

Goel, Salvy; Berrones-Flemmig, Claudia Nelly

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Assessment and Analysis of Accounting and Finance  
apps in Start-ups in Germany: an explorative study

**SALVY GOEL**

**CLAUDIA NELLY BERRONES-FLEMMIG**

**IU Internationale Hochschule**

Main Campus: Erfurt

Juri-Gagarin-Ring 152

99084 Erfurt

Telefon: +49 421.166985.23

Fax: +49 2224.9605.115

Kontakt/Contact: kerstin.janson@iu.org

Autorenkontakt/Contact to the author(s):

Prof. Dr. Claudia Nelly Berrones-Flemmig

IU Internationale Hochschule – Campus Berlin

Frankfurter Allee 73A

Berlin 10247

Telefon: +49-030 208986810

Email: claudia-nelly.berrones-flemmig@iu.org

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# **ASSESSMENT AND ANALYSIS OF ACCOUNTING AND FINANCE APPS IN START-UPS IN GERMANY: AN EXPLORATIVE STUDY**

**Salvy Goel**

**Claudia Nelly Berrones-Flemmig**

## **ABSTRACT:**

*Small and medium-sized enterprises face several challenges mainly related with lack of access to Finance frequently due to a lack of formal Accounting system and financial management, which leads to weaknesses in their internal financial capabilities. Moreover, from the supply side traditional financial institutions have failed to fulfil the needs of SMEs and presently FinTechs have developed innovative ways to increase the financial literacy in SMEs and to facilitate financing for SMEs (Imanbaeva et al., 2017). This study aims to assess and analyze one of these innovative financial instruments in an explorative way: some relevant Accounting and Finance applications present in the market, based on criteria decided by exploring the scientific literature and evaluating it by interviewing Accounting professionals working in start-ups in Germany. The results show that Zoho Books and Xero turned out to be better than the others in the services provided by them and they received the best ratings and feedback. Their best features are their user friendliness, the integrations offered by them, the diversity of the financial reports that they offer and amount of automation they offer to perform the everyday tasks. The most important factor when choosing an Accounting system is assessing the needs and requirements of the business and then to select the software that best suits the needs. Therefore, this research can be also helpful for small and medium business owners who do not have much idea about the financial aspects and need help with choosing the right accounting software for their business, based on the experience and perspectives of the interviewing Accounting professionals. It can act as a guide for them to understand which factors they should take into account while making their decision and the feedback from the participants can help them while choosing among the five software analysed during this research.*

## **KEYWORDS:**

*SME Finance, Fintech, Accounting and Finance apps, innovative financial instruments, start-ups, Germany*

**JEL classification: M, O**

## AUTHORS:



**Salvy Goel** *Salvy Goel* is IU Alumni (Master in International Management with specialization in Accounting and Finance). Her work experience is mainly as Associate Accounting Manager in the start-up Forto GmbH in Berlin. She has experience in working with invoicing processes, implementation of monthly closing process and working with account reconciliations. She studied Bachelor of Technology in Electrical and Electronics Engineering in Delhi, India. Furthermore, she has participated in the Entrepreneurship Orientation Program and Training Program on Solar Energy, which specialize in setting up Small and Medium sized businesses. Her research area for her Master Thesis is assessment of innovative financial instruments used by SME's.



**Prof. Dr. Claudia Berrones-Flemmig** is Professor of Accounting and Finance since October 2019 at IU International University of Applied Sciences, Campus Berlin. Before, she was lecturer and postdoctoral research fellow in International SEPT Program at University of Leipzig, where she was responsible of the module SME Finance. She holds a PhD from the University of Leipzig (International SEPT Program) with specialization in SME Finance. She has also been Lecturer 6 years at ITESM, Mexico (Tecnológico de Monterrey, Campus Monterrey). She has 20 years of experience as lecturer and as financial and business consultant (in Mexico: for the industrial chemical group CYDSA and for the financial consultancy COFINE, specialized in SME Finance). She was also financial consultant for start-ups of the Business Incubator from ITESM, Mexico (including the projects Goldman Sachs 10,000 Women and "Iniciativa México") and for start-ups in different countries, especially South Asia, Vietnam, and Africa. Her practical and research interests are SME Finance/Financial Management, Innovative financial instruments for SMEs (particularly Fintech) and Finance of social and sustainable innovative SMEs.

# 1. Introduction

## 1.1 BACKGROUND AND RATIONALE OF THE RESEARCH

As per Statista, in 2018 there were approximately 2.52 million small and medium sized enterprises (SMEs) in Germany and this number has increased by 430 thousand in comparison to 2011. Particularly in developing countries, a major part of private sector is comprised of SMEs (Beck et al., 2006) and this number is only increasing every year. According to the World Bank SME Finance forum, majority of businesses worldwide (90%) are SMEs, and they play a huge role in employment generation (50%) and global economic development.

World Bank and other international agencies provide financial aid to small and medium sized enterprises in developing economies. During 1998-2002, World Bank Group spent more than \$ 10 billion in SME support programs and in 2003, they spent \$ 1.3 billion on the same issue (Beck et al., 2006). According to relevant literature (World Bank, 2002, 2004; Beck et al., 2006), the aids provided to the SMEs are based on the belief that they facilitate economic development by enhancing competition and innovation. This belief was confirmed by Beck et al. (2006), by showing the existence of a *“statistically significant and economically large relationship between growth and the size of SME sector”* even though no causal relationship was established between SMEs and economic development. SME supporters also believe that SMEs are more productive than large firms, but the financial market and institutional factors act as an impediment to their growth. Another argument for the efforts aimed at the development of SMEs is the amount of employment generated by their expansion outweighs the growth of large firms because they are more labour intensive.

The large sized firms and established businesses have a myriad of possibilities to manage their finances and access to wide amount of talent to take care of the same. This is unfortunately not the case with small and medium sized businesses, which often have a limited amount of staff or in many cases only the owner is running the business. Along with the shortage of talent and the limited possibility to accommodate more people comes the lack of financial competencies in such companies. As the owners and the limited number of employees, generally lack the financial prowess to carry out everyday operations in an efficient manner. In addition to this, the traditional banks have not prioritized the needs of SMEs for a very long time, which is one of the reasons why SMEs suffer from a lack of finance throughout the world. Figure 1 depicts the access to finance by SMEs according to different regions.

FinTech companies saw an opportunity in this largely untapped market and came up with digital solutions tailored specially to fulfil the requirements of small and medium businesses. This led to simplification and acceleration of financial products and services for SMEs (Finleap, 2021). A major part of these solutions is cloud based smart apps and software to make the handling of finances for small and medium businesses easy and more efficient. These apps offer services like preparation of financial statements, invoicing, bank reconciliation, handling international payments, etc. There is a wide variety of options available in the market for these digital accounting solutions. If one scrolls through an Appstore on any platform, one will find that there is a huge variety of different applications to choose. And while these software and applications try to provide a generic model in which they address the needs of many companies, small businesses find it difficult to select the one that fits their needs due to lack of appropriate expertise (El Barrad, et al., 2015). According to the paper before, majority of small

businesses do not have the resources to amass the huge amount of data, nor do they have the skills required to make it work for them. Besides, small businesses do not require the complicated applications and software package that are used by big companies. Their requirement is of a simple and less complicated accounting application. The selection of the correct accounting application or software can help a small enterprise to have a better accounting system that will help to control better its finance and operations. It can help a lot also to obtain the right information timely about internal aspects of the company, its customers, creditors, and competitors.

Because of the lack of financial know-how, the owners of these businesses adapt to these digital solutions not based on research but because of recommendation from friends and relatives (El Barrtad, 2015). There is a lack of literature that discusses the efficiency of these digital accounting solutions and their impact on financial literacy and formal financial management in SMEs. This research aims to assess the efficiency of these smart solutions according to an SME's accounting needs and their impact on the financial literacy in SMEs by testing them on accounting professionals and collecting their reviews about these platforms in the form of interviews. Therefore, the main objective of this research is to find out the most efficient digital accounting software for the demand side and also to find out if these digital solutions could provide a feature that makes them more efficient.

## **1.2 RESEARCH QUESTIONS AND OBJECTIVES**

The main research question from this study is: How efficient are the existing digital financial platforms (Accounting and Finance apps and software) in fulfilling the requirements of small and medium sized businesses and increasing their financial literacy?

The objectives of this research are the following:

- i. To assess and analyse in an explorative way the characteristics of the features provided by some of the existing Accounting and Finance apps and to determine their contribution to the efficiency of these apps.
- ii. To determine the advantages that new features would introduce to better support the reach of these apps.

The above objectives were achieved by identifying the different parameters on which an Accounting software should be judged and assessing the best apps in the field on the basis of these parameters through in-depth interviews of accounting professionals who are well equipped with understanding the accounting requirements of a company. The following Accounting apps have been assessed during this research because they are currently renowned for being the one stop solution for SMEs:

- i. Xero
- ii. Clear Books
- iii. Zoho Books
- iv. Freshbooks
- v. Quickbooks

## 2. Literature review

### 2.1 DEFINITION OF SME 'S AND START-UPS WORLDWIDE AND IN GERMANY

World Bank does not give a definition of what an SME is. Rather the World Bank Group (2019) says that „it generally relies on country it generally relies on country standards; which vary widely and do not necessarily follow criteria rooted in empirical differences in the behaviours, characteristics or constraints in firms”

The standard definition used by IFC says that “an enterprise qualifies as a micro, small or medium enterprise if it meets two out of three criteria of the IFC MSME definition (employees, assets and sales), or if the loan to it falls within the relevant MSME loan size proxy” (Table 1).

Table 1. IFC Micro, Small and Medium Enterprise Definition and Proxies

Indicator	Employees (no.)	Total assets (\$)	Annual sales (\$)	Loan size at organization (\$)
Micro enterprise	< 10	< 100,000	\$100,000	<10,000
Small enterprise	10-49	100,000 - <3,000,000	\$100,000 - <3,000,000	<100,000
Medium enterprise	50-300	3,000,000 - 15,000,000	3,000,000- 15,000,000	<1,000,000 or 2,000,000

Source: International Financial Corporation (IFC), 2021

“The EU recommendation (2003/361) defines SME by headcount and either turnover or balance sheet total” (Steigertahl et al., 2018). IfM Bonn (2016) distinguishes small and medium enterprises (SMEs) from the large enterprises based on quantitative size criteria. According to them a small enterprise has a maximum of 49 employees and an annual turnover of maximum 10 million euros and a medium enterprise has a maximum of 499 employees and a turnover of maximum 50 million euros.

Start-ups do not have an universal definition. Steve Blank (known as the father of innovation in Silicon Valley) defined it by saying that “a start-up is a temporary organization designed to search for a repeatable and scalable business model” (University of Sydney, 2021). Steigertahl et al. (2018) say that it makes it difficult to define a start-up because a start-up can have a large number of employees but still not a proportional amount of turnover (19.8%). They also say that in comparison to an SME, the initial capital for the growth of business for a start-up is higher (sometimes millions). SMEs and start-ups often have different sources of finance too. The common sources of finance for start-ups are Business Angel (29.0%), Venture Capital (26.3%), and Crowd Investor (18.1%), whereas SMEs rely on owners savings, investment from friends and family and bank loans for their financing (Steigertahl et al., 2018). KfW Group, Germany (2020) defines start-ups as “active businesses of male and female founders who set them up not more than five years ago, run them commercially on a full-time basis (i.e. not as freelancers), have co-founders or employees and are innovation- or growth-driven. Innovation-



*driven means undertaking research and development to make a technological innovation market-ready or at least offer a new-to-market innovation across Germany”.*

## 2.2 FINANCIAL LITERACY IN SME 'S

A large amount of literature has been published on the gap in finances for SMEs, but it is also relevant to discuss the root issue from where this problem comes up that is financial literacy. Hussain (2018) argues that *“existing studies have often overlooked the lack of financial knowledge, skill sets and literacy that may impede their (SME 's) success when seeking bank finance”* and that financial knowledge can improve the probability of a SME's access to external finance. There has been a lot of discussion on the finance gaps that lead to failure of SMEs but the literature on the importance of financial literacy is lacking (Wise, 2013; Hussain, 2018).

To understand how financial literacy plays an important role in SMEs it is first important to define the term. Anthes (2004) argues that the term *“financial literacy”* does not have a formal definition, but a general definition of personal financial literacy can be given as:

Personal financial literacy is the ability to read, analyse, manage, and communicate about the personal financial conditions that affect material well-being. It includes the ability to discern financial choices, discuss money and financial issues without (or despite) discomfort, plan for the future, and respond competently to life events in the general economy.

These words are equally true for the entrepreneurs as they should be able to understand and analyse the financial conditions of their business and be able to plan the future of the business on the basis of these analysis and come up with proper information to be provided to financial institutions when approaching them for loans. Oseifuah (2010) considers the following as the important characteristics of financial literacy skills and knowledge:

- The ability to comprehend basic numbers and mathematical knowledge
- A basic understanding about the nature of money, how it is used and its forms, and how consumer decisions can affect a business
- Knowledge of the correlation of risk and return, awareness about features of financial services and the risks associated with them, ability to apprehend and maintain financial records, ability to plan expenditure and savings
- Ability to responsibly handle finances.

Imanbaeva et al. (2017) says that the financial literacy of a company as a whole or an individual contributes to an efficient formal financial management which in turn leads to more financial inclusion. The financial accessibility is directly dependent on the degree of financial development. But financial inclusion and financial accessibility have very different meanings. WBG (2014) defines financial inclusion as *“the proportion of individuals and firms that use financial services”* and Imanbaeva et al. (2017) add to this by saying that the access to these services becomes a huge obstacle if these services are offered at unaffordable prices. Small businesses generally consist of a single owner who has little to no knowledge about finance and the owner does not have enough budget to hire a finance

professional who could take care of their financing needs. This lack of financial know-how contributes to failure in handling day to day operations efficiently and due to this reason external financial sources show reluctance in providing capital to small and medium sized businesses because of lack of proper information from the side of business owners or even if they do agree to provide finances to the owners of SMEs, they do it at higher interest rates because of the lack of proper information. This makes it important to raise financial literacy amongst the owners of small and medium enterprises so that they can provide information about their businesses in an effective manner and the financial institutions can make an informed decision about whether to lend to these firms. This step will also discourage SMEs owners to approach money lenders who charge higher interest rates and ask for a collateral.

The presence of financial literacy has many other benefits for business owners such as, reduction in asymmetric information, reduction in monitoring costs and improvement in capital flows (Hussain et al., 2008). Absence of financial management knowledge is a key factor responsible for failure of SMEs because most of the business owners feel intimidated by financial management (Timmons et al., 2007). New literature is coming up that discusses the vital role played by “managerial capital” which also includes financial literacy in the growth of an enterprise and increasing productivity and the owners who are well equipped with financial knowledge are able to efficiently use it to maintain their financial records, analyse them and use them for better operation and decision making which directly corresponds to more scope for the enterprise and better growth (Wise, 2013).

### **2.3 INNOVATIVE TRENDS IN SME FINANCE**

All the steps taken towards the increase of financial literacy in SMEs contribute to capacity building in SMEs. Imanbaeva et al. (2017) defines capacity as *“the ability of individuals, institutions, and societies to perform functions, solve problems, and set and achieve objectives in a sustainable manner”*. Capacity building and financial capability promotes financial inclusion, financial stability, and effective financial markets worldwide and it is more than just the knowledge of financial concepts, it is a mixture of behaviours, skills, and attitudes along with the knowledge of financial concepts that together promote effective and responsible financial decision making (World Bank, 2019). World Bank issued a report in 2019 where they measured the financial capabilities of SMEs across 24 countries. The result of this report showed that 85% of small sized enterprises surveyed showed low levels of financial skills and 66 % of medium sized enterprises showed low levels of financial skills. They demonstrated relative strengths in keeping separate business expenses, controlling, and keeping cash provisions and being responsible and diligent. Whereas, their weak areas were attracting investors, diversifying cash strategies, planning from the beginning with continuous owner’s support and controlled budgeting.

### **2.4 INNOVATIVE TRENDS TO IMPROVE FINANCIAL LITERACY IN SME ’S**

Financial literacy and financial management skills are a necessity to effectively plan the operations of a business and make it achieve its complete potential (Hussain, 2018). Hussain (2018) also proved through research in his paper that there is a positive relationship between financial literacy and growth for SMEs. There are many ways in which this gap in financial literacy in SMEs can be addressed. These measures can be financial literacy campaigns and convergence of technological and financial literacy (techno-finance literacy) (Imanbaeva et al., 2017; Kulathunga, 2020). Financial literacy campaigns are campaigns in the form of trainings, seminars and workshops, and publication of education materials

with the objective of increasing financial education of an individual or a company (SMEs in this case) (Imanbaeva et al. 2017). This research is focused on the role played by technology in bringing about financial literacy.

### **Finance and Accounting applications**

The accounting apps are being widely used by small and medium businesses and have gained a huge popularity because they offer a quick and easy solution and save money in terms of employing less human resources and time into the accounting requirements (Rahmayanti et al., 2018). These alternative saves money for the SME owners because they don't have to invest in expensive information technology infrastructure. The existence of technology in the accounting sector is prevalent for large sized enterprises as it has already changed the process of recording financial statements and carrying out financial activities for large sized enterprises by taking care of the simpler transactions such as calculation of salaries and keeping track of debts and receivables (Güney, 2014). With time, computers are also taking care of more operational activities like data invoicing, keeping stock records and customer records. The presence of technology in the financial activities of SMEs has also started being prevalent now in the form of software and apps to the extent that smartphone applications are a major product in the business consumers market and the number of mobile devices being developed for business and accounting fields have appreciated by a large amount (Güney, 2014).

Accounting is one basic need of every enterprise that requires financial skills so that it can be done by following all the rules. Many business owners lack this skill because of lack of financial knowledge. The work of an accounting system is to measure financial performance while following the generally accepted accounting principles and it measures financial performance by recording and classifying all transactions such as sales, purchases, operating expenses, assets and liabilities (Rahmayanti et al., 2018). These standards in Accounting ensure the uniformity of recorded financial data so that comparison between financial statements of different firms becomes easier and comparison within the same firm but for different timelines becomes possible. Rahmayanti et al. (2018) define Accounting as *“recording, classifying and summarizing transactions or financial information into financial statements for internal and external use”*.

There are financial literacy campaigns and credit initiatives undertaken by different countries and on an international level. Technology assisted financial literacy is provided through financial literacy apps that are “electronic applications, designed to increase the financial education of a person or an entity” (Imanbaeva et al., 2017). Some of them are:

Xero is a cloud-based accounting software with 2 million + subscribers which was founded in 2006 in New Zealand. Its services are aimed at fulfilling the requirements of small and medium sized businesses. It offers services like bill payments, accepting payments, tracking of projects, bank reconciliation, among others. Their packages cost from 20 USD to 40 USD per month depending upon the amount of services offered. They also offer a free trial period to their users (Xero, 2020).

Clear Books is a cloud accounting and payroll software founded in 2018 to serve small businesses in the UK. It offers features like Bill and receipt tracking, payments, multi-currency etc. This software is suitable for use of different business types, such as sole traders, limited companies, and partnerships. They offer two types of packages to their customers depending on their size which cost 10 £ and 22 £

per month respectively. They are currently serving 13,000 small businesses. They also provide free training sessions with qualified bookkeepers to their customers (ClearBooks, 2021).

Zoho Books is an online Accounting software which offer services like invoice creation, inventory tracking, time tracking etc. to their customers. It offers three different packages to their customers ranging from 9 USD to 29 USD per organization per month. It offers an integrated platform with Zoho's 40 + apps to add more features to their service. It also offers an app version of the software which can also be accessed via an Apple Watch. It lets its customers send payment reminders and see outstanding invoices via an Apple Watch (Zoho Books, 2021).

FreshBooks is Accounting software founded in 2003 that has integrated with over 100 apps to increase the functionality of their product. Their clientele is comprised of freelancers, self-employed professionals, businesses with employees and businesses with contractors. The services offered by them are organization of expenses, presentation of reports in a simple manner, easy-to-use double entry accounting etc. They offer their service as a mobile app as well to provide better access to their customers. They claim to save 192 hours of their customers each year and have 24 million users. This app is available in 160 countries (FreshBooks, 2021).

QuickBooks is a simple and smart accounting software for small and growing businesses which offers the app functionality as well. It offers services like creating invoices, storing a picture of receipts for tax filing, and running reports in a couple of seconds. They offer 3 different packages depending upon whether the business is in the starting phase, running phase or growing phase which range between 7 EUR and 29 EUR per month. They are serving 4.5 million customers worldwide (Intuit, 2018).

The examples mentioned above show that steps are being taken in different parts of the world to battle the problem of lack of financial literacy in the form of campaigns, and software with app functions.

### **Additional functions of Accounting applications**

Some of the tools offered by the accounting software in addition to the preparation of financial statements are (Ghasemi et. al, 2011):

**Income tax.** Tax laws vary from country to country and often keep changing frequently which makes it very difficult to understand them and keep track of them. It is very time consuming to prepare them manually. So, to ease the tax preparation process, the computerized software integrate with other companies to offer a feature that prepare the tax for their customers. This eliminates the complicated process of long calculations and confusions for business owners.

**Audit.** There is software in the market that provide the audit function. They assist the auditors in the input of working trial balance, processing all kinds of adjusting entries and computing the adjusted trial balance.

**Word processing.** This feature enables the preparation of invoices, financial statements, and reports. It lets the user edit, create, and store data.

**Graphics software.** It lets the user prepare graphics that can be inserted on invoices, financial statements, reports, presentations, and pictures.

**Image processing.** Paper documents are bad for the environment and storing them takes up a lot of space. Computerized accounting software provide a document imaging system which captures an

electronic image of the data. It lets the user scan paper documents so that they can be processed and shared electronically. It helps offices to go paperless which is a need of the hour.

**Electronic data interchange (EDI).** It enables companies to exchange data electronically. For example, invoices can be sent to customers and suppliers can exchange invoices by sending them out electronically. The software lets companies extract the financial data in the form of excel sheets or pdfs so that it can be easily shared with external accountants for verification or tax purposes. In this manner the process of information transfer is more accurate and less time consuming.

**Electronic funds transfer (EFT).** Companies can now transfer payments internationally easily and in multiple currencies. The transactions take place in real time. The payments made by the customer instantly show up in the company's account. The accounting software instantly updates the accounts receivable account and the cash account as well.

The functions offered by the Accounting software always differ according to the size of the business. It always takes into consideration that the end user is a non-accountant while creating accounting software for a small enterprise. This enables the owners and managers of these businesses to carry out everyday accounting functions without any formal training or technical knowledge (Ghasemi et al., 2011). Some of the other advantages of computerized accounting system are that the balancing of accounts is done with more precision with less room for error, audit trails are always maintained, financial statements can be created with the just the click of a button, easy access to data as it is easy to retrieve the data from the past or to check the status of payments and all the data of the business is secure in the cloud.

Almost all the Accounting software available provide the app function as well which lets the user download the app version of the software in their phones and have easy access to it anywhere. All one requires is a smartphone and an internet connection. If one looks at the app store in their phones, they find a wide variety of different apps available which can serve the needs of small and medium sized businesses. The software companies are trying to create a huge presence in the enterprise market with the hope of pushing their feature-laden, bloated software application into the small and medium enterprises market (El Barrad et al., 2015). It is important to note that the accounting package requirements of small businesses are completely different from the ones of large sized businesses. They need to carefully select a software package that increases their productivity and fulfils their needs along with an ease of use and not too many unnecessary functions.

### **Lessons learnt about financial literacy and integration of technology in Accounting processes from Covid-19**

Financial literacy is a plus when disasters strike, such as recurring financial crises, bankruptcy, (Hussain et al., 2018) Covid-19, etc. When the owners are better informed financially, they can exclude unnecessary panic from their decision-making process and make an informed decision about how to proceed with dealing with the problem. Especially during the current pandemic, it is something that was never experienced before, and lack of information is leading to panic. SMEs have been hit hard due to this pandemic because most of them were not in operation due to strict rules. In such times it is difficult to comprehend the step forward and often the lack of information leads to more damage. Lack of financial literacy has developed more panic amongst business owners, and it has also led to spread

of false information. They cannot take complete advantage of the policies set up for them by the government and other organizations because they are not well informed and often do not understand how these policies can help them. BBVA Center for Financial Education and Capability (2021) advocates that the Covid crisis has revealed how important is financial literacy for those who are the most vulnerable during these times. And SMEs fall under the most vulnerable group as Gourinchas et al. (2020) says that the failure rate of SMEs has drastically risen during COVID-19 by 9 percentage points. SMBStory (2021) says that financial literacy can be an advantage for small businesses in the post COVID-19 era. Yuesti et al. (2020) proves the importance of financial literacy during the pandemic times by saying that it can help individuals manage their income and avoid financial problems. This pandemic has forced SME owners to rethink the traditional methods of doing business and pushed them towards adapting technology into their day to day operations.

### 3. Methodology

#### 3.1 RESEARCH DESIGN

This research intends to pursue “applied research” which in the words of Saunders et al. (2009) is termed as *“research that is of direct and immediate relevance to managers, addresses issues that they see as important, and it is presented in ways that they understand and can act on”*. This research aims to be an exploratory study. Robson (2002) defines an exploratory study to find out *“what is happening; to seek new insights; to ask questions and to assess phenomena in a new light”*. The research is qualitative in nature.

Qualitative research comes from interpretative philosophy as the research requires to interpret the subjective and socially constructed meanings expressed by people about the issue in light (Saunders et al., 2009). Qualitative technique is used as a synonym for any data collection technique (such as interview) or data analysis technique (like categorizing data) that produces or gives rise to non-numerical data (Saunders et al., 2009).

Tracy (2012) wrote about the advantages of qualitative research by saying that it is a comprehensive approach that gives weightage to the people’s real-life experiences rather than focusing on just one small aspect of a topic. It is about giving people the freedom to narrate their thoughts in accordance with their experiences and not choose from some standard set of options. It also gives the researcher the freedom to interpret the stories and experiences of their research participants in depth. This is achieved through asking open-ended questions and gathering the data as per the reactions given by participants.

As it is possible to bundle data into different categories, qualitative research method could be called investigative research methodology or categorical research methodology. Such categories act as a good tool to properly categorize different types of work. But since this research is exploratory in nature, the researcher gets the opportunity to look at the topic from the perspective of their participants and normally every participant has a different perspective.

Even though qualitative research has a lot of freedom associated with it, but like two sides to a coin it has several limitations as well. Since the researcher is the one conducting the interviews and interpreting the reactions of their participants, their own prejudices and preferences can influence the

way they ask their questions and interpret the answers of the participants. This is called researcher's bias. Ma et al. (2019) support this point by saying that qualitative research is very flexible and there is an inevitable researcher's bias always involved. The researcher's own observations and preferences are a driving factor during such research and a major obstacle for a researcher while conducting qualitative research is to overcome researcher's bias. This bias often occurs due to the lack of quantifiable data and the lack of possibility for the verification of records.

### **Semi-structured interviews**

The strategy used to pursue this research is semi-structured interviews. Gathering information on the experiences and thinking perspectives of people can best be done by talking to them. This means that we can gather information everyday while talking to people but we seldom do that because sometimes we are not attentive to what the other person is saying and are not listening with the aim of gathering information for research purposes. Interviews are aimed at gathering data by listening to the answers and point of view of the interviewee. As the name suggests, a semi-structured interview is like an interview, the only difference is the tone of the interview is not as formal as in an interview.

Semi-structured interviews are 'non-standardized' and termed as 'qualitative research interviews'. The researcher has list of themes and questions to be covered during the interview, but they can vary from interview to interview (Saunders et al., 2009). This research uses semi structured interviews for data collection because of it gives the participant the freedom to speak their mind because of the informal tone. Despite the informal tone semi-structured interviews are very organized as the interviewer already has a theme a list of questions in mind.

## **3.2 DATA COLLECTION**

Mono-method of qualitative nature was used for data collection which is the use of single data collection technique and corresponding analysis procedure (Saunders et al., 2009). The subjects for this research are the employees in the Finance department of start-ups as most of them have experience with both manual Accounting and computer based Accounting system and have generally gone through the transition from semi-automated accounting system to a completely automated Accounting system. Because of their experience with the transition, they are aware of the kind of problems that arise during and after the transition and also if the new accounting system is not appropriate.

### **Recruiting Participants**

Purposive sampling was used to recruit participants for the successful completion of this research. Purposive sampling is a sampling method that picks participants who qualify two requirements that are, they should have an overall understanding of the topic being researched and they should have some experience with the topic (Morse, 1991). The participants selected for this research were selected based on the following criteria:

1. The participants should be employees in a start-up and should have some experience in the Accounting field.
2. Their availability for the interview.

This was set a qualifying criterion for recruiting participants because as a company grows it changes its accounting method from manual to digital as it progresses and a start-up perfectly fits this criterion. The employees in the Accounting department of a start-up have witnessed this transition firsthand and are aware of the problems that come with this transition and how a wrong accounting system can make this process more difficult. And the employees working in the Accounting department of a company have experience working in this field and can bring in the perspective of an ‘expert’ when it comes to assessing this topic. A total of 10 professionals were approached for conducting the interviews and 7 of them agreed to do the interview.

The job descriptions of the participants selected for the research are as follows:

<b>Participant</b>	<b>Job profile</b>
1	Associate Accounting Manager
2	Intern - Accounting
3	Intern - Accounting
4	Junior Financial Accountant
5	Working Student - Finance Digitalization
6	Intern - Payroll
7	Intern - Finance Digitalization

The main reason behind approaching these participants was their Finance and Accounting background. To make sure that there was a diversity among the sample, it was ensured that the participants were from different start-ups and belonged to different nationalities. All the participants were approached through phone calls in order to enquire about their availability for an interview. And if they had agreed about their availability, they were introduced to the topic of the research and the interview topics.

A hindrance experienced during the interviews was the remote work set up due to the ongoing pandemic. Conducting face to face interviews would not have been possible due to the restrictions in place and the health risks involved in meeting in person. Due to this reason, the next best alternative was chosen, and the interviews were held over a Zoom call. The best working date and time were negotiated with the participants and the zoom meeting links were created and shared with all the participants. The participants were introduced to the Accounting applications to be tested by using the ‘screen share’ function during the call and were explained in detail about the Accounting systems. Then they were introduced to the criteria on which they had to assess the Accounting systems. They were asked to test the applications for a couple of days based on the predetermined criteria and rate the apps based on those criteria. All the links to the applications and a file mentioning all the features according to all the assessment criteria was shared via email with the participants after the first Zoom



call. Then a second call was done to conduct the interviews and collect the assessment of all the participants.

### **Conducting the interviews**

The video call interviews acted as a blessing in disguise as it was easier to set them up as compared to in person interviews. All the interviews lasted 60-90 minutes. The participants were asked how their experience was with the use of the five accounting systems. They were asked about their ratings and feedback on all the criteria for the five accounting systems. They were also asked for additional feedback about their experience with the accounting systems. The next section gives the details about the accounting applications assessed during this research.

### **Accounting applications**

The Accounting applications that were assessed during this study are:

#### **1. Xero**

Xero is a cloud-based accounting software that was found in 2006 in New Zealand and is one of the fastest growing software as a service company globally. They currently have two million plus subscribers and a team of 3000+ people. It offers a lot of functions that can make the accounting process of a company easy to handle (Xero, 2021).

It can be accessed through any device as Xero offers a software as well as an app version. So, it can be used on a computer, a tablet, and a mobile phone. It can also manage the purchase orders, bills, and supplier payments electronically or by cheque for the user. It is possible to drag and drop files anywhere in the software, this makes it possible to place the documents next to the transaction. The reports created by Xero are customizable. It also offers add on features in the app store with over 800 third party apps so that additional functions can be used as per the requirements. It offers add-ons like Xero Expenses and Xero Projects and is compatible with third party apps like Stripe, Vend and PayPal. It aims to serve small businesses in all kinds of sectors, like, agriculture, hospitality, and retail. It also offers a free trial period and guide to understand how to use the software for beginners.

#### **2. ClearBooks**

ClearBooks is an award-winning cloud computing software which was found in 2008 by Tim Fouracre in the UK. It is ICAEW and ICB accredited and is serving thousands of customers in the UK. See features in detail within Appendix 1 (Clear Books, 2021)

### 3. Zoho Books

Zoho Books was found in 2011 and claim that their Client portal which provides the clients of the user with a portal where they can view their invoices and estimates, see the payments sent by them and rate the services of the user is what sets them apart from the rest of the applications in the market. They also provide a possibility to implement transaction approval where the user can verify a transaction before it is finalized.

### 4. FreshBooks

FreshBooks was found in 2003 in Toronto and has over 24 million users. They do business with philosophy of 4E that says Execute Extraordinary Experiences Everyday.

### 5. Quick Books

Quick Books is a cloud-based accounting software which is developed by Intuit and its stable release was in 2019. It was found in California, USA. The MacOS version QuickBooks is only available in USA. It enjoys a user base of 4.5 million users around the world. They offer three versions of the software for different prices. The prices increase as the number of features increase. The basic package is called Simple start and fit for the businesses that have started their operation. It allows one user and one accountant to be able to use the services.

The criteria developed by gathering information from literature is mentioned in Table 2 and explained below.

**Table 2. Conceptual framework for assessment of the Accounting and Finance apps**

Criteria	Authors
Financial reporting and analysis	Abu-Musa (2005)
Financial planning and control	Paul et al. (2019)
Accounting and finance guidelines and standards	Albu et al. (2013)
Working capital management	Paul et al. (2019)
Complementary Handbooks/ Manuals	Rahmayanti et al. (2018)
Number of downloads and reviews in app store	Fordham et al. (2019)
Customization	El Barrtad et al. (2015)
Ease of use	Mauricette (2019)

Consultant support	Rahman et al. (2015)
Security and validation of data	Aduamoah et al. (2017)
Ease of data entry and archiving documents (beneficial for audit trail)	Aduamoah et al. (2017)

Source: Own elaboration, based on different authors

### **Financial reporting and analysis (bookkeeping)**

Bookkeeping is the basic function of an Accounting department. It is the recording of all the financial transactions done by the business on an everyday basis. Bookkeeping is about classifying the transactions as debit and credit and maintaining the general ledger. It is the fundamental step that acts as base for organizing all the financial reporting and planning for the company. The transactions recorded as a part of bookkeeping include the payments made against the invoices sent out to customers, payments made to suppliers, creating financial statements among others. Financial reporting is then organizing the data recorded in general ledger into different financial reports that can help in analysing the status of the company. The financial statements vital for a company are balance sheet, profit and loss statement, statement of cash flows and statement of changes in equity. A computerized accounting system should be able to create these statements in real time along with other reports in an easy to read manner with the help of charts and graphs. These reports help the management to assess the financial status of the company and plan the future activities accordingly. It is therefore an important factor to judge the proficiency of a software.

### **Financial planning and control**

Financial planning is making a plan for the future actions based on the current financial status of the company. It ranges from activities like planning when to restock the inventory to creating budgets for the next project and other larger projects. It is a way to ensure that there is always enough cash flow in the company. A financial application should have inventory tracking capabilities so that it can help the business keep a track of when to restock which materials. A software that facilitates the creation of purchase orders based on the status of inventory is a plus. Supporting the process of tax filing is also a part of financial planning

### **Accounting and finance guidelines and standards**

It is important for the financial statements created by SMEs to be according to the established and updated standards. This ensures the quality of the financial statements and leads to generation of uniform information by SMEs. The generation of uniform information helps in securing loans from financial institutions as banks can assess the financial situation of a SME better if they provide financial statements according to the generally accepted standards. The International Accounting Standards Board (IASB) issued International Financial Reporting Standard (IFRS) for Small and Medium sized entities in July 2009 because of a demand for an easier reporting standard for SMEs. Although it is not mandatory for SMEs to follow these while reporting their financial statements according to international standards, but it is beneficial if they do so (Albu et al., 2013).

### **Working capital management**

Working capital management consists of managing the accounts receivable, accounts payable and inventory. Accounts receivable consists of the invoicing system and management of incoming payments against the invoices. Accounts payable consists of the bill payments made to all the suppliers. Inventory consists of all the finished and non-finished goods in the company. Since inventory management is being assessed as a part of financial planning and control. The focus of this criteria would be accounts receivable and accounts payable.

### **Complementary handbooks/manuals**

While implementing a new computerized Accounting system, it is important that all the employees who will be using the system understand how the system functions. Detailed handbooks, manuals and training packages should accompany the software that explain in detail the functioning of the accounting system. SME owners generally face problems with proper implementation of accounting system because of no understanding about the working of the system. The reason for this is no trainings provided to them from the accounting system developer (Aduamoah et al., 2017). The training packages that are offered by some accounting system developers are more focused on IT aspect of the system and do not inform about the basic accounting and bookkeeping skills like creating trial balance and other financial statements (Aduamoah et al., 2017). The quality of the material offered by the training packages and manuals that come with the accounting systems can play a vital role in its successful implementation.

### **Number of downloads and reviews in app store**

The number of downloads of the mobile application can be an indicator of the popularity of the accounting system. And the analysis of the reviews in app store can give an idea about the user satisfaction experienced by businesses that have already used the application. Fordham & Hamilton (2019) performed a study on small business in U.S. and found out that 36% of SME owners selected an Accounting system based on reviews from other people. Since the reviews of other play an important part in the selection of accounting systems by SME owners, the reviews written by existing users in the app store can give a picture about the experiences of the others. If an SME manager can receive a network of information of this nature, then decision making becomes much easier so far as selection of CAS package is concerned.

### **Customization**

A single Accounting software cannot be a solution to the needs of all the businesses. Every business is different and therefore, their software needs are also different. Making a different version of a software for every business is not possible so the software developers try to fulfil this requirement by integrating with third party apps and offering add-ons to the software to accommodate the needs of different businesses or by offering different types of packages of the same software which offer different functions for the needs of different businesses. This research will analyse the add-on and the different functions added to accommodate the needs of different businesses. Apart from this, computerized software offers customization within their functions like some applications let the user customize the outgoing invoices and the reports created by the software.

**Ease of use**

This refers to the simplicity of operation of an accounting system. This includes the user interface and the help buttons provided along with complicated operations. The user interface of the accounting system should be friendly so that even occasional users do not face any difficulty in performing basic functions on them (Hodgson & Ponte, 2016). It should be easy enough for a person from a non-financial background to understand and for a person from non-IT background to navigate.

**Consultant support**

The job of the software vendor does not end after the sale of the software. The software vendors needs to offer services that assist with the needs of the SME user while using the software or helping with problems faced during the use of the software, for example, the software developer should offer the skills required by the SME user for data and information restore to the present state in case of a system crash and because of bugs in the software or the computer (Aduamoah et al., 2017). Even after a business owner has selected a digital accounting solution that is compatible with the needs of their business, the SME user still needs a constant support from the software developer (Ahmad, 2005). So, while selecting an accounting software it is important to ensure that the vendor offers support after the sale of the software in case the user requires technical support or support related to implementation of software into the processes of the company.

**Security and validation of data**

The SME user posts a lot of data to the outside world which is generated by the accounting software like financial reports and invoices. The accounting software should offer the possibility for the user to verify the data before it is posted. And it should also cross check the data for errors by itself. It should notify the user if the data contains unreasonable amounts or dates formats. According to Aduamoah et al. (2017), this is called input controls which makes sure that only valid data is entered into certain fields and increases the reliability of the information. Security can be various types in case of a computerized accounting system. The first kind is data security that is endured using cloud computing system. The second is application level security. It offers the administrator of the system the authority to control the access to the software granted to every user. It is made possible by offering a role-based menu that displays different user only those functions to which they are granted access. For example, the SME manager can be granted the right to access all the applications but the accounting department can only access the applications that are related to the accounting functions (Aduamoah et al., 2017).

**Ease of data entry and archiving documents**

Data converted into information is very important for all the decisions made by the company about the present and future projects. So, it is important that the software ensures that the data is being entered in the correct manner. The software should ensure that the user does not fill an inappropriate figure in a field, for example, the software should give an error message if the user fills the date in the salary field. It is also important that the reading of data from an uploaded receipt is done correctly. The software should also offer the possibility to organize the uploaded documents in proper files and folders and should let the user save the receipt along with the transaction so that the user can easily find them while filing their taxes.

## Interview process

The process followed to collect the feedback of participants is as follows:

1. The participants, who are professionals working in start-ups in Germany were approached via calls and texts. A total of 10 participants were approached from four different start-ups in Germany.
2. The purpose of the research was explained to them over a call and they were asked if they were interested in analysing the apps for this research. All the 10 participants agreed to participate in the research. After they agreed, Zoom calls were set up with them at an agreed time. Two participants could not find the time for a call due to busy schedule, so the participants list was narrowed down to eight participants.
3. An individual zoom call was done with all the eight participants where they were explained the purpose of the research in detail first. They were informed about the existence of the apps analysed during this research. They were introduced to the benefits of these apps and their functions. All the apps were shown to them by sharing screen with them. They were also explained the criteria based on which they had to analyse the apps. A word document was shared with them shortly after the call that listed and explained the criteria on which the apps had to be judged. Another document was shared with them that listed all the features of the individual apps based on the criteria on which they had to be analysed. The documents were shared via email. This email also contained the links to all the five apps. The example of the email is given below:

Dear participant,

Thank you for doing this. I have attached the file explaining the criteria on which you have to assess the applications and another file listing all the features that fall under that particular criteria. All of them offer free trial periods. You can use the trials for your analysis. The applications are:

Xero - <https://www.xero.com/>

ClearBooks - <https://www.clearbooks.co.uk/>

Zoho Books - <https://www.zoho.com/books/>

FreshBooks - <https://www.freshbooks.com/>

QuickBooks - <https://quickbooks.intuit.com/eu/>

Best wishes,

Salvy

4. They were requested to test these apps for some days as per their convenience and share their feedback over the Zoom call. During this call they were also asked if they were okay if the calls were recorded for analysis later. Fortunately, they all agreed. One of the participants had already worked with QuickBooks while working for a company, this was considered beneficial for the research as they had worked with the application for a long time and had used it to perform the accounting functions of a real company.

5. The first call where all the participants were introduced to the research was not recorded. Meetings were setup with the eight participants after one week of the first call so that they had enough time to test all the applications.
6. One of the participants dropped out of the research during this week due to time constraints which brought the number of participants to seven.
7. The first call was done with an Intern in the Accounts receivable department of a start-up. The call took 120 minutes, and they were asked about their experience with all the apps during this call and their experience while testing all the features that were a focus of this research as well. Notes were taken during the video call along with recording the complete call. The interviewer had a list of all the criteria to judge the apps to make sure that all of them were covered.
8. The interviews done with all the seven participants lasted for an average of 90 minutes and all the interviews were done in an informal manner. Participants were asked to share all the things that they noticed while using the apps. They were asked if they had any additional comments apart from their comments on the criteria already shared with them. If they did not have a comment on any of the criteria, then the app was tested during the call along with the participant. For example, if they did not have any comment about the criteria Working Capital Management, then the interviewer and the interviewee together tried the Bank Reconciliation feature of the app and tried to create an invoice using the app. The aim of the interview was to keep the atmosphere light so that the participants could share their feedback without any hesitation while making sure that all the criteria were discussed. In order to make sure that the participants did not miss any point that they experienced, the apps were open on the screen and navigated together using the screen sharing feature so that the participant remembered how the app looked like and looking at it could help them recollect their experience easily.
9. This way all the apps were tested, and the reviews were collected. All the participants were thanked for their time during the end of the call.

## 4. Results

This chapter shows a record of all the responses recorded from the participants in form of tables. It shows the ratings given by them and the feedback. The feedback and ratings from the participants have recorded in the tables within Appendix 1.

The above-mentioned tables show a record of the answers given by the participants during the research. All the ratings given by the participants to each feature were summed up and in the manner that a sum was calculated for every assessment criteria for every application and then the total for each application was calculated by adding the total ratings for every criteria. This total along with the feedback given by the participants was used to reach a conclusion. All the participants noticed after their testing of the apps that all five of them offered similar basic accounting features and performed well in that section. They all offer automation for recurring functions of accounts payable and receivables. According to their observation, difference was in the additional features offered by them which are discussed in detail in the next chapter.

## 5. Discussion

This chapter provides an analysis of the results collected during the research and further suggestions as per the data collected during the research.

After compiling the data gathered from all the respondents, it was analysed that all the Accounting systems are performing on the almost the same levels when it comes to the standard accounting assessment criteria that is, financial reporting and analysis excluding the reporting standards, financial planning and control and working capital management. All of them were within a range of 10.25 and 14.25 as per the ratings for financial reporting and analysis. Zoho Books performed the best (10.25) and FreshBooks performed the worst in this criterion (14.25). The reason was that the number of reports offered by FreshBooks was very less and it did not seem easy to find the appropriate reports. None of them follow IFRS for SMEs which was introduced by IASB in July 2009. Xero and Clear-Books achieved better ratings (13 and 15, respectively) in regard of Accounting standards as they follow the local standards in New Zealand and UK respectively. Other three got unsatisfactory ratings (24.5 and 23.5) for Accounting standards because none of them follow any standards. The ratings for financial planning and control were within a range of 13 and 20, with Zoho Books at 12.75 and Clear Books at 20. Zoho provides an inbuilt inventory management system which can directly help in planning and control. All the software maintained almost the same ranking for the criteria working capital management which was between 8.75 and 11.25. They offer the same functions for working capital management with very slight variations. All of them have advanced features to manage accounts payable, accounts receivable and bank reconciliation. And since these are the basic functions that should be performed by an Accounting software, the software should not be considered if these features are not present (Abu-Musa, 2005).

The difference comes in based on other criteria that were used for assessment. Xero (9.75) and Zoho Books (9.75) performed better based on the quality of guidance handbooks and manuals provided by them. Others got ratings between 14.25 and 18.5. FreshBooks and QuickBooks provide articles and courses on their website that provide the basic Accounting knowledge for beginners. QuickBooks has a platform called QuickBooks Commerce that covers management and accounting topics. This can be considered as a step by these accounting systems to increase financial literacy. It is very important that these applications offer possibilities to educate the users about the financial aspects of the business so that the managers and owners are better able to understand and interpret their financial statements and can make better decisions on the basis of the information presented to them by these applications (Panos et al., 2020).

The freedom to make customizations within the platform are almost similar for all of them and all of them got similar reviews from the participants on this aspect. Xero provides the most number of third party integrations which were categorized according to functions and industries which stood out from the other software and due to this reason Xero got one of the best ratings (13.5) and reviews among others. Zoho Books provides most of the additional functions with the help of other in-house integrations which makes the synchronization very easy but at the same time it proves to be costlier as a complete package. If price is a more important feature for a user than the ease with which the features function with each other then Zoho Books does not get a preference.



Since the reviews from friends is a major determinant factor when SME owners select an Accounting software (Fordham et al., 2019), reviews and ratings of their mobile applications is an aspect that definitely influences their decision. Out of the five, the mobile app of QuickBooks is the most popular with the greatest number of downloads, but its ratings are average in the app store. ClearBooks is the least popular as it has the least number of downloads and the worst ratings. Since ClearBooks is designed to aim at the customers in UK, that could be the reason for the least number of downloads and decreased ratings.

Maintaining the satisfaction of customers for a long time and retaining them is as difficult as convincing them to use the product. The customer service provided by the software developer after the sale of the software is an important aspect to maintain customer satisfaction (Rahman et al., 2015). Zoho Books provides the best consultant support out of the others with a rating of 11, as it offers 24 hours service via phone on all weekdays in three countries. Clear Books is an ACCA approved training center and their employees are trained to provide assistance with Accounting related queries in the best manner.

The reliability of the system also depends on the input controls that make sure that valid data is entered into the system (Aduamoah et al., 2017). Only Xero and Zoho Books give an error message when data is entered in wrong formats, rest of them automatically correct the format of the entered data as per the accepted format. This can lead to mistakes during manual data entry.

Since multiple businesses use these software solutions to store sensitive data related to their business, it is very important that the software developer ensures the safety of the data. All of them provide different user profiles to maintain security by granting different levels of access to different users. FreshBooks has made it very easy to set up the different user profiles by providing a button for set up on the home screen and this is the reason it got the best rating for the criteria of security (11.75). All of them provide the function to scan the receipts and bills and do the data entry automatically. And all are cloud-based systems which make them very beneficial. Tudoran et al. (2014) talk about the benefits of cloud technology in their statement, *“Cloud accounting technology is one successful solution derived from cloud computing that enables the storage and processing of corporate financial and accounting documents in the cloud”*.

After considering all the ratings and feedback, Zoho Books (122.75) and Xero (115.5) performed the best among the other accounting systems. ClearBooks seems to be the best for the customers who have their business registered in the UK and it got a total score of 138.25 as it provides additional benefits to them like the integration with HMRC which makes the filing of tax very easy for their customers and the Companies House feature which gives access to the database of the chamber of commerce.

Some observations were made during the research about the features that can improve the performance of the computerized accounting systems. None of the applications researched follow IFRS for SMEs to do their reporting. Including IFRS for SMEs in their reporting functions can be beneficial for the businesses as it will international comparability in the reports prepared by them and improve their chances of securing finances as the information provided to financial institutions will be in a standard manner. In particular, availability of option of reporting as per Accounting standards such as IFRS for SMEs in Germany can be beneficial and a very welcome move by SMEs in Germany. This point is justified by MacArthur (2006) by saying that *“German Society prefers enforced uniformity instead of flexibility in the external financial accounting practises used by companies in the nation”*. And if the Accounting

systems provide an option to generate uniform financial statements which follow international standards then it would be a popular choice amongst German SMEs. MacArthur (2006) reinforces these aspects by using Hofstede's findings which say that German managers do not show a bend towards flexibility which would make them prefer generation of financial statements as per uniform standards. These platforms can provide a choice to their users to select the accounting standard according to which they want their reports to be created (IFRS or GAAP). The Accounting systems can launch platforms just like QuickBooks Commerce to increase financial literacy among SME owners who use Accounting systems. The Accounting systems can also provide provisions for financial planning and control to help with the Management Accounting process. They can provide a function where the application generates the results for tools required for management accounting, for example, they can keep the record of balanced scorecards which can be updated by the employees. The inclusion of methods to generate financial literacy and financial planning and control gives the managers and owners of SMEs better understanding of their businesses and they can confidently take the decisions concerned with Management Accounting. Also this facilitates the process of securing finances from financial institutions as they will be able to provide uniform information if their Accounting is being handled by computerized systems and they are able to present their financial reports as per the accounting standards. These innovative solutions can help in diversifying cash strategies and controlled budgeting, the two areas in which SMEs have been weak.

## 6. Conclusion

This chapter concludes the findings of the research and sums up the analyses made during the research. Just like there is no panacea in reality, one Accounting system cannot be the answer to needs of all types of businesses. The most important factor when choosing an Accounting system is assessing the needs and requirements of the business and then to select the software that best suits the needs. This study tried to answer the question about how efficient the accounting systems are studied during this research in terms of the criteria decided for this research. Zoho Books and Xero turned out to be better than the others in the services provided by them and they received the best ratings and feed-back. Their best features are their user friendliness, the integrations offered by them, the diversity of the financial reports that they offer and amount of automation they offer to perform the everyday tasks. One huge flaw in all the accounting systems is the absence of adherence to International Financial Reporting Standards and lack of direct planning and controlling tools to facilitate management accounting practices. The presence of Accounting standards can be a huge addition to the features of the software analysed during this research because they bring uniformity to the information generated by the small and medium businesses and if the Accounting standard offered by these software is IFRS for SMEs, which if followed by all the users of these software then this uniformity in the financial information generated by SMEs can be observed throughout the world. Presence of tools that provide direct planning and control facility like balanced scorecard, budgeting tools etc. can improve the decision-making capabilities of the owner and the managers.

The shortcoming faced during this research is that trial versions of all the Accounting software were used. The trial versions do not give access to all the functions of the software which took away the freedom to completely explore the software. The maximum duration of the trial version provided by the software analysed during the research is one month and the minimum is 14 days. Zoho Books offers

a trial period of 14 days and the rest offer a trial period of 30 days. Analysing the software by using the trial period to perform the operations of the business can be a useful factor while making the decision about a software. The duration of trial period and the amount of features offered during the trial period can be an issue for SMEs who are trying to make their decision about the software on the basis of their experience during the trial period as well. The period of one month as a trial period is very short for a business that has just started or is growing its operations. It is difficult to try all the functions of the software during this period. Moreover, only limited functions are open to use during the trial period. This makes it difficult to analyse the software properly.

This research can be helpful for small and medium business owners who do not have much idea about the financial aspects and need help with choosing the right Accounting software for their business. It can act as a guide for them to understand which factors they should take into account while making their decision and the feedback from the participants can help them while choosing among the five software analysed during this research. A detailed list of all the features provided by these software solutions can also be found in this research.

Further research can be undertaken by measuring the impact on the management capabilities of SMEs after the implementation of the recommended Accounting systems. Another aspect that these software can be judged on is the different packages offered by them in different price range. All the features offered by them as part of different packages can be compared keeping the price of the different packages in mind.

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## Appendix 1: Tables with Results

### Participant 1

#### Financial reporting and analysis

Software	Rating	Feedback
Xero	1	58 reports in total and classified as financial, tax, accounting, fixed assets, sales, purchase, inventory and pay run, can be marked as favourite, customizable reports, can be searched by title, report date, published by and published date; would have been better if accounting standards were followed during reporting
Clear Books	2	26 reports in total, VAT report available, popular reports in a separate category, graphs can be created for some reports; would have been better if accounting standards were followed during reporting
Zoho Books	1	More than 40 categorized reports, the layout of reports can be configured, Zoho Analytics helps in creation of insightful reports for analysis, reports can also be scheduled, entries can be clicked on to arrive at their details within reports; would have been better if accounting standards were followed during reporting
FreshBooks	3	14 reports in total, reports can be marked as favourites for easy access, categorized reports; would have been better if accounting standards were followed during reporting
QuickBooks	1	Huge number of customizable reports, easy search, entries can be clicked on to arrive at their details within reports, sending of reports can be scheduled; would have been better if accounting standards were followed during reporting

#### Financial planning and control

Software	Rating	Feedback
Xero	3	Cash flow projections based on paid invoices and bills paid-pilot feature, dashboard shows cash flow report in the form of graphs, inventory can be tracked through 41 third party apps
Clear Books	5	No tools for planning and control



<b>Zoho Books</b>	<b>2</b>	<b>Shows a report comparing the budget and actual spending; Zoho Inventory for tracking stock levels across multiple channels – online and offline, integrates with Amazon, eBay, Shopify and etsy, all the channels automatically updated on changes in one channel</b>
<b>FreshBooks</b>	<b>4</b>	<b>Third party integration for inventory tracking</b>
<b>QuickBooks</b>	<b>3</b>	<b>Shows report on inventory status</b>

### Accounting guidelines and standards

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>2</b>	<b>Reports are at least according to the New Zealand standards, can be very useful for external purposes</b>
<b>Clear Books</b>	<b>2</b>	<b>ICB certified so can be more acceptable by financial institutions</b>
<b>Zoho Books</b>	<b>4</b>	<b>No direct support, the company needs to approach accountants to prepare reports according to accounting standards</b>
<b>FreshBooks</b>	<b>4</b>	<b>No direct support, the company needs to approach accountants to prepare reports according to accounting standards</b>
<b>QuickBooks</b>	<b>4</b>	<b>No direct support, the company needs to approach accountants to prepare reports according to accounting standards</b>

### Working capital management

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>1</b>	<b>'Pay now' button on invoices a plus, all the required features and automations present</b>
<b>Clear Books</b>	<b>1</b>	<b>VAT addition to invoices helpful, all the features of accounts receivable and accounts payable easy to use and understand</b>
<b>Zoho Books</b>	<b>1</b>	<b>Vendor Portal is a convenient feature as all the vendor related data is in one place</b>

<b>FreshBooks</b>	<b>1</b>	<b>Separate Clients tab very helpful and easy to find</b>
<b>QuickBooks</b>	<b>2</b>	<b>No direct tab for invoice creation</b>

#### Complementary handbooks/manuals

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>1</b>	<b>Demo account available to understand the functioning, detailed videos about set up for every feature and link to the video on the same page as the feature, very easy to follow and set up; short courses on website to understand accounting</b>
<b>Clear Books</b>	<b>2</b>	<b>Demo account available, detailed articles on set up of every feature in the 'Need Help?' section but no instructions on the same page as the function</b>
<b>Zoho Books</b>	<b>1</b>	<b>Demo account available for understanding the use; videos attached to every function explaining the set up and also explaining what that function means accounting wise</b>
<b>FreshBooks</b>	<b>2</b>	<b>Scribbles around different functions explaining what they do, separate support page with articles explaining the setup, no videos; all the accounting concepts explained on a separate portal through articles</b>
<b>QuickBooks</b>	<b>3</b>	<b>Articles about setup but they can be accessed by using the help button which is a chat window with a bot; detailed articles about accounting concepts</b>

#### Number of downloads and reviews in app store

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>1</b>	<b>Huge number of downloads and assuring reviews and ratings</b>
<b>Clear Books</b>	<b>3</b>	<b>Very less downloads and mixed reviews in app store, leaves a negative impression</b>
<b>Zoho Books</b>	<b>2</b>	<b>Comparatively less downloads but good reviews and rating</b>

<b>FreshBooks</b>	<b>2</b>	Again less downloads as compared to Xero and ratings (4.5) a bit less than Zoho Books (4.7)
<b>QuickBooks</b>	<b>2</b>	The greatest number of downloads but ratings less than FreshBooks (4.1)

### Customization

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>1</b>	Customization of invoices, reports, dashboard possible; the app store shows integrations based on different industries like not for profit, manufacturing, hospitality, and apps can be filtered by function
<b>Clear Books</b>	<b>3</b>	Dashboard, invoices, reports can be customized; few basic third-party integrations but special amenities for construction companies that are CIS registered
<b>Zoho Books</b>	<b>2</b>	In app customizations possible; a huge number of Zoho apps available for integration categorized into communication and collaboration, sales and marketing, business processes etc., third party integrations also possible but less diverse, good options for retail businesses
<b>FreshBooks</b>	<b>2</b>	In app customization up to date; a variety a third party integrations categorized according to functions served
<b>QuickBooks</b>	<b>4</b>	In app customization possible but no functions offered through third party integrations

### Ease of use

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>2</b>	All the tabs can be seen on the screen after logging in and easy to find different functions
<b>Clear Books</b>	<b>1</b>	Very easy to setup, best thing is asks for company logo during setup, very easy to use dashboard

<b>Zoho Books</b>	<b>1</b>	<b>Changes language as per location, advanced search for easy access, easy to navigate, uncluttered and easy to understand, all functions present in navigation panel</b>
<b>FreshBooks</b>	<b>2</b>	<b>Also easy to navigate, everything can be found on the first screen after login, invite button to grant permission a plus</b>
<b>QuickBooks</b>	<b>2</b>	<b>Attractive looking dashboard, but a bit confusing to navigate</b>

### Consultant support

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>2</b>	<b>24/7 online support to subscribers, but no phone numbers provided</b>
<b>Clear Books</b>	<b>1</b>	<b>Employees trained to answer conceptual queries as well, this leads to a better support, contact via email, received a call to help with setup one day after registering</b>
<b>Zoho Books</b>	<b>1</b>	<b>Support through phone (Australia, United Kingdom and United States), email and chat window</b>
<b>FreshBooks</b>	<b>1</b>	<b>Support through email and phone</b>
<b>QuickBooks</b>	<b>1</b>	<b>Easy to contact through email and phone</b>

### Security and validation of data

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>2</b>	<b>Provides the possibility to create different user profiles and gives an error message when data entered in the wrong format</b>
<b>Clear Books</b>	<b>3</b>	<b>Enables the admin to define different user profiles but does not give an error message when data is entered in the wrong format, value automatically converted to the acceptable format without showing an error</b>

<b>Zoho Books</b>	<b>2</b>	<b>Lets the user assign different profiles granting different roles to different users; gives an error message when data not entered in valid format</b>
<b>FreshBooks</b>	<b>1</b>	<b>Possible to define different user roles and a button on the front asking to invite different users; does not give an error message when wrong format used for data entry</b>
<b>QuickBooks</b>	<b>2</b>	<b>The user can define different access permissions for different roles; accepts amount in every format and changes it according to the suitable format</b>

#### **Ease of data entry and archiving documents**

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>3</b>	<b>No direct function for automatic data entry, integration with third party app Hubdoc to perform this function which is paid; easy to organize data into different folders</b>
<b>Clear Books</b>	<b>2</b>	<b>Data can be automatically entered through a third-party app called AutoEntry; different folders can be created to organize data in the cloud</b>
<b>Zoho Books</b>	<b>1</b>	<b>Data be scanned through to in built application which makes it comparatively easier to sync the data with the records</b>
<b>FreshBooks</b>	<b>2</b>	<b>Integration with AutoEntry for automatic data entry</b>
<b>QuickBooks</b>	<b>4</b>	<b>Only manual data entry possible</b>

#### **Participant 2**

#### **Financial reporting and analysis**

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>1</b>	<b>An overview of everything was provided in the dashboard; only difference amongst all the software in this respect is that some have</b>

		represented all their information through numbers and others have taken the help of charts like bar charts and line charts
Clear Books	3	A huge number of reports available which feels like a lot of unnecessary information; least impressive of all the software
Zoho Books	2	Consisted of a huge amount of numbers and less reports provided by the in-built function, reports only possible with the additional application from Zoho
FreshBooks	1	Some reports can be represented as uniform charts which makes them easy to interpret
QuickBooks	2.5	Basic reports for analysis available

#### Financial planning and control

Software	Rating	Feedback
Xero	1	Helps in measuring KPIs which is very helpful; all the information about where the revenue streams are coming from and what comprises of the most of expenses present on the dashboard; given priority to the basic functions that help in planning and control
Clear Books	4	Very less information provided; dashboard looked disappointing
Zoho Books	2	Provides the basic functions need to plan and control
FreshBooks	1	Since the information is represented using uniform charts, it is easy to interpret
QuickBooks	2	Tools to facilitate planning and control available

#### Accounting and finance guidelines and standards

Software	Rating	Feedback
Xero	1	New Zealand follows IFRS so it is a positive point as the financial reports can be accepted internationally

Clear Books	3	No standards followed
Zoho Books	3	No standards followed
FreshBooks	3	No standards followed
QuickBooks	3	No standards followed

### Working capital management

Software	Rating	Feedback
Xero	1	A lot of features for working capital management which felt like overflow of information and felt confusing; consists of the basic features necessary for an accounting software
Clear Books	2.5	Basic features present
Zoho Books	2	Provides the basic features and automation for accounts receivables and payables management
FreshBooks	1	All the information presented using uniform charts (bar charts) which makes it very simple to understand and everything is easily visible
QuickBooks	2.5	Information presented using different types of graphs (line graphs and bar graphs), would have better if information was present in a uniform manner using one type of graph, that makes the use simple

### Complementary handbooks/manuals

Software	Rating	Feedback
Xero	1	Very well explained the complete set up through videos; evident that it was designed keeping in mind that the user does not necessarily have information about accounting
Clear Books	4	Bombarded with too much information; directs to YouTube after clicking on one video which provides suggestions of a list of other videos that explain the working of different functions, this looks very tedious

		and would be more convenient if there was one video covering everything
Zoho Books	2	A lot of information provided in comparison to Xero as Xero was able to explain a lot of functions in a short video in the beginning
FreshBooks	5	It explains every field by showing a box right next to it after you click on the field, that felt like a lot of information and complicated to understand; no demo videos
QuickBooks	3	No videos provided

#### Customization

Software	Rating	Feedback
Xero	2	Very easy to move things around in the dashboard but other than that not enough room for customization in other places
Clear Books	1	Only software to ask for currency during set up, possibility to change currency in others as well but only Clear Books asked for the default currency at the start
Zoho Books	1	Language changed to German after entering the country during set up which is appealing for small businesses because the local language is preferred
FreshBooks	2	Had a separate option on the invoice to import the logo, the fact that they have defined a special place on the invoice to put the logo makes it easier to use than the others and is beneficial for a person without a technical background
QuickBooks	2	Customizable invoices

#### Ease of use

Software	Rating	Feedback
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Xero	1	The colours used in dashboard made it look attractive; asked for a lot of information during set up
Clear Books	2.5	Average interface
Zoho Books	2	Easy to navigate
FreshBooks	3	After clicking on the 'Back' button to leave a tab it was difficult to locate the same page again, so not very user friendly
QuickBooks	3	It was too complicated to create an invoice because it asked for a lot of details

#### Consultant Support

Software	Rating	Feedback
Xero	1	Very easy to approach, a lot of options to contact them
Clear Books	2.5	Can be approached via email and only convenient to contact for customers in the UK
Zoho Books	2.5	Possible to send them a message and a direct number provided as well
FreshBooks	1	Easy to approach; option to chat with the support team and call them as well
QuickBooks	5	Very poor consultant support

#### Security and validation of data

Software	Rating	Feedback
Xero	2	Possible to create different user profiles
Clear Books	4	Changes the manually entered into the accepted format and ignores the rest of the numbers that do not fit according to the format, does not notify about the difference in format

<b>Zoho Books</b>	<b>4</b>	<b>Does give a notification when wrong format used during data entry, rather automatically changes it to the correct format and the data entry becomes wrong</b>
<b>FreshBooks</b>	<b>2</b>	<b>The easily accessibility of the security feature shows user friendliness for a small business</b>
<b>QuickBooks</b>	<b>2</b>	<b>Provides the freedom to create different user profiles to increase the security of data</b>

#### Ease of data entry and archiving documents

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>1</b>	<b>Very easy to use</b>
<b>Clear Books</b>	<b>1.5</b>	<b>Gave an error message on use of wrong format</b>
<b>Zoho Books</b>	<b>2</b>	<b>Corrected the amount itself when wrong format used without giving any error message</b>
<b>FreshBooks</b>	<b>2</b>	<b>Tried to put date in the 'Amount' field, it just ignored the second decimal in the date and entered it as amount</b>
<b>QuickBooks</b>	<b>2.5</b>	<b>Did not show error message on use of wrong formats for data entry</b>

#### Participant 3

#### Financial reporting and analysis

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>2</b>	<b>Same for all; frequently used reports can be marked as favourite which makes the access easy</b>
<b>Clear Books</b>	<b>2.5</b>	<b>Several categorized reports available but no option to add own ratios</b>
<b>Zoho Books</b>	<b>2</b>	<b>Wide array of reporting options, others also offer the same</b>

<b>FreshBooks</b>	<b>4</b>	<b>Reports tab difficult to notice; basic reports available</b>
<b>QuickBooks</b>	<b>1.5</b>	<b>Several report types available which can be customized, this helps in making the reports relevant to one's company</b>

### Financial planning and control

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>3</b>	<b>Contains all the basic functions offered by others; stock tracking also possible</b>
<b>Clear Books</b>	<b>3</b>	<b>Easily editable inventory tracking with easy layout</b>
<b>Zoho Books</b>	<b>2.5</b>	<b>Stock tracking possible; need the premium version of the software to access all the control related features</b>
<b>FreshBooks</b>	<b>4</b>	<b>No direct options for planning and control</b>
<b>QuickBooks</b>	<b>2</b>	<b>Depends on the package purchased, the highest ones let the user track inventory and manage budget</b>

### Accounting and finance guidelines and standards

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>2.5</b>	<b>Standards not customized for different markets</b>
<b>Clear Books</b>	<b>2</b>	<b>Useful if you are a UK business because ICB certified</b>
<b>Zoho Books</b>	<b>3.5</b>	<b>No affiliations to ensure compliance with accounting standards; an accountant would be required to ensure compliance with accounting standards</b>
<b>FreshBooks</b>	<b>3.5</b>	<b>No standards followed</b>
<b>QuickBooks</b>	<b>3.5</b>	<b>No standards followed</b>

### Working Capital management

Software	Rating	Feedback
Xero	1	Accounts payable and receivable can be easily managed
Clear Books	1	Company's house feature very useful for UK customers as it has the database of the chamber of commerce
Zoho Books	1	The overview of how to access things is useful
FreshBooks	2	Expensive to use PayPal and Stripe for payments; gives a complete preview of invoice during creation in A4 format; better than others for invoicing, number cannot be assigned to customers; offers the possibility to charge late fees
QuickBooks	1	Creation of unlimited invoices possible with the cheapest version which makes it a good option if you want a software only for creating invoices and bookkeeping

#### Complementary Handbooks/Manuals

Software	Rating	Feedback
Xero	2	Professional and explanatory videos
Clear Books	2.5	They provide articles and community support, but you need to know what you are looking for which can be confusing
Zoho Books	1.5	Shared demo account; explanation videos present; Help button present almost everywhere, a lot better than Clear Books in this manner
FreshBooks	3	No demo account; very basic
QuickBooks	2	No demo account, help videos available, and step by step explanation as well which is helpful when you are doing something for the first time, this can be more helpful than videos

#### Customization

Software	Rating	Feedback
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Xero	2	Customizable layout, not overly complicated; have an API to integrate external systems; they claim to use machine learning to offer a smart system; compatible with a huge number of apps
Clear Books	2.5	It easy to define standards which can be done in all of them; all the standard customizations as provided by others
Zoho Books	3	No option for dashboard customization which is crucial; all the other standard customizations possible; good that other zoho apps are available but if integration with only Zoho apps is possible then it can be expensive or if the user is using an external software for a function already they might not want to switch, so good and bad at the same time
FreshBooks	3	Not a lot of free room to make changes in the invoice during creation; a lot of integrations but not appealing
QuickBooks	3	Offers VAT for 5 countries, basic customization possible; a lot of colour options for invoices; separate app from QuickBooks for payroll

#### Ease of use

Software	Rating	Feedback
Xero	1.5	Intuitive layout, did not have to think before clicking anywhere
Clear Books	3.5	USP is for users registered in the UK as some benefits are only for UK based customers; looks difficult to use outside the UK
Zoho Books	2	Clean look, nice support functions
FreshBooks	3.5	Less usability as compared to others; not user friendly; not easy to find things
QuickBooks	1.5	It can be difficult to access things if you don't know what belongs where; Can import data from Excel files, good layout, looks professional

#### Consultant support

Software	Rating	Feedback
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<b>Xero</b>	<b>4</b>	<b>No phone number provided to call, help only through FAQs</b>
<b>Clear Books</b>	<b>2</b>	<b>Can call support team during UK office hours but useless if you are located in a different time zone</b>
<b>Zoho Books</b>	<b>1</b>	<b>Available all weekdays for 24 hours and free tech support</b>
<b>FreshBooks</b>	<b>2</b>	<b>Can call from Monday to Friday 8-8 (EST)</b>
<b>QuickBooks</b>	<b>3.5</b>	<b>Chat function annoying as it kept popping up, Chat bot present, live bookkeeping advisors (add on - paid), no number to call for support</b>

#### Security and validation of data

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>2</b>	<b>Cannot input nonsense data</b>
<b>Clear Books</b>	<b>3</b>	<b>Credit note can be created without any link to any other document</b>
<b>Zoho Books</b>	<b>2</b>	<b>Standard for most, it also provides the standard functions</b>
<b>FreshBooks</b>	<b>2</b>	<b>Does not accept two decimal points in the 'Amount section'; can invite accountant for free</b>
<b>QuickBooks</b>	<b>3</b>	<b>Automatically corrects data entered in incorrect format which led to incorrect results</b>

#### Entry of data and archiving documents

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>1</b>	<b>Great for retail shops because of the integration with Square, especially in the US because Square is used on a large scale there</b>
<b>Clear Books</b>	<b>2.5</b>	<b>Very easy to cross check the registered address and acquire other information about a company through Company's house integration</b>
<b>Zoho Books</b>	<b>1.5</b>	<b>Automatic document scan; also integrates with Square which is a plus</b>

<b>FreshBooks</b>	<b>2</b>	<b>Very easy to enter data</b>
<b>QuickBooks</b>	<b>3</b>	<b>Not much customization possible during archiving</b>

#### Participant 4

#### Financial reporting and analysis

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>1.5</b>	<b>In the profit and loss statement, all the accounts are categorized and presented in an easy to understand manner, ability to export the financial statements in different formats is a positive; can also see the transaction details after clicking on amounts in balance sheet; takes care of the basic reporting needs for eg. The balance sheet was neither too complicated nor too explanatory</b>
<b>Clear Books</b>	<b>2</b>	<b>After exporting the management reports, they are presented in a very professional manner; but no clear path to get the data</b>
<b>Zoho Books</b>	<b>1</b>	<b>Reports are properly organized and every account can be clicked on to get further details</b>
<b>FreshBooks</b>	<b>2</b>	<b>Reporting and analysis are standard as in other software</b>
<b>QuickBooks</b>	<b>1.5</b>	<b>Shows an option for Accrual or cash accounting while creating profit and loss report</b>

#### Financial planning and control

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>3</b>	<b>Planning depends on the requirements of the company and they have to do it themselves; they are using third party integrations for planning and since created invoices can be used to keep a track of inventory for the product based sector, it is better to have an in built function for it</b>
<b>Clear Books</b>	<b>3</b>	<b>Help in assessing KPI's through reports containing financial ratios</b>

<b>Zoho Books</b>	<b>1</b>	<b>Very impressive in built add ons to facilitate planning</b>
<b>FreshBooks</b>	<b>3</b>	<b>Inventory tracking possible through integrations</b>
<b>QuickBooks</b>	<b>1.5</b>	<b>The dashboard gives very interesting insights</b>

#### Accounting and finance guidelines and standards

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>1.5</b>	<b>Since the New Zealand standards are followed, at least using some standards</b>
<b>Clear Books</b>	<b>4</b>	<b>Accounting standards are very important, but none followed</b>
<b>Zoho Books</b>	<b>3</b>	<b>No standards followed</b>
<b>FreshBooks</b>	<b>3</b>	<b>No standards followed</b>
<b>QuickBooks</b>	<b>3</b>	<b>No standards followed</b>

#### Working capital management

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>1</b>	<b>Possible to create new expense accounts apart from the options already given; invoices can be created in different currencies; reconciliation process was very organized and detailed</b>
<b>Clear Books</b>	<b>2</b>	<b>Very easy to change currency during invoice creation; possible to create new expense accounts; accounts receivable and payables not compared on dashboard</b>
<b>Zoho Books</b>	<b>1</b>	<b>An overview of total receivables and payables on the dashboard which is very helpful</b>
<b>FreshBooks</b>	<b>2</b>	<b>Only partial information on dashboard to determine working capital</b>
<b>QuickBooks</b>	<b>1</b>	<b>The dashboard gives a good overview of open and overdue invoices; cannot add tax to invoices</b>



### Complementary Handbooks/Manuals

Software	Rating	Feedback
Xero	1	Very informative videos
Clear Books	2	No videos
Zoho Books	1	Videos and articles providing in depth information
FreshBooks	3	No information on the page to set up
QuickBooks	1	Provides videos for set up

### Customization

Software	Rating	Feedback
Xero	1	Able to customize dashboard which is very important from accounting point of view as to evaluate the KPIs all the required values should be present on the dashboard
Clear Books	2	Categorization not satisfactory; very few integrations
Zoho Books	1	Columns can be added and removed from dashboard as well
FreshBooks	5	No customization on dashboard
QuickBooks	4	Only a few integrations available

### Ease of Use

Software	Rating	Feedback
Xero	1	Very user friendly
Clear Books	2.5	Not very user friendly
Zoho Books	1	Very user friendly
FreshBooks	3	Difficult to navigate

QuickBooks	2	Attractive looking dashboard but confusing set up
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#### Consultant support

Software	Rating	Feedback
Xero	3	Only technical support and no consultants
Clear Books	1	Certified employees for support
Zoho Books	1	Numbers provided to be contacted 24 hours on weekdays
FreshBooks	2	Technical and accounting, both type of support present
QuickBooks	2	Technical support through bot and website has accounting support

#### Security and validation of data

Software	Rating	Feedback
Xero	1	User profiles available and data automatically adapts to the required format
Clear Books	2.5	Values automatically changed to format without showing an error message
Zoho Books	1	Offers the automatic option
FreshBooks	1.5	User profile very easy to set up
QuickBooks	2.5	Does not validate the data entered

#### Ease of data entry and archiving documents

Software	Rating	Feedback
Xero	1	Archiving is an important feature
Clear Books	1.5	Miles can also be automatically tracked and recorded
Zoho Books	1	The auto scan feature is a bit expensive

<b>FreshBooks</b>	<b>3</b>	<b>AutoEntry used as an integration for automatic data entry</b>
<b>QuickBooks</b>	<b>2</b>	<b>App available which helps with data entry</b>

### Participant 5

#### Financial reporting and analysis

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>2.5</b>	<b>Reports presented on the basis of accrual and cash-based accounting; the layout of the reports can also be edited but complicated to understand</b>
<b>Clear Books</b>	<b>1.5</b>	<b>Graphs can be created for only one period, not more than that</b>
<b>Zoho Books</b>	<b>1</b>	<b>Everything can be represented through graphs</b>
<b>FreshBooks</b>	<b>1</b>	<b>All the required reports present which can be customized too</b>
<b>QuickBooks</b>	<b>1</b>	<b>Possible to mark reports as favourite</b>

#### Financial planning and control

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>1</b>	<b>The inputs on dashboard are useful for planning and control</b>
<b>Clear Books</b>	<b>1</b>	<b>Very elaborated dashboard with all the required data; HMRC recognition only for the large pack</b>
<b>Zoho Books</b>	<b>2</b>	<b>No direct tools provided</b>
<b>FreshBooks</b>	<b>2</b>	<b>No direct tools provided</b>
<b>QuickBooks</b>	<b>1</b>	<b>Provides support with audit</b>

#### Accounting and finance guidelines and standards

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
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Xero	2	The user does not have the freedom to choose the accounting standards
Clear Books	1	No reporting standards followed but at least customized reports can be created
Zoho Books	3	No standards followed
FreshBooks	3	No standards followed
QuickBooks	3	No standards followed

### Working capital management

Software	Rating	Feedback
Xero	1	All the important functions are present
Clear Books	1	A lot of colour options during invoice creation but only one format for invoicing available, this can be problematic if the customer has some specific requirements for the invoices; attachments can be directly attached during invoice creation
Zoho Books	2	Revenue and expenses shown according to cash and accrued accounting
FreshBooks	1	Provides all the functions required for working capital management
QuickBooks	1	Automation can be assigned to all the repetitive tasks

### Complementary Handbooks/Manuals

Software	Rating	Feedback
Xero	1	Very informative videos and articles for understanding the software
Clear Books	1	Help guides separately available and easily accessible
Zoho Books	1	Every new feature has a video attached
FreshBooks	2	Not much help provided for set up
QuickBooks	1	Videos available for some functions

### Customization

Software	Rating	Feedback
Xero	3	Gives you the freedom to add different things to an invoice to make them easier to understand; the price of integrations an important factor
Clear Books	1	All the information in the invoice is present as header, no customization possible to move the information to the footer; fields can also be added and removed from dashboard
Zoho Books	1	Easily customizable dashboard; number of in-house integrations
FreshBooks	1	The invoices can be completely customized
QuickBooks	1	The dashboard can be redesigned

### Ease of Use

Software	Rating	Feedback
Xero	2	User friendly but a little complicated because of a lot of information which is not properly arranged; lacks in design; feels like too much
Clear Books	1	Very easy to navigate and perfect for small businesses; consists of help section and search button and all the buttons are available on the top
Zoho Books	1	Very easy to use
FreshBooks	2.5	Not very user friendly
QuickBooks	1	Can also track taxes and manage payroll

### Consultant support

Software	Rating	Feedback
Xero	1	Xero Central consisting on articles on all functions and contact via email possible through which they call back; very few accounting courses on the website

<b>Clear Books</b>	<b>1</b>	<b>Email and contact via phone available</b>
<b>Zoho Books</b>	<b>1</b>	<b>Can easily call them but restricted to some countries</b>
<b>FreshBooks</b>	<b>2</b>	<b>Poor consultant support</b>
<b>QuickBooks</b>	<b>1</b>	<b>Very easily available support on phone</b>

### Security and validation of data

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>1</b>	<b>Very good that everybody does not see everything</b>
<b>Clear Books</b>	<b>1</b>	<b>User profiles available</b>
<b>Zoho Books</b>	<b>2</b>	<b>Easy to assign user profiles but does not alert on data entry in wrong format</b>
<b>FreshBooks</b>	<b>1</b>	<b>Very easy to find Access roles and easy to assign</b>
<b>QuickBooks</b>	<b>2</b>	<b>Does not notify when wrong format for data entry used</b>

### Ease of data entry and archiving documents

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>1</b>	<b>Auto archiving possible too</b>
<b>Clear Books</b>	<b>1</b>	<b>Automatically reads receipts and provides suggests for archiving in an organized manner</b>
<b>Zoho Books</b>	<b>2</b>	<b>Autoscan function costly</b>
<b>FreshBooks</b>	<b>1</b>	<b>Automation present in data entry and organizing documents in the cloud</b>
<b>QuickBooks</b>	<b>3</b>	<b>Only web app available</b>

### Participant 6

### Financial reporting and analysis

Software	Rating	Feedback
Xero	1.5	A group of transaction lines can be selected and recoded to advanced options; the codes for accounts, tax rates and tracking can be edited; reports can be exported to Google sheets (very advantageous)
Clear Books	2	Has graphs with period and report type that helps for analysis but doesn't give a prediction like Xero; easy to use timesheets
Zoho Books	2.25	Not much features for analysis but still the reports are very clear and every possible report is available
FreshBooks	2.25	Reports are simple, neat, and understandable; the estimates and proposal feature is easy to use
QuickBooks	2.75	Reports showing all the important analysis of a business are available

### Financial planning and control

Software	Rating	Feedback
Xero	1.5	Analysis on short term cash flow easily available which was not present in others
Clear Books	2	Tools to facilitate planning and control are present
Zoho Books	2.25	No tools for direct planning and control available
FreshBooks	2.25	No tools for direct planning and control available
QuickBooks	2.75	Indirectly planning and control can be done

### Accounting and finance guidelines and standards

Software	Rating	Feedback
Xero	2	Only relevant in New Zealand
Clear Books	2	Only relevant in UK

<b>Zoho Books</b>	<b>4</b>	<b>No standards followed</b>
<b>FreshBooks</b>	<b>4</b>	<b>No standards followed</b>
<b>QuickBooks</b>	<b>4</b>	<b>No standards followed</b>

### Working capital management

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>1.75</b>	<b>Detailed and has all the required data to fill in</b>
<b>Clear Books</b>	<b>2</b>	<b>Very detailed – includes more options than in Xero</b>
<b>Zoho Books</b>	<b>2</b>	<b>Simple format and easy to use</b>
<b>FreshBooks</b>	<b>2.75</b>	<b>Doesn't look like a bill, not formal, lack of customized inputs</b>
<b>QuickBooks</b>	<b>2.75</b>	<b>No tax in the expense tab</b>

### Complementary Handbooks/Manuals

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>2.75</b>	<b>Only one demo video on home page, guides available</b>
<b>Clear Books</b>	<b>1.25</b>	<b>Guides, community support, contact with team on weekdays</b>
<b>Zoho Books</b>	<b>1.75</b>	<b>Tips on the page, chat with experts also possible</b>
<b>FreshBooks</b>	<b>1.5</b>	<b>Has help in almost all pages, videos, and also guides</b>
<b>QuickBooks</b>	<b>1.5</b>	<b>A take a tour option in every tab which is very helpful</b>

### Customization

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>2</b>	<b>A large amount of integrations available</b>
<b>Clear Books</b>	<b>2</b>	<b>Customizable invoice and keyboard</b>
<b>Zoho Books</b>	<b>2</b>	<b>New items can be added and removed from the dashboard</b>



<b>FreshBooks</b>	<b>1.5</b>	<b>More customizable than others</b>
<b>QuickBooks</b>	<b>2</b>	<b>Very easy to understand dashboard with a lot of customizations</b>

### Ease of Use

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>1.25</b>	<b>Easier to use because of the arrangement of everything</b>
<b>Clear Books</b>	<b>1.5</b>	<b>Easy to navigate</b>
<b>Zoho Books</b>	<b>2</b>	<b>Very user friendly</b>
<b>FreshBooks</b>	<b>2</b>	<b>Easy to use</b>
<b>QuickBooks</b>	<b>2.75</b>	<b>Least user friendly of all</b>

### Consultant Support

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>3</b>	<b>Not satisfactory</b>
<b>Clear Books</b>	<b>2.5</b>	<b>Easy to reach</b>
<b>Zoho Books</b>	<b>2.5</b>	<b>Easy to reach via phone</b>
<b>FreshBooks</b>	<b>2</b>	<b>Contact through phone and email possible</b>
<b>QuickBooks</b>	<b>1.75</b>	<b>Very prompt customer support</b>

### Security and validation of Data

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>2.75</b>	<b>Validates data and notifies if wrong format used</b>
<b>Clear Books</b>	<b>2.5</b>	<b>Offers the option to create user profiles</b>
<b>Zoho Books</b>	<b>2.5</b>	<b>Validates data and notifies if wrong format used</b>

<b>FreshBooks</b>	<b>2.25</b>	<b>No notification provided on use of incorrect format</b>
<b>QuickBooks</b>	<b>1.75</b>	<b>No notification provided on use of incorrect format</b>

### Participant 7

#### Financial reporting and analysis

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>1</b>	<b>Provides very advanced features for reporting and ample amount of reports available</b>
<b>Clear Books</b>	<b>1</b>	<b>Huge amount of reports available which cover all the needs of a business</b>
<b>Zoho Books</b>	<b>1</b>	<b>A large amount of reports available but analysis possible only with a separate built in</b>
<b>FreshBooks</b>	<b>1</b>	<b>It provides the all the required reports</b>
<b>QuickBooks</b>	<b>1</b>	<b>All the important reports available</b>

#### Financial planning and control

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>1.5</b>	<b>All the invoices and bills are present on the same page; Budget manager report helps in creating a budget for up to 24 months</b>
<b>Clear Books</b>	<b>2</b>	<b>No direct possibilities provided</b>
<b>Zoho Books</b>	<b>2</b>	<b>Not possible directly</b>
<b>FreshBooks</b>	<b>2</b>	<b>No tool that directly provides the planning and control function</b>
<b>QuickBooks</b>	<b>2</b>	<b>Basic functions that facilitate planning and control are available</b>

#### Accounting and finance guidelines and standards

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
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<b>Xero</b>	<b>2</b>	<b>New Zealand standards followed</b>
<b>Clear Books</b>	<b>2</b>	<b>Suitable for reporting in UK as helps with taxes as well but only the costlier version does that</b>
<b>Zoho Books</b>	<b>3</b>	<b>No standards followed</b>
<b>FreshBooks</b>	<b>4</b>	<b>No standards followed</b>
<b>QuickBooks</b>	<b>4</b>	<b>No standards followed</b>

### Working capital management

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>2</b>	<b>Limited expense claims, projects, and multi-currency support</b>
<b>Clear Books</b>	<b>1</b>	<b>All the required features available</b>
<b>Zoho Books</b>	<b>1</b>	<b>Very easy to perform day to day operations of accounts receivables and payables and most of the recurring tasks can be automated</b>
<b>FreshBooks</b>	<b>1</b>	<b>Easy bank reconciliations and the software also provides suggestion to do the same</b>
<b>QuickBooks</b>	<b>1</b>	<b>All the functions required by accounts payables and receivables are present</b>

### Complementary Handbooks/Manuals

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>1</b>	<b>Podcasts available mentioning about the marketing strategy</b>
<b>Clear Books</b>	<b>1.5</b>	<b>Very helpful videos and guides</b>
<b>Zoho Books</b>	<b>1.5</b>	<b>Videos available to explain everything</b>
<b>FreshBooks</b>	<b>2</b>	<b>No videos to explain the functions, small explanations present on the page</b>

QuickBooks	3	No direct help on the page
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### Customization

Software	Rating	Feedback
Xero	2.5	Payroll not available as built in feature
Clear Books	1.5	a high level of customization possible for invoices, customers can also pay instantly
Zoho Books	2	A lot of Zoho apps to perform all the functions so very easy to synchronize but at the same time expensive as a whole
FreshBooks	2	Invoice styles can be customized to suit the needs of the business
QuickBooks	2	A lot of possibilities for customization

### Ease of Use

Software	Rating	Feedback
Xero	2.5	Very expensive for small businesses, more suitable for medium and large businesses
Clear Books	1	Everything is very easy to find and easy to use
Zoho Books	1	Very easy to navigate
FreshBooks	2	A bit difficult to navigate
QuickBooks	2	Attractive dashboard but functions within are difficult to find

### Consultant Support

Software	Rating	Feedback
Xero	4	Poor customer support
Clear Books	3	Only helpful if you live in the UK

<b>Zoho Books</b>	<b>2</b>	<b>Phone numbers provided for three countries</b>
<b>FreshBooks</b>	<b>2</b>	<b>Can get in touch via email</b>
<b>QuickBooks</b>	<b>2</b>	<b>Easy to reach and contact</b>

#### Ease of data entry and archiving documents

<b>Software</b>	<b>Rating</b>	<b>Feedback</b>
<b>Xero</b>	<b>2</b>	<b>Limited mobile apps and auto scan feature costly</b>
<b>Clear Books</b>	<b>1</b>	<b>Standard features available which are easy to use</b>
<b>Zoho Books</b>	<b>1</b>	<b>Provides the app function for autoscan</b>
<b>FreshBooks</b>	<b>1</b>	<b>App functionality available</b>
<b>QuickBooks</b>	<b>1</b>	<b>Very easy to make data entry</b>