



RESEARCH PAPER

Navigating Digital Accounting: Lived Experiences of University Students in Pakistan

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ABSTRACT

This study explores the factors influencing the adoption of accounting tools by university students in Pakistan and examines their impact on skill development, self-confidence, and employment potential. The investigation is delimited to undergraduate accounting students across four public-sector universities. With the growing digitalization of accounting practices, proficiency in accounting tools has become essential for future professionals. However, in developing contexts like Pakistan, the integration of such technologies in education remains inconsistent due to infrastructural and pedagogical limitations. A qualitative research design was adopted. Semi-structured interviews were conducted with 12 accounting students from four Pakistani universities. Thematic analysis was performed using NVivo 14 software to uncover the key enablers and barriers to tool adoption in academic settings. Students' use of accounting software is driven by perceived usefulness, ease of use, access to technological infrastructure, and availability of training resources. Institutional support and instructor engagement emerged as critical facilitators. Adoption of accounting tools significantly enhanced students' analytical thinking, problem-solving abilities, and professional confidence. Universities should invest in improving digital infrastructure and offer targeted training programs to encourage technology adoption. Faculty development initiatives should be prioritized to integrate practical tool-based learning into accounting curricula effectively.

KEYWORDS Accounting Tools, Technology Adoption, Skill Acquisition

Introduction

Through the increasing speed of digital transformation, the accounting profession has been largely redefined, which is why a paradigm shift in the pedagogical activities of the accounting education process has become necessary (Warner & Wagner, 2019). Due to the emerging technological imperatives, including automation, cloud computing, and data analytics, the universities across the world are steadily faced with pressure to incorporate digital competencies in the heart of their accounting curriculum (Guàrdia et al., 2021). Whereas much has been achieved in the technologically well endowed parts, the level and fashions of technology embracement in the accounting education has not been well travelled in the developing world, where resources and infrastructural gaps seem to persist. Specifically, the use of accounting software, including MS Excel, QuickBooks, and Peachtree by university students in low resource contexts is an issue that should be investigated through empirical evidence using sociotechnical issues as a potential way through which this group of users adapt to the technology. It is important to understand how students in these positions make their ways through access, training and institutional support in enabling responsive educational strategies. This paper is therefore aimed at questioning the state of technology adoption amongst accounting students in Pakistan in a bid to inform curriculum development and teach more efficiently and jump over the divide in digital learning.

The lack of access to systems and infrastructure in focus countries like Pakistan is also a key factor in delaying the digitalization of higher education through the introduction of digital technologies (Neuwirth et al., 2021). The institutional architectures are expressing a lot of impediments to the successful integration of counting tools into the cluster of university students, where a lot of students have to rely on modest training, ancient courses, and little administrative support. With recognition of such contextual complexities, this paper is a qualitative investigation into the antecedents that inform the use of accounting technologies by students in Pakistani universities. With the lens of student lived experience placed at the forefront of the study, this paper aims to be able to unravel socio-technical, pedagogical, and infrastructural interrelations shaping the patterns of adoption. This situational awareness is a critical component in the development of pedagogical interventions that would not only be contextually justifiable but would also fit in with larger manifestations of digital inclusion and the preparedness of the workforce. Due to the discussion presented by Al Mallak, Tan, and Laswad (2020), the teaching of accounting in low resources settings should be built upon the problems faced by the students in the world and focus on the practical skills, digital literacy, and learning through students experience. Therefore, this study is proposing the reimagination of the accounting education in Pakistan, and this reimaging can be based on the principles of equity, access, and flexibility towards technology.

