PACE model, i.e. the PSRB, and specifically the ACCA Student Membership service called ‘Accelerate’.

Literature Review and development of research question

As noted above, this research paper employs a number of theories that are relevant to the research question, including Social Network Theory (SNT), Pre-Professional Identity (PPI). The paper also considers concerns raised by relevant literature on employability skills.

Social Networking Theory (SNT)
SNT highlights the importance of social structure in forming connections and how these influence each other, that is, SNT ‘examines specific dynamics within webs of interrelationships among people and firms’ (Sacks and Graves 2012). SNT recognises two types of tie, namely: strong ties, which are characteristic of family or friendship bonds, and weak ties, which represent relationships in formal networks of organisations and communities (Burke et al. 2016). Jobs can be obtained through one of a person’s numerous weak ties on social networking platforms, but single strong ties are more valuable. Contacts formed through PSRB student membership would fall into the category of ‘weak ties’. According to (Benson et al. 2014), social networking awareness is missing in the higher education curriculum. Their research suggests that students would benefit from employability skills such as CV writing, presentation skills, online ‘up to date’ profiles, awareness of internships, placements and volunteering and a critical analysis of SNS information to aid job search. The PSRB student membership offers accounting students the opportunity for ‘interactions that would not otherwise occur’ (Ellison et al. 2007).

Although Facebook, Twitter and LinkedIn can aid in finding a new job, connection with PSRB networking sites via student membership has proved to be an excellent resource. PSRB social media and networking here examines what students gained by assistance from educational institution, ACCA, employers and employees interacting with others in the network.

The membership was embedded into the curriculum and has proved to be a great way of educating students in developing both their technical and soft skills. Students are given an opportunity to engage and connect globally with fully qualified professional accountants, employers and other students by sharing blogs, a discussion forum, news, articles, webinars, videos, podcasts, and job postings. Each student can upload their CV with their unique student membership number. It gives students a platform for connecting with professionals, sharing experiences and knowledge, and effectively promoting themselves, thereby enhancing their personal brand. The student membership offers students an opportunity for acquiring and/or enhancing workplace skills, such as collaboration and creativity (Haglar 2013). Likewise, (Hamid et al. 2015) report that social technologies lead to improved collaboration and
critical thinking among students, while (Benson et al. 2014) report that well-connected people perform better in life.

Some of the accounting students surveyed in the present research have uploaded their CVs on to the ACCA Student Membership networks, had them professionally reviewed, used job posting to apply for internships and graduate employment while simultaneously communicating with other members who may assist with finding employment, as outlined by (Burke et al. 2016). In addition, the research findings show that students have benefited from gaining employment-related skills such as CV writing and presentation skills, and from awareness of internships and graduate employment, as outlined by (Benson et al. 2014). SNT addresses the research question 'to what extent do students begin to identify with the profession from regular interaction with a professional body, with particular focus on developing their employability skills?

Pre-Professional Identity (PPI)

Based upon the author's search, there is very little literature about PPI or professional identity development formation in practice and the accounting profession.

A review by (Trede et al. 2012) of over 20 articles on ‘professional identity formation’ revealed a lack of student's connection to professional identities, but an ‘overall agreement amongst other researchers that collaborative, dialogic learning from practice enables and facilitates professional identity development,’ which the findings of the present research highlight; i.e. (Trede et al. 2012) focus less on the definition of professional identity and more on empirical evidence of student perception of identification with it.

(Jackson’s 2016) study of PPI relates to an understanding of and connection with the skills, qualities, conduct, culture and ideology of a student's intended profession’. (Dall’Alba 2009) states that professional identity involves integration of knowing, acting, and ‘being’ like a professional. (Mylrea et al. 2015) report identity development as ‘an underdeveloped field where there is little agreement between scholars’. (Daniels and Brooker 2014) write of the ‘work-readiness of the graduate’. Where student membership of a PSRB is integrated into the curriculum right from outset of the degree course, it allows PPI formation at an early age. The student membership enriches graduate attributes by offering an additional range of experience.

(Jackson 2016) uses a ‘Community of Practice’ model (CoP) to demonstrate how PPI can be developed in undergraduates. The PACE model involves various learning communities: a PSRB, academics, careers advisers, employers, etc. The element of the CoP model that Jackson explores is the global network connection to a professional body.

(Trede et al. 2012) argue that ‘universities need to claim their role in “professional identity development” to prepare graduates for global citizenship, for leadership qualities and for future practice’. The ACCA Student Membership programme provides students with an opportunity for understanding the requirements of the profession, as well as providing a sense of worth, belonging or purpose, which (Trede et al. 2012) discuss. Since the accountancy profession is a dynamic one, professional identity formation within it will also be dynamic; hence the student membership offers students an opportunity to keep up with these changes. It gives students the appropriate support to develop and facilitate the construction of their professional identity. This is echoed by (Piazza 2011: 179) ‘knowledge about a career is not simply acquired by people, but is constructed through activity and through the interactions with a variety of people’.

The ACCA Student Membership programme assists students in ‘developing professional standards, values, culture and ethical conduct, it also helps them manage careers and gives them a sense of purpose and meaning in relation to their current position and intended professional stance’ (Jackson 2016), which this paper’s findings also highlight. (Trede et al.’s 2012) findings reveal that only a few articles in the literature have focused on external influences upon professional identity development, which the present research addresses. PPI is very relevant to the research question, ‘to what extent do students begin to identify with the profession from regular interaction with a professional body, with particular focus on developing their employability skills.’
Employability – definition, responsibility and what's missing?

Embedding employability into higher education has been an important priority for all key stakeholders, from the government to employers, higher education providers, student unions, professional bodies, students and parents (Tomlinson 2008). The responsibility for enhancing students’ employability does not lie in the hands of just one party (Lim et al. 2016). Human capital theory suggests that students view their higher education credentials as a key dimension of their future employability, providing them with advantages in the labour market.

The definition of employability continues to be debated from different perspectives, including that of (Dearing 1997), who focuses on linking employability with the acquisition of skills for life. (Yorke and Knight 2006) also provide a set of achievements – skills, understandings and personal attributes, while (Harvey and Knight 2005) identify two broad approaches, i.e. employability as ‘job getting’ and employability as developing attributes for graduate employment. (Hogan et al. 2013) define employability as the ability to gain and retain employment (including finding new employment when necessary) and (Stoner and Milner 2010) define employability skills as skills needed for life-long learning and a successful business career.

Studies since over the decade suggest that accounting courses are not meeting employers’ expectations or the requirements of the modern business world (Bui and Porter 2010). Frequently encountered early employment problems include a lack of technical knowledge, difficulty in applying knowledge, and a lack of English skills (Lim et al. 2016). The role of accountants has changed from being that of the hidden quiet bookkeeper and preparer of final accounts to providing information facilitation, forensic accounting, strategic analysis and working as a team player. Therefore, employers are seeking graduates with a diverse range of skills and attributes (Kavanagh and Drennan 2008). The accountancy profession has become complex and has changed significantly over time (McGuigan et al. 2012).

The top three skills identified by (Kavanagh & Drennan 2008) were: analytical/problem solving skills, a level of business awareness/real life experience and basic accounting skills, whilst other studies found that the development of oral communication skills, the ability to have a comprehensive and global vision of an organisation, resilience and ethical awareness could be improved (Webb & Chaffer 2016).

Accounting graduates do not possess the employability skills and personal attributes expected by employers (Lim et al. 2016). In his literature review conclusion, (Jones 2014) not only identified important accounting graduate characteristics such as commercial awareness, interpersonal skills, team-working skills, good communication and presentation, self-management abilities, and analytical and problem-solving skills, but also recognised the importance of establishing professional credibility with colleagues and clients as a vital part of the transition process for new entrants into the accountancy profession. (Jones 2014) highlights the importance of conducts and attitudes.

Skills development is an essential element in providing a successful accounting education experience (Stoner and Milner 2010). Engaging students with their professional body as early as Level 4 (i.e. year 1 of an accounting degree) of their studies, via free professional bodies’ student membership, should encourage students to undertake professional qualifications that provide practical skills and enable learning from a professional body’s social networking and social media. This should enable them to improve the desirable skills and address concerns that have been outlined by the (Association of Business Schools et al. 2014).

The CBI (CBI/Pearson 2016) reveals that UK employers may not be able to recruit enough highly skilled employees. They want graduates to have the attitudes and aptitudes that will enable them to be effective in the workplace. Connections with professional bodies are an additional way of assisting undergraduates to acquire some of these skills.

Research carried out on behalf of the (Quality Assurance Agency (QAA) 2016) also highlights the enormous range of support that higher education providers’ offer or should offer to their students, but does not include the importance of the role that PSRBs play in the development of practical skills, as outlined by the (Association of Business Schools et al.2014).

(QAA 2016) Table 1 below outlines the typical provision made by institutions in order to improve the employability of their students.
Table 1: Employability services delivered by higher education providers

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>% of providers delivering service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information service, such as being a source of job vacancies.</td>
<td>100</td>
</tr>
<tr>
<td>Assist with CVs, application form completion and so on.</td>
<td>97</td>
</tr>
<tr>
<td>Skills development, such as helping develop communication/presentation skills.</td>
<td>99</td>
</tr>
<tr>
<td>Work experience such as helping with graduate internships/students’ placements.</td>
<td>95</td>
</tr>
<tr>
<td>Recording achievement, such as providing employability awards HEARS and so on.</td>
<td>66</td>
</tr>
<tr>
<td>Services aimed specifically at post graduates.</td>
<td>24</td>
</tr>
</tbody>
</table>

In their literature review, (Artess et al. 2017) examine 187 pieces of research published between 2012 and 2016, including discussions on the nature of graduate attributes, employability skills, and career management skills. Nonetheless, there was no literature on how PSRB student membership could aid in developing students’ employability skills. There is a lack of use of this accounting education learning tool in developing both technical and soft skills.

In 2016, the ACCA survey “The Future: Future of the Profession” of over 2000 professional accountants and engaged with over 300 workshop participants and identified below seven professional quotients accountants will need to adopt in order to succeed as professional accountants.

- Technical and ethical (TEQ) – Perform activities to highest professional standards
- Intelligence (IQ) – Ability to acquire, and use knowledge
- Creative (CQ) – Ability to use knowledge in new situations
- Digital (DQ) – Awareness and application of existing and emerging digital technology
- Emotional intelligence (EQ) – Ability to identify yours and others emotions positively to tasks
- Experience (XQ) - Understand customers’ expectations and create value
- Vision (VQ) – Anticipate future trends.

Moreover, ACCA has developed a model that enables members to assess their seven quotients and qualities, and helps them to identify areas where development is needed. Some of the students tested this in helping them to plan ahead to develop the skills they lack. The results provide further evidence of the application of the PACE model and PPI formation (see students’ quotes on their use of this service below under section on ‘Findings’).

(IFAC 2003) International Educational Standard (IES) for professional accountants No. 3 Professional Skills, has identified five main skills areas, namely, intellectual, technical, personal, interpersonal and organisational, that are needed for those who want to function as professional accountants. In addition to these skills, professional accountants should demonstrate certain key capabilities, e.g. knowledge, professional values, ethics and attitudes. IES No. 3 clearly states that not all the necessary skills are fully developed by education, i.e. practical experience and further development through lifelong learning are other crucial developmental opportunities.

(IFAC 2003) IES No. 4 Professional values, states that acquiring ethics and appropriate attitudes should begin early in education and be emphasised throughout courses, as this will aid students throughout their subsequent careers. When undertaking their first assessment on ethics, the Level 4 accounting degree students surveyed for this study used knowledge gained through their PSRB student membership (see students’ quotes below under section on ‘Findings’).

The reviewed literature above provides useful insights, demonstrating, for example, that there is a high level of provision for engaging students with an array of employability support, but none of the literature address the importance of student membership of PSRBs or how the proactive use of such membership, by embedding it into curriculum, has enhanced the students’ development. The accounting graduate labour market is a dynamic one and hence links with the PSRB via student membership are crucial in developing undergraduates’ PPI as well as their social networking skills.
For higher education providers, traditional three-year degrees enable academics to pass on as much technical knowledge as is required, but soft skills are essential for continuous development throughout life. There is more awareness of, and research carried out now, about what employers want than ever before. Over time, higher education providers have increased their support in the development of their students' employability skills (QAA 2016).

The present research is significant because no other literature, to the author’s knowledge, covers how student membership of PSRBs and, specifically, ACCA (via the latter’s ‘Accelerate’ service) can be of use in supporting and developing a student’s employability skills and addressing some of the concerns outlined in the literature discussed above.

Research Method

The study for this report involved data collection using online questionnaires given to accounting degree students at Levels 4–6 (i.e. accounting degree students years 1 to 3 on a three years accounting degree programme), who wanted to participate in the research. The study explored what students from all levels on the accounting degree course gained from their use of the ACCA Student Membership programme during the period October 2017 to December 2017 in developing their employability skills. An action-based research strategy that emphasises cooperation between researcher and student was adopted for this study, and the primary data includes both qualitative and quantitative aspects.

Ethics compliance and participant consent forms were required to be completed and approved before this research proceeded. All students were emailed a copy of the questionnaire together with the participant consent form before the first focus group meeting. Details of the research materials were also posted on LSBM's Canvas Learning Management System.

The three focus group meetings held at the beginning of each month of the study, i.e. October, November and December, included all the students who had volunteered to participate. Each focus group consisted of a presentation and a discussion about what they had gained from those services and how this could help them now and later on in their careers. The purpose of the meetings, which were not recorded, was to keep students motivated to use the services to their full potential and to share ideas. At the first meeting, students were given a short presentation with question and answer sessions to ensure that they understood the consent form as well as the questionnaire. Those students who were interested in taking part in the research signed a paper copy of the consent form and were asked to keep a diary log for their own records of the ACCA Student Membership services they used and what they had gained from those services, in order to assist them in completing the questionnaire. The questionnaire was designed after reviewing email communications sent by ACCA to students, with the main focus being on employability skills. A meeting was also held with senior ACCA officials early on in the research for their input into the questionnaire design and research approach.

The questionnaire consisted of four broad areas – the first area asked which ACCA Student Membership services were used, the second asked which service they found most useful and why, the third asked how these services aided development of their employability skills, and the fourth asked about the usefulness of ACCA social media/networking sites such as ACCA LinkedIn, Facebook, and Twitter for the participants’ employability skills development.

In addition to the above, students were sent weekly email reminders asking how they were getting on and whether they had seen the latest relevant vacancies, such as the NHS Finance Internship 2018, and the Costain Graduate Development Scheme 2018.

The analysis of the questionnaire answers was carried out quantitatively using Microsoft Excel because the sample size was small. The results were double-checked against the percentage of students who had used various ACCA services. A qualitative element involved taking quotations from the survey to reveal what employment skills students had gained from those services.

The total number of students from BA (Hons) Accounting and Financial Management who participated in the research was 37 with a breakdown of a response rate of Level 4 of (20 out of 50 registered students) 40%, Level 5 of (12 out of 20 registered students) 60% and Level 6 of (5 out of 8 registered students) 63% respectively.
Findings

The ACCA works with thousands of employers around the world ranging from the public sector, the public practice sector, the financial service sector, the corporate sector, and small and medium-sized enterprises (SMEs). The ACCA Student membership programme (‘Accelerate’) enables all students to be connected to a global network community comprising thousands of other students, qualified accountants and employers. ‘Accelerate’ offer students an opportunity not only to register early with ACCA, but also to save significantly on fees and exemptions. The scheme also offers employability advice such as CV webinars, opportunities of learning from profiles of those in finance jobs, news of the latest job vacancies, interview advice, job application advice and networking guides. It enables students to add ACCA student status to their CV, helping them to stand out from the undergraduate crowd and start recording their relevant practical work experience, which will help to speed up gaining qualified accountant status. This section provides discussion and evaluation of key findings from the study carried out in order to address the research question: ‘To what extent do students begin to identify with the profession from regular interaction with a professional body, with particular focus on developing their employability skills?’

Students’ identification with the profession

1.1 Services offered by ACCA student membership programme

Table 2 outlines the list of ACCA Student Membership services that students can access, with details of what they could gain from those services. Both the quantitative and qualitative findings from students discussed later will address how useful these services are.

<table>
<thead>
<tr>
<th>ACCA services</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCA in-house event</td>
<td>On 10 October 2017 ACCA were invited by the college to make a presentation to students about the profession and routes into it, including exemptions.</td>
</tr>
<tr>
<td>ACCA Graduate magazine</td>
<td>The section ‘A World of Opportunities, How to become a Professional Accountant’ contains information about the profession and the services it offers.</td>
</tr>
<tr>
<td>ACCA for Graduate</td>
<td>Provides information on areas such as:</td>
</tr>
<tr>
<td></td>
<td>• ACCA Graduate Scheme with leading employers such as Deloitte, Grant Thornton and Microsoft</td>
</tr>
<tr>
<td></td>
<td>• the education and career paths of ACCA members.</td>
</tr>
<tr>
<td>ACCA Careers Service</td>
<td>Provides the following services: a jobs board, job hub, help finding a job, jobs by email, search recruiters, career advice. It also offers opportunities for uploading one’s CV for potential employers to view and for getting CVs professionally reviewed.</td>
</tr>
<tr>
<td>Student Accountant Online App.</td>
<td>Contains information on the latest accounting and business news including:</td>
</tr>
<tr>
<td></td>
<td>• study skills articles, e.g. ‘Essential revision techniques’, ‘From failure to success’, ‘Three things to know about analytical thinking’</td>
</tr>
<tr>
<td></td>
<td>• professional skills articles e.g. ‘What do employers look for?’, ‘How to develop a career plan’, ‘Top 10 Global In-demand skills’, ‘Five tips on How to network effectively.’, ‘technical articles, videos and podcasts for all papers F1 to P7’</td>
</tr>
<tr>
<td></td>
<td>• exam resources.</td>
</tr>
<tr>
<td>ACCA Social Networking media sites</td>
<td>Facebook, Twitter and LinkedIn sites covering areas of ethics, ACCA AGM, useful advice from ‘How to stand out from the crowd?’ to sustainable development goals to measuring professional quotients.</td>
</tr>
<tr>
<td>Ethics tools and content</td>
<td>Gives guidance to its members on ethics definition, personal ethics, professional ethics, ethics code and case studies, etc.</td>
</tr>
<tr>
<td>Student and Member Event Network</td>
<td>Is a great way of sharing information, hearing about ACCA events, connecting with others and enabling members' voices to be heard.</td>
</tr>
<tr>
<td>ACCA Study Resource</td>
<td>Contains information on:</td>
</tr>
</tbody>
</table>
ACCASyllabus and study guides
guidance and insights from the examining team
CBE specimen exams
past exam papers
technical articles.

ACCA Learning

Community

Provides an opportunity for members to:
share knowledge and discuss accounting areas with other students
find ‘study buddies’
engage in live webchat, attend learning events with guest speakers, connect with experts.

Articles and blogs

Covers information such as:
why ethics is important to business
how one can trace one’s responsibilities.

Video and webinars

Were sent to students via ACCA email and included:
‘How to structure an eye-catching CV’
‘The importance of a great cover letter’
‘How the automated CV process works’
‘Psychometric testing and telephone screenings’
‘Tips about your social media profile’
‘Informing HR about any disabilities you may have’.

1.2 ACCA Student membership services accessed by students

Figure 2 below shows that the most popular ACCA Student Membership service was ACCA for Graduates, with 97% of the students accessing this. ACCA Graduate magazine, ACCA Careers Service, Student Accountant and ACCA Study Resource were each accessed by 92% of respondents. Students were least likely to upload their CV and have it professionally reviewed.

Figure 2 Percentage of All the BA (Hons) Accounting and Financial Management students surveyed who accessed each ACCA Student Membership service

The graph of Level 4 (Figure 3 below) ACCA Student Membership service use reveals that 95% of students accessed ACCA for Graduates with 90% accessing each of ACCA Graduate magazine, Student Accountant and articles and blogs. The least accessed ACCA student membership service was the opportunity of uploading CV and having it professionally reviewed, with only 35% taking advantage of this.
The Level 5 students’ use of ACCA Student Membership services revealed that all the students (100%) accessed the ACCA Graduate magazine, ACCA for Graduates, ACCA Career Service and ACCA Study Resource. Ranked equally, being accessed by 92% of respondents, were Student Accountant, ACCA Facebook, Twitter and LinkedIn, Ethics tools and content and Student Member Event Network. The least-accessed services, used by 58%, were uploading a CV and having it professionally reviewed, and accessing articles and blogs. Figure 5 reveals that 100% of Level 6 students attended the ACCA in-house event, used ACCA for Graduates, ACCA Careers Service, Student Accountant, ACCA Facebook, ACCA Twitter, ACCA LinkedIn, Student and Member Event Network, ACCA Study Resource, videos and webinars.

The following services were each accessed by 80% of respondents: ACCA Graduate magazine; adding ‘ACCA Student’ status to CVs/applications; Ethics tools and content; and articles and blogs. The ACCA Student Membership service least used by this group was uploading one’s CV and having it professionally reviewed.

![Figure 3 Percentage of Level 4 (Year 1) the BA (Hons) Accounting and Financial Management students surveyed who accessed each ACCA Student Membership service](image)

Table 3 shows that ACCA for Graduates has the highest percentage use of all services with an overall 97% of the students across all levels using it and 100% of those at Levels 5 and 6. As they have progressed up the levels, students have increasingly used: ACCA study resource, Student Accountant, and Careers Service. Table 3 also shows that students are generally reluctant to upload their CV and have it professionally reviewed at Level 4, but the numbers doing so increase at Levels 5 and 6.
Figure 4 Percentage of Level 5 (Year 2) the BA (Hons) AFM students surveyed who accessed each ACCA Student Membership service

Figure 5 Percentage of Level 6 (Year 3) the BA (Hons) Accounting and Financial Management students surveyed who accessed each ACCA Student Membership service
Table 3: Numbers of BA (Hons) Accounting and Financial Management students at Levels 4–6 accessing ACCA Student Membership services

<table>
<thead>
<tr>
<th>ACCA Student Membership services accessed</th>
<th>All students %</th>
<th>Level 4 %</th>
<th>Level 5 %</th>
<th>Level 6 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCA in-house event held at college</td>
<td>84</td>
<td>85</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td>ACCA Graduate magazine</td>
<td>92</td>
<td>90</td>
<td>100</td>
<td>80</td>
</tr>
<tr>
<td>Adding ACCA student status to CVs/applications</td>
<td>70</td>
<td>60</td>
<td>83</td>
<td>80</td>
</tr>
<tr>
<td>ACCA for Graduates</td>
<td>97</td>
<td>95</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>ACCA Careers Service</td>
<td>92</td>
<td>85</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Uploading one’s CV and having it professionally reviewed</td>
<td>46</td>
<td>35</td>
<td>58</td>
<td>60</td>
</tr>
<tr>
<td>Student Accountant</td>
<td>92</td>
<td>90</td>
<td>92</td>
<td>100</td>
</tr>
<tr>
<td>ACCA Facebook, ACCA Twitter, ACCA LinkedIn</td>
<td>81</td>
<td>70</td>
<td>92</td>
<td>100</td>
</tr>
<tr>
<td>Ethics tools and content</td>
<td>86</td>
<td>85</td>
<td>92</td>
<td>80</td>
</tr>
<tr>
<td>Student and Member Event Network</td>
<td>86</td>
<td>80</td>
<td>92</td>
<td>100</td>
</tr>
<tr>
<td>ACCA Study Resource</td>
<td>92</td>
<td>85</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>ACCA Learning Community</td>
<td>78</td>
<td>80</td>
<td>83</td>
<td>60</td>
</tr>
<tr>
<td>Videos and webinars</td>
<td>78</td>
<td>80</td>
<td>67</td>
<td>100</td>
</tr>
<tr>
<td>Articles and blogs</td>
<td>78</td>
<td>90</td>
<td>58</td>
<td>80</td>
</tr>
</tbody>
</table>

Particular themes in identifying with the profession

2.1 ACCA in-house event – Introducing the ACCA Accelerate Programme

Below are some of the typical quotes, taken from students’ questionnaires, about what they had gained from an ACCA officially hosted in-house event for all the accounting students on the course.

In summary, the students learnt the benefits of the ACCA qualification, the ACCA syllabus, how to gain exemptions from certain requirements, ACCA practical work experience requirements, the skills set that employers are looking for, and they gained an overview of the ACCA Accelerate programme.

| ‘Employability tips, there is a lot of help provided on learning tips, ‘exams buster’, CV building, networking and career advice.’ | [Level 4 student No. 6] |
| ‘Through their Accelerate programme students can register early with ACCA and start a career in finance. Also, at the end of your studies you are not just leaving with a degree – you leave as a partly qualified accountant with maximum exemptions from ACCA [exams] of 9 out of 14’ | [Level 4 student No. 18] |
| ‘Opportunity to enjoy all the advantages of the ACCA membership but also benefit from the discounts that our college has secured for us. The investment we are making in our own development with the tools at our disposal gives us the competitive advantage in a very harsh job market.’ | [Level 5 student No. 29] |
| ‘The importance of ACCA membership: – How to become a qualified ACCA member – How ACCA student membership increases the possibility of getting an internship – Helps me to identify the knowledge and skills employers are looking for – How to access ACCA resources’ | [Level 5 student No. 30] |
| ‘The event was very useful. It helped me to get a clearer understanding of potential career paths through ACCA as well as understanding teamwork.’ | [Level 6 student No. 33] |
| ‘What are the key strategies, when we look for jobs as accountants? What skills are employers looking for?’ | [Level 6 student No. 37] |
2.2. ACCA Student Membership services that students found most useful.

The quotes below were taken from the student questionnaire, and highlight the services that students found to be most useful to them. To summarise, these included all the ACCA services, from in-house events to Graduate magazine, ACCA for Graduates, Careers Service, Student Accountant, ethics tools, membership and event network, study resources, the learning community, and videos and webinars on writing one’s CV.

<table>
<thead>
<tr>
<th>Student</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level 4 student No. 1</strong></td>
<td>Events network as well as the ACCA Graduate magazine. I got to know a lot more information about ACCA, which companies they work with, the jobs and internships.</td>
</tr>
<tr>
<td><strong>Level 4 student No. 2</strong></td>
<td>I have used many of the services available, such as the websites to access and see the different roles available and the exams that need to be done. Looking at the ethics shows me the fundamentals and regulations involved and really shows the professionalism and high quality standard that ACCA requires and provides.</td>
</tr>
<tr>
<td><strong>Level 4 student No. 6</strong></td>
<td>Videos and webinars are great. I found particularly useful the videos on how to structure your CV and cover letter, webinars on the recruitment processes and media profile. I would like to specially point out that the articles on how to bust your study and professional skills are excellent, helping me through the first exam.</td>
</tr>
<tr>
<td><strong>Level 4 student No. 8</strong></td>
<td>Student accountant app, which has many features such as exam advice and important updates about our exam, latest technical articles, which are useful when doing research, interviews with employers, students and members, careers advisers, and advice and news from the accountancy world.</td>
</tr>
<tr>
<td><strong>Level 4 student No. 12</strong></td>
<td>The ACCA [Graduate] magazine is easy to read and is user-friendly. It is timely, relevant and provided answers to many of my questions. I appreciated the sections from past students and steps they had taken to achieve their goals. The ethics section was beneficial in completing the Accountants in Organisations assignment.</td>
</tr>
<tr>
<td><strong>Level 5 student No. 22</strong></td>
<td>I found the video on how to structure an eye-catching CV quite useful at this time, because as the second year is coming to an end and I will need to look at internships. The video on the importance of the cover letter… showed me that’s when you show what’s different about you and to show your passion in what you do, which will help me stand out from the rest of the applications.</td>
</tr>
<tr>
<td><strong>Level 5 student No. 23</strong></td>
<td>Careers Service has many advice and suggestions. One of the articles which I found particularly intriguing is called “Careers Development: Enhancing your employability”. This article has helped me to understand how to change my behaviour, attitude and mindset to show how I should present myself in the workplace. I found this useful at this point in time because I have a part-time retail job. So it has given me an insight on how I can use this job to help myself progress.</td>
</tr>
<tr>
<td><strong>Level 5 student No. 26</strong></td>
<td>All services are useful – It is very important to develop ourselves now, not when we graduate.</td>
</tr>
<tr>
<td><strong>Level 5 student No. 29</strong></td>
<td>Articles about the issues that an accounting student might encounter at the beginning of this career. It is quite refreshing to figure out that most students go through the same struggle and it is even better to learn from their previous experience.</td>
</tr>
<tr>
<td><strong>Level 5 student No. 31</strong></td>
<td>Learning Community, Articles and Blogs. These services will help me with my exams and give me the tips how to improve my skills and knowledge.</td>
</tr>
<tr>
<td><strong>Level 5 student No. 32</strong></td>
<td>To see employers’ profiles and to be prepared for upcoming job interviews. I will update my CV and will add “ACCA Student” status.</td>
</tr>
<tr>
<td><strong>Level 6 student No. 37</strong></td>
<td>The most useful at this academic year was ACCA study resources. I have used them in this academic year a couple of times to prepare myself for course works and exams. The other important service was the videos regarding how to prepare the great CV and cover letter. They contain very useful information.</td>
</tr>
</tbody>
</table>
2.3. ACCA Student Membership services and employment skills development.
From the quotes below, it can be concluded that access to services helped students develop their employment skills and ability to plan ahead. Some students used ACCA’s psychometric testing in order to refine current skills and started planning ahead to develop new skills. Some students learnt the importance of a media profile, creating a LinkedIn profile, telephone screening, online interviews, the importance of gaining valuable work experience and taking proactive initiatives in order to get a job. Some students have become aware of the essential skills required for various job postings and have found videos and webinars useful in helping them construct good CVs and cover letters. Some students have placed ACCA student status on their CV, had their CV professionally reviewed and realised the importance of networking. Others have taken advice from profiles, articles and blogs and have started taking personal development more seriously since looking at the ACCA website.

[I can test myself to see what skills I already have and to see if they match the requirements of ACCA. Any skills that I do not have, I can now see what I need to improve on to have the best prospects and ability to meet and excel the standards of ACCA. Other than doing the exams and my learning development, I have started to refine current skills and develop others required, such as communication. I need to learn also how to communicate with a group of people professionally. I am very good with teams, but need to develop working together to solve problems in a time-constrained situation. I have seen how useful LinkedIn is; as a result I will soon be creating a LinkedIn profile as I want to gain experience as early as possible to excel in ACCA and my accounting career.]

[Level 4 student No. 2]

‘Careers Service – careers advice and all the videos and websites such as: “How to structure your eye-catching CV”, the importance of a great cover letter, how the automated CV process works, psychometric testing and telephone projections. All of the tips and information provided by the Recruitment Manager at Capita were very useful and interesting for me.
In the ACCA career development are eight very important skills needed to find a job – Initiative, commercial acumen, professionalism, innovation, project management, communication and presentation, teamwork and networking.’

[Level 4 student No. 5]

‘Articles provide help and support in the areas that employers feel that graduates are lacking most. Article on transferable skills made me …concentrate on developing excellent communication skills – to be an effective listener, be persuasive and energetic while presenting my ideas, develop further good writing skills. I have started to work on my interpersonal skills, as per ACCA career services advice. Being able to interact with people on different levels in an open and non-intrusive manner cannot be taught, but with constant practice it can be learnt effectively. The importance of the soft skills is increasingly highlighted by the employers as being particularly sought-after.
Commercial awareness is the advice that I found especially relevant to successful employment, alongside the technical knowledge the candidate has to be able to show the understanding of business situations and apply his/her expertise accordingly. That’s why I’m reading articles about industries that I’m particularly interested in (financial/medical) and I’m researching into how current affairs affect them.’

[Level 4 student No. 6]

‘“ACCA for Graduates” made me aware of the skills that could be acquired through these schemes and the variety of skills required for being successful. The simplest skill that is looked at is [presenting one’s] credentials and the clarity of written information provided, as this could be the first reason a CV is thrown out while looking through hundreds. I have used exercises online to improve grammar and clarity of writing. Moreover, gaining valuable experience over the years in the finance sector will make one more attractive as this requires less training and the basic fundamentals of the job will already be fulfilled. I have applied to accounting firms for part-time roles that will provide me with real-life situations to deal with. Under the “enhancing your employability” section I have read the dos and don’ts of CVs. This is the first form of communication with a potential employer, therefore it is important to show why one stands out. I have learnt that this is an important way of showing the employer why one fits the criteria of the job role.’

[Level 4 student No. 11]

‘Placing ACCA student status on my CV improves my chances of being employed. Graduate scheme service offers support and placement opportunities aiding teamwork, time management and communication skills. ACCA Careers Service provides a platform for members looking for employment opportunities. My resumé, being professionally created by one of ACCA’s services stands me a better chance of gaining employment. The video and webinars service recommends,
gives advice, suggests tips and issues for clarity on areas to consider during job applications. Communication and problem-solving skills will be improved by taking part in the networking and sharing facilities on ACCA’s learning community section. Reading articles and blogs enables me to keep up to date with current matters, trends and economic developments, thereby enhancing my commercial awareness.’  

[Level 4 student No. 12]

‘For communication skills improvement I found appropriate blogs, ACCA LinkedIn, ACCA Facebook and ACCA Twitter where I can communicate with people from all over the world. Also, in the student accountant section is a link where can improve my professional skills. There are psychometric tests, tips, and a range of articles. Furthermore, by using ACCA services I can improve my organisational skills through flexibility while working and studying. Moreover, I can improve my teamwork skills, which are of particular importance to employers.’

[Level 4 student No. 15]

‘I would need to be more knowledgeable doing interviews via web. ‘Cover letter – ensuring your cover letter can sell yourself and tell the prospective employer what experience you have and why the organisation is the one you really want to work for. ‘Telephone screening – very good information on preparing yourself and gathering information about the company you are interested in. Also ensure you have questions to ask about the company you are prepared to work for and what you should look for. ‘Media profile – ensure that you have your profile on good sites such as LinkedIn where a lot of employers look out for candidates. Also ensure you are aware of what you have on social media about yourself and what contributions you made on these sites.’

[Level 4 student No. 16]

‘The Student Accountant tells you the importance of networking: over 70% of jobs happen through it which underlines the usefulness of it, helps you build contacts, since you will never know where you might need them.’

[Level 5 student No. 22]

‘I started to take my personal development more seriously since I started to look at this website. I started to develop better communication skills and started to involve myself in group studies, team work and helping other students and vice versa. ‘My commercial awareness also has become much better because now I know I should make myself more employable by involving myself in different activities around the campus and doing some voluntary work so that I can get the exposure.’

[Level 5 student No. 24]

‘It is important to become aware that a good CV is not enough, so I use the ACCA websites (Facebook page, LinkedIn) to see what subjects are in the news which I should be aware of. I am looking at how other graduates are finding the interviews and will then try perfecting myself.’

[Level 5 student No. 27]

‘The articles that I was most intrigued by were the ones about psychometric testing, telephone screening and profiles on social media. As we operate in an environment that is completely technologised and very connected, I think is very useful to learn what to expect when you are being selected based on the latest techniques of measuring candidates’ skills. It also very relevant to understand that a holistic approach on how you build your image as a candidate, not only in your professional life but also in your private life, might help you attract the right companies to take you into consideration as a potential employee. ‘These days, companies are not looking for workers; they are looking for skills in people that share philosophies and principles in order to thrive together, to build a rapport that will bring efficiency and progress within the company. ‘So for me it was very important to learn about what you bring to the company as an individual and the added value you have as a professional. If you can demonstrate that with your CV and your investment in your studies, they will be willing to invest in you. ‘So that is why the membership is a tool we have to use to enhance our capabilities and to determine the steps we need to take to polish our skills to the requirements of the companies we dream about working for.’

[Level 5 student No. 29]

‘I found the ACCA students and qualified registered members’ various testimonies and strategies used on how to cope with student life, work and family and their exam preparation methods useful. Reading and listening to these testimonies/strategies have inspired me to follow these suggested plans/advices in my future professional working life. ‘The video on CV writing has enabled me to understand and use the suggested tips on how to structure my CV and write my cover letter.'
“How to succeed in an interview” – the presenter stated that before you go for any interview, you must take the time to read details of the organisation you are to work for and familiarise yourself with the aims and objectives of the organisation to see whether this is the type of organisation you would like to work for. By doing all that, you stand a better chance of being considered as a potential candidate for the job.’

(Level 6 student No. 34)

2.4 ACCA social media/networking sites: LinkedIn, Facebook and Twitter

To summarise, access to ACCA media/networking sites enabled students to be kept informed of changes to their course, be made aware of upcoming events, learn about the new, redesigned Ethics & Professional Skills module, recognise the importance of LinkedIn, and be given an opportunity to connect with other ACCA members as well as general information. Below are quotes taken from students’ questionnaires.

‘ACCA article – ‘LinkedIn How to Stand Out’ has changed my view and approach to social networking. I never used my LinkedIn account, although I created it a few years ago. The article highlighted how important and extremely useful LinkedIn can be for an accountancy student in terms of employability and recruitment. I understood that the modern way of recruiting candidates goes far beyond CVs browsing; employers are looking for the candidates that are embracing technology and tend to move with the times. I am now very enthusiastic about my LinkedIn profile and I understand the importance of getting it right and shining, which is why I am investing time in creating my perfect profile before I reach out to contacts.’

(Level 4 student No. 6)

‘According to Heather Townsend, author of The FT Guide to Business Networking, LinkedIn is one of the first places recruiters or employers look for candidates. It is also useful if you are trying to market yourself as young, fresh, forward thinking and innovative person. ‘It makes you brand yourself up and showcase yourself professionally, [and] focus on career history and can also connect you with people with your future in mind.’

(Level 4 student No. 8)

‘Social media/networking sites such as LinkedIn, ACCA Facebook and ACCA Twitter are very useful in today’s society when it comes to employment, especially the LinkedIn platform. This is because more and more people have access to the internet and it is a more cost-effective and convenient way for employers and recruiters to find potential candidates, unlike traditional methods. You can also find lots of advice on these platforms on how we can improve our employability skills and develop ourselves professionally. ACCA Facebook is very useful, as many people have Facebook and the page is liked by 1.6 million users who have involvement with accounting. The ACCA Facebook site also shares a lot of advice on improving your skills; the page also shares many case studies…, which are useful.’

(Level 4 student No. 13)

‘Facebook is very good social media. I am member of the private group of ACCA students, where we can share lots of information with each other. This gives me more knowledge by learning from other people’s experience.’

(Level 6 student No. 37)

2.4. Recommendations to improve ACCA Student Membership services

When asked what recommendations students could make for improving ACCA Student Membership, the major one was a request for a professional accountant to share their experiences in person (which was arranged a month after completion of the questionnaires) and to make the website more user-friendly. Below are quotes taken from student questionnaires.

‘Overall the ACCA services are very well structured and presented, easy to use and very motivational.’

(Level 4 student No. 6)

‘I would like to keep this relationship with ACCA and see more of their delegates giving professional talks/conferences.’

(Level 4 student No. 19)
‘The services are very good. The only small improvement I can think of is to de clutter the website and decrease the amount of different areas and portals, as it is very easy to get lost and may put off a lot of people from accessing the full set of services available.’

[Level 6 student No. 33]

Discussion and Conclusion

This research paper discusses the benefits, from the student’s perspective, of having student membership of ACCA embedded into the accounting degree. It has looked at PPI, SNT and importance of employability research to explore how the ACCA Student Membership programme can aid the employability-related skills of accounting degree undergraduates. ACCA Student Membership not only gives students an opportunity to be educated (Jackson 2016) and mentored, and form networks through the formation of their PPI, but also affirms the construction of a broader social identity as undergraduates. A study by (Benson et al. 2014) emphasises that social networking awareness is missing from the higher education curriculum.

The topic area was chosen partly because of widening participation in higher education. Other motivating factors included an increase in the market competition that graduates face, given the need for new skills sets created by the so-called ‘Fourth Industrial Revolution’ (arising from a fusion of traditional, biological and digital technologies), and various skills gaps, the globalisation of world business, and high-profile corporate failures (e.g. Carillion) and importance of ethics. Also, this is a unique research area focusing on how professional accounting bodies, social media and networking can enhance graduates’ employability skills.

(QAA 2016) findings reveal that while many higher education institutions are expanding their provision of services to improve their students’ employability, they have not yet incorporated PSRB student membership as a vital part of this. PSRB student membership gives students an opportunity to develop their skills, competences, professional values, ethics and attitudes while they are still in education (IFAC 2003) IES no. 4.

Employability is about the development of a range of attributes and skills at university that can be transferred into situations beyond university study (Gunn et al, 2010). ‘Careers’ are a subset of employability. (Gunn et al.’s report 2010) emphasises the importance of collaborative work between various stakeholders including academics, careers services and students, but makes no mention of the importance of collaborative relationships with professional bodies in the development of students’ employability.

The results of this research (Table 3 and the quotes from students) demonstrate the positive effect that student membership of a professional body has, when an academic gives guidance for making the most of this resource. The empirical findings here are in line with (Hamid et al. 2015): students recognise and value the learning benefits of using social media and other communications technologies in higher education. The study confirms the problem identified in (Trede et al. 2012), i.e. ‘no university-wide curriculum principle was offered’ in developing students’ PPI. The present study also suggests that graduate skills and awareness for future planning can be improved in a relatively short period, in this case a couple of months, with encouragement. Social networking through PSRB sites gives students a platform for connecting with professionals, sharing experiences and effectively promoting themselves, thereby strengthening their personal brand. The student membership of a PSRB should aid students by enhancing their awareness of, and developing, generic skills. In addition, students will come to recognise the importance of other skills, such as developing their professional credibility with colleagues and clients (Jones 2014) by learning from professional accountants who share their knowledge and personal experiences. PSRB student membership aids accounting students in the acquisition of technical knowledge and prepares them to be adaptable, accountable lifelong-learning global citizens.

The concluding implications of this research paper are twofold. First, all higher education providers (HEPs) should consider integrating PSRB student membership into the curriculum. In a survey of employers by (Jobvite 2012), 80% of respondents reported that they liked to see membership of a
professional organisation when assessing recruits. Second, academics should mentor students to encourage them to engage actively in developing their professional identity (Trede et al. 2012).

This research gives some empirical evidence for students’ perception of the importance of developing PPI in the accountancy profession. The research could be beneficial for all higher education providers as it provides a unique student perspective on the importance of PSRB integration into teaching practices. The limitation of the study is that it involved a small sample size of students from one institution so caution must be exercised in interpreting and generalising the findings. Further study into the impact of PPI and postgraduate employment into the accountancy profession would be of benefit in understanding how useful the PSRB membership was in aiding the transition from being a student to being in employment. The study can be extended to other professional bodies’ with student memberships across all other disciplines areas, i.e. Marketing, Human Resource Management, Law etc.

References


About the Author

Usha Mistry is Head of Programme Development and Course Leader for BA(Hons) Accounting and Financial Management at the London School of Business and Management. She is also a Senior Fellow of the Higher Education Academy (now renamed Advance HE) of England and Wales. Usha’s research interests are on Accounting Education and Employability of Accounting graduates.

LSBM Working Paper Series, Vol. 3, Issue 1, May/June 2018