The driving force behind the given research is the growing importance of digital technologies to the modern accounting practice, which requires future professionals to master a wide range of accounting tools and information systems. With the accounting profession worldwide experiencing a rapid digital transformation manifesting in the uptake of cloud-based-accounting software, automation capabilities, and real-time financial analytics, the demands of graduates have increased, as well (Habib et al., 2021). Nevertheless, in developing nations, there is an extensive mismatch between industry necessities and technology readiness of accounting scholars. The vulnerability of this disparity can effectively be seen in institutions that do not have the technological framework or pedagogical approaches that can be used to incorporate accounting technologies in the curriculums (Mystakidis & Berki, 2018). This study examines the effect that the use of digital accounting application by university students in Pakistan has due to costs and benefits associated with using accounting applications. This knowledge will be invaluable to policy changes, curriculum design, and capacity building initiatives that can not only be used to improve digital readiness but also address reducing the digital divide in accounting education throughout the world.

Although the role of digital tools in the education of accounting is gaining prominence, current literature is still skewed towards the developed world which has superior technological infrastructure, digital literacy and institutional preparedness. This has led to a geographic and methodological bias that ignores the realities of life in underserved environments by the students (Neumeyer et al., 2020). Besides, a large percentage of the empirical research in the field involves quantitative model-based studies, which might not comprehensively encompass the delicate social-cultural environment of interactions between technology and students (ŞahinŞahin et al., 2022). This disparity highlights the importance of qualitative, context-specific research as a methodological approach that puts the voice of students in the foreground and investigates the interaction of various factors that might have an impact on the pattern of technology adoption: digital access, institutional support system, pedagogical design, and the sociocultural perceptions. This study therefore will employ a qualitative research in an effort to provide rich, interpretive research into the market of using accounting tools among the university students in Pakistan. In so doing, it helps redress the literature, thus providing an earthier view that can be used to inform reform efforts, new policy development and equity-driven curriculum building in comparable developing nations all around.

Another imperative issue facing the debate on accounting education in developing nations is that there remains little empirical knowledge of how students assimilate and use online accounting tools in resource poor settings (Khalaf & Hussein, 2023). Higher education implies structural disadvantages, including un-equal access to digital solutions, weak institutional support, and the lack of context-based training, which complicates the opportunity-realization process of students interested in building technological competence with relevance to the practices of accounting in the modern environment (Ahmed & Harrison, 2021). Although it seems that data management, reporting accuracy, and real-time decision-making are becoming more and more relevant through accounting tools, the literature continues to be biased towards the settings that have a high technological level of development and are mostly dependent on positivist, quantitative (Ain et al., 2019). This hegemonic orientation, much like other sociocultural theorizations, ignores how students living under low-resource conditions experienced, understood, and coped with them through digital transitions. The lack of context-sensitive, qualitative studies hinders the derivation of all-inclusive pedagogical frameworks and policymaking concerning the adoption of equitable use of technology. It is crucial to fill this gap in order to assure that accounting graduates in developing world are well prepared to achieve the digital competencies needed in a global profession (Qader et al., 2022).

The accountancy profession is also changing Massively, as evidenced by the fact that highly digitalized technologies are influencing competence in digital modern practices. Software-enablement of the financial reporting, auditing, and decision-support systems used by the firms is gaining momentum to where the graduates of the accounting discipline need to have strong digital literacy and specific tool expertise (Habib et al., 2021). However, in the developing nations, such as the case with Pakistan, the digital divide has limited the capacity of the student to acquire these skills. Restricted investments by institutions and poor internet infrastructure as well as their lack of opportunities to undergo training enhance these obstacles, and as a result, most students are not ready to face realities of working in any digital accounting firm (Alshurafat et al., 2021; Almaiah et al., 2020). To bridge this major lacuna, the current study conducts a qualitative exploration of the university students in Pakistan and their exposure to some sort of technology adoption. In particular, it will seek to discuss the facilitating and hindering forces influencing the adoption of the accounting instruments and come up with ground-based and practically applicable findings that would be used to redesign the accounting curriculum. Focusing on the lived experiences of the students, this study can create a change in our understanding of how to build pedagogical strategies that will be both equitable and responsive to the contexts of higher education to enhance the accessibility of technology in the higher education institutions.

Literature Review

There is a high rate of digitalization within the entire field of accounting globally, and this has built a need to reform the teaching strategy in higher educational facilities (Ali & Amin, 2025). As accounting education also includes enterprise resource planning (ERP) systems, cloud-based financial systems, and data visualization tools, accounting graduates will be able to work in digitally mediated environments and possess the competency that should help them do so (Tschakert et al., 2021; Zhang et al., 2023). The given shift in technologically advanced countries has been supported by a strong infrastructure and institutional preparedness. Nevertheless, there is also a marked variability in the adoption patterns in different situations. Structural constraints in developing countries, such as low budget, ineffective equipment, or the absence of digital education exposure, place obstacles to the comprehensible integration of such tools in the practice (Almaiah et al., 2020).

Such models of technology adoption in accounting education include Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology

(UTAUT). These models lay particular stress on perceived usefulness and perceived ease of use as the crucial factors on the determination of behavioral intention (Venkatesh et al., 2003). Although such models are popular in quantitative studies, they inadequately explain the experiences of institutional, cultural, and experiential variables, especially in the developing world, where the systematic barriers exist and digital marginalization remains in many countries (Al-Okaily et al., 2022). These critiques, therefore, demonstrate why there should be interpretive and context specific approaches that can explain the in-depth nature of meanings and adapting strategies behind the students as they interact with educational technologies (Adedoyin & Soykan, 2020).

Students in a low-resource environment are often exposed to infrastructural drawbacks, like inconsistent access to the internet and power outages as well as substandard hardware that inhibits the learning process with digital accounting tools (Raja & Nagasubramani, 2018). Such difficulties are coupled by poor faculty readiness and absence of institutional allocations in digital capacity-building (Aslan & Reigeluth, 2021). Consequently, there is a tendency to have some students receiving disintegrated exposure to QuickBooks, Excel and Peachtree among other tools which seriously limits their ability to develop competencies needed in the modern accounting profession. The digital divide as used here is more than access, and is complex as it involves three sets of inequalities with pedagogical, infrastructural, and socio-economic roots.

Although the importance of digital skills education in accounting is on the rise, the current body of research is heavily biased against quantitative methods of analysis that are carried out within the context of technologically advantaged settings. Such methodological and geographical imbalance restricts our perspective of the ways in which students in disadvantaged situations perceive, adopt, and apply accounting instruments in their studious life (Neumeyer et al., 2020). Furthermore, survey-based research can lack the inclusion of the social-cultural and emotive aspects of interaction with technology, including anxiety, confidence, peer pressure, and motivation in relation to students (Sarwar & Zulfiqar, 2022). The above omissions indicate an urgency in qualitative research which is much less focused on participant voice, contextual specificity, as well as interpretive complexity of digital engagement.

One of the factors that has come to play an important role in mediating the process of technology adoption among students is institutional support. The role of universities is both that of gateway to digital infrastructure and also the constant that influences attitudes and skills: a learning environment. Students are highly affected by faculty support, technical support opportunities, and the presence of digital modules in course content and require such factors to improve their adoption conducts (Ifinedo, 2017; Dwivedi et al., 2021). The current persistence in the institutional setting, the low level of professional growth among educators, and longitudinal curricula are, on the other hand, factors that may deter student participation and depreciate the pedagogical worth of technological materials. The dynamics also stress the importance of a systems view of teaching, where the vision of administration, innovation in teaching and resource distribution should be used to stimulate fruitful digital transformation.

Digital self-efficacy of students is another important variable relating to the technology adoption as it is a perception of students in their capability to work with digital tools at a competent level. Technology acceptance and persistence with technology have been largely linked to self-efficacy where there are low levels of digital literacy or where there is little support (Bandura, 1997; Huang et al., 2022). A student is more likely to get motivated when the tools that they are being taught are related to their academic performance or future careers. However, when it is seen as complexity or irrelevant, the resistance or little usage will take place. Such perceptions do not simply rely on a purely personal experience, however, but also on collective social and institutional discourses on technology and success.

Altogether, the current literature indicates significant pieces of knowledge as well as evident blind spots. Although an extensive body of literature exists on the technical features of the accounting tools, few studies have been reported on how accounting students in the developing world haggle their adoption in less institutional ecology. The existence of this shortage is worrying especially considering that the global accounting practice is becoming much more digital. Unless a solid idea is present about how low-resource students can use these technologies, the potential benefits of this accounting educational reform will contribute to these inequalities.

Keeping in view these limitations, the current study is constructivist and interpretivist in its research paradigm because the study would focus on the context of Pakistani universities and the experience of adoption of technology by accounting students. It also deploys qualitative, NVivo-assisted substantiation of semi-structured interviews to report on lived realities, contextual hindrances, and adaptive mechanisms that define the students involvement in exploiting digital accounting instruments. In doing so, the proposed study will aim to provide empirical, theory-informed evidence that would be utilised in informing the future construction of more context-aware, constructively relevant practices and pedagogical approaches to accounting education in developing countries.

Material and Methods

The study follows a constructivist-interpretivist paradigm whereby knowledge is a co-constructed process since individuals give meaning and real life experiences to what is reality (Lincoln & Guba, 1985). In this philosophical positioning, the research will strive to interpret the relationship between the perceptions and navigation of Pakistani university accounting students towards digital-account accounting tools based on the institutional and socio-technical limitations. This inquiry gives voice to participants, context sensitivity, and thematic diversity, which are also the markers of the qualitative methodology (Creswell & Poth, 2018). One of the reasons that a qualitative approach was chosen is its ability to capture the lived experiences of students and how the various complexities of a sociocultural context define their interaction with such technologies as Excel, QuickBooks, and Peachtree.

Sampling and Participant Selection

Purposive sample involving 18 final-year students of undergraduate accounting course in two public-sector universities in Punjab, Pakistan was taken. The selection of these institutions was done out of the fact that they partially include digital tools in accounting programs, as transitional but limited educational contexts. Participants were chosen mainly because they were exposed to the technologies in accounting specific to the accounting system, and had the capability of expressing personal experiences. Great emphasis was placed on the maximum variation in the gender, educational background and socioeconomic status to promote the depth and breadth of the knowledge. The process of recruitment was done by departmental referrals, and in-class announcements. All involved individuals gave informed consent and were promised confidentiality with the use of pseudonyms and data protection measures.

Data Collection Procedures

The main data was collected in form of semi-structured interviews which were flexible but focused to explore digital learning experience of the students. The interviews were either done in Urdu or English following the convenience of the respondent and took an average of 4060 minutes. A literature-intelligence interview guide with guidelines regarding the exposure and the barriers to the use of digital tools, the usefulness, and the support of an institution and the personal attitudes towards technology were presented.

The guide itself was open-ended and redesigned repeatedly in light of initial interviews to track down emergent issues more carefully. Audio-recording of the information (with consent), transcription, and anonymization of all interviews were conducted. The research ethics board in the host institution gave the research ethical approval.

Data Analysis

The analysis of data can be performed with the assistance of the reflexive thematic analysis (Braun & Clarke, 2021), and it consists of six iterative steps: familiarization with data, initial codes, data familiarization, coding, theme construction, theme review, and theme definition, and report writing. The management, coding and organization of data using NVivo 14 software was used and increased the openness and comparability of the analytical judgments. The inductive coding of initial coding involved capturing semantic and latent meanings and then coded into thematic broad categories. The visualization tools offered in NVivo have also been used in the form of the tracing of coding patterns and theme density across transcripts (e.g., tree maps, coding stripes). The software also accommodated repeated memo-writing where the researcher could jot his/her ideas, connectivity and analytic observations during the course.

Ensuring Trustworthiness and Reflexivity

To be trustworthy, the research included the measures that followed the guidelines of Lincoln and Guba (1985). The credibility was supported by long involvement in transcripts, repetitive coding, member checking with five participants, who commented on the preliminary thematic framework. The issue of transferability was covered with the help of proper contextual descriptions of institutional settings and the demographics of the participants. This was facilitated by a maintained audit trail i.e. NVivo logs, analytic memos, and decision records and checked by an external expert in qualitative research. Constant reflexivity was used to affirm confirmability: the primary researcher kept a journal to track her changing interpretations and personal biases, as well as the relationships between the researcher and the participants. The researcher, being an educator in the field of accounting and knowing the digital tools, particularly considered their positionality explicitly, to avoid interpretive distortion and place more emphasis on the meaning of the participants (Berger, 2015).

Results and Discussion

NVivo 14 has been used for applying different qualitative data analysis techniques including transcribing of audio/video recording interviews, thematic analysis, coding of data, cluster analysis and words frequency analysis techniques (Braun & Clarke, 2006). In this qualitative study, participants exhibit the following characteristics:

Diverse backgrounds: Participants come from various socio-economic, cultural, and educational backgrounds, offering a comprehensive perspective on technology adoption in developing countries.

Students: All participants are students enrolled in accounting programs at different universities.

Developing countries: Participants residing in Pakistan, which allows the study to specifically address the challenges and opportunities unique to the developing country.

Varied experience: Participants possess different levels of familiarity and expertise with accounting tools, providing insights into how experience influences technology adoption.

Motivation and barriers: The study look into the motivations and challenges faced by participants in adopting accounting tools, such as access to technology, affordability, training, and support systems.

Educational stakeholders: Participants may include not only students but also educators, administrators, and policymakers, contributing to a holistic understanding of the technology adoption ecosystem in developing countries such as Pakistan.

Table 1
Thematic analysis Table

Sub-theme	Description
Demographics	Personal and organizational information of the participant, including name, gender, age, qualification, and university.
Accounting Tool Awareness and Usage	Awareness and experience of using various accounting tools such as SAP, Xero, Peachtree, and T24. Also, the duration of usage.
Training, Resources, and Support	Types of training, resources, and support received by the participant, such as online training, hands-on training, physical classes, and online tutorials.
Effectiveness of Training Resources and Support	The participant's evaluation of the effectiveness of the training resources and support in building confidence and preparing them for the practical use of the tools.
Benefits of Accounting Tools	Perceived benefits of using accounting tools, such as enhanced efficiency, accuracy, decision-making, streamlined financial management, reduced errors, reduced labor and effort, and time-saving.
Learning Curve and User-friendliness	The ease of learning and overall user-friendliness of the accounting tools, with the learning curve varying across different tools. Some tools are more user-friendly and intuitive, allowing users to adapt easily and benefit from their features.
Desired Features and Functionalities	Features and functionalities that would make accounting tools more attractive and useful, such as improved interfaces, customization options, collaboration features, software integration, and advanced reporting.
Resources for Better Understanding and Utilization	Resources that could help participants better understand and utilize accounting tools, such as interactive tutorials, hands-on workshops, and training sessions.
Appreciation and Closing	Thanking the participant for their time, insights, and cooperation, highlighting how their input will contribute to the research and potentially enhance accounting tool adoption among students.

The focus of this qualitative study is to better understand the technological adoption of accounting tools among students in poor countries, with the goal of identifying significant drivers and hurdles to their integration. This research attempts to find solutions for improving learning experiences and increasing digital inclusion in these locations by examining the influence of educational institutions and socioeconomic factors, ultimately contributing to improved educational outcomes and economic development. Previous studies have highlighted the potential of accounting tools to improve learning outcomes and increase efficiency in developing countries (Asuquo et al., 2020). These studies have identified a number of factors that influence technology adoption, such as infrastructure, affordability, and the quality of available tools. Additionally, researchers have found that students' and educators' digital literacy levels play a crucial role in determining the success of tool implementation. By examining the experiences of various stakeholders, including students, teachers, and policymakers, past research has emphasized the need for coordinated efforts to address the challenges and capitalize on the opportunities presented by accounting technology. Building on these findings, this study seeks to provide a deeper understanding of the factors that facilitate or impede the adoption of accounting tools among students in developing countries.

"Interactive editorials and hands-on learning can enhance proficiency in accounting tools. This experiential approach bridges the gap between theory and practice, empowering students to make informed decisions. (P1)"

The issue of investigating the amount of technology adoption of accounting tools by Pakistani university students emphasises the significance of efficient teaching

strategies. As transcribed by (P1), interactive editorials and practical learning opportunities can greatly improve students' skill with accounting software. Teachers can close the gap between theoretical knowledge and real-world application by using such experiential methods, empowering students to make informed judgements (Valencia-Arias et al., 2019). Understanding how these pedagogical strategies affect students' adoption of accounting tools in the setting of this qualitative study offers insightful recommendations for enhancing educational practises and encouraging technology use among Pakistani university students.

"Accounting tools not only enhance efficiency and accuracy, but also improve decision-making by streamlining financial management and reducing errors. (P2)"

The formulation of (P2) highlights the possible benefits and importance of incorporating accounting tools into the learning process as far as the qualitative study, which deals with the level of Technology adoption of Accounting tools by Pakistani university students, is concerned. The research relates more to how these tools increase productivity, accuracy, and decision-making in a quest to establish the factors that influence the rate at which students adopt such technology (Marangunić & Granić, 2015). To ensure that students accept the use of accounting tools, it is important to comprehend the benefits of these mechanisms that will, eventually, see more prepared graduates of academic institutions who are less likely to make mistakes in their professional life and who can make financial management more efficient.

"The learning curve of accounting tools may vary, but in general, they are designed to be user-friendly and intuitive, enabling users to navigate them with ease. (P3)"

The statement (P3) discusses the usability of these tools within the framework of the qualitative study investigating the technology adoption level of accounting tools by university students in Pakistan. The study emphasises that accounting software are typically created to be user-friendly and intuitive, promoting ease of navigation for users while noting that the learning curve may differ among students. Understanding how approachable these technologies are is a key idea since it may be used to spot potential obstacles or enablers to student uptake (Khalaf & Hussein, 2023). This information can then be used to guide educational policies that support the effective insertion of accounting tools into the curriculum as well as the professional growth of students.

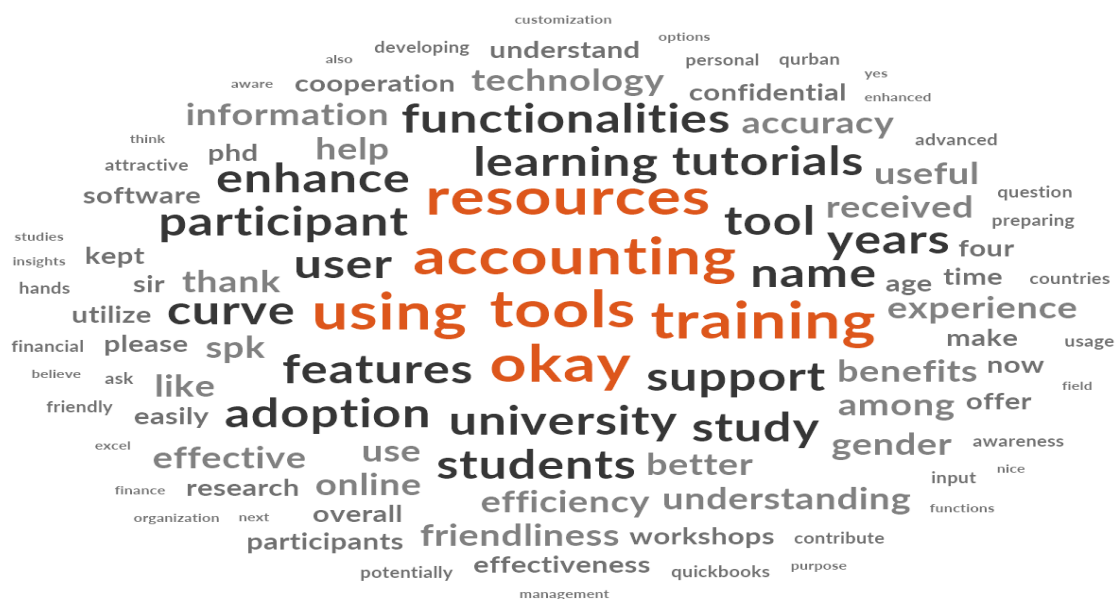


Figure 1: word cloud

The interview is conducted to explore the level of technology adoption among 12 university students from Pakistan who are using accounting tools in their studies. Based on the interview, we can summarize the themes discussed using a word cloud map.

The word cloud map shows that the interview covered several themes, including demographics, accounting tool awareness and usage, training, resources, and support, effectiveness of training resources and support, benefits of accounting tools, learning curve and user-friendliness, desired features and functionalities, and resources for better understanding and utilization.

In the interview, the alert was maintained among the participants as all gave personal and organizational details such as their gender, age, qualification and university. They were also addressed on whether they are aware about the use of different accounting tools such as MS Excel, Peachtree and other online resources. Moreover, they would report the kind of training, sources, and assistance they had on such accounting tools including online tutorials and courses they had in their MBA and MS programs.

Also, these respondents measured the outcomes of the training materials and help that they received, and examined the perceived benefits of employing accounting tools, such as more efficient decision-making, higher precision, and data analysis. They also talked about learning curve and usability of accounting tools and the features and functions that would make these products more useful, including interface customization, collaborative features, software integration, and advanced reporting.

It was unanimously accepted by the participants that interactive classes and practical workshops would help the participants have a better grasp and exploit the accounting technologies. The interview showed considerable facts regarding the extent to which technology is adopted by the students studying in underdeveloped countries using accounting software in their studies.

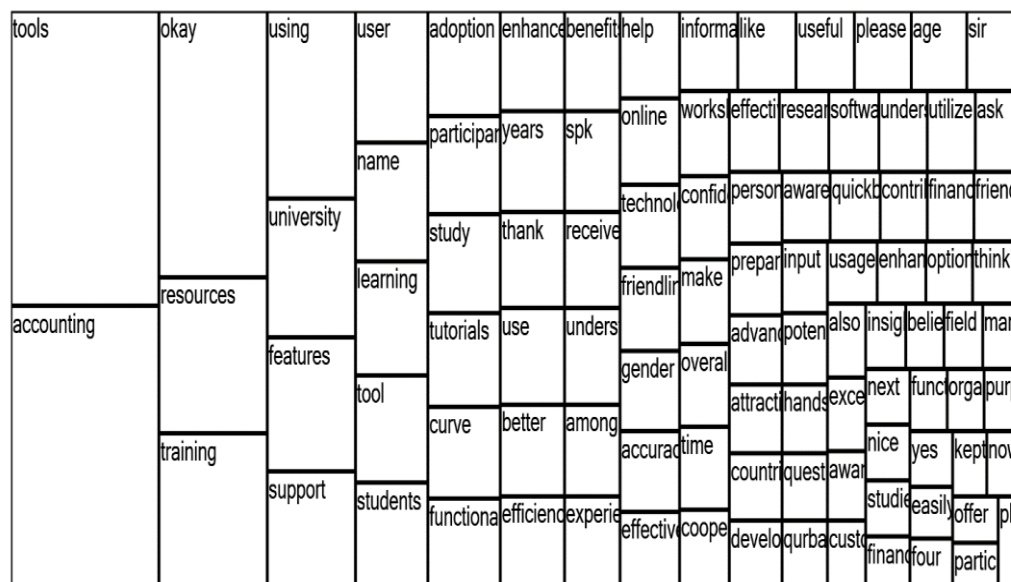


Figure 2: Tree map

A tree map is a stacked rectangle-based visual representation of hierarchical data. Each rectangle represents a group of data that can be further subdivided into smaller rectangles, each representing a sub-group of data. The greater the size of the rectangle, the greater the value of the data it represents. Similarly, the colour of the rectangle can be used to represent a particular value or category of data. Tree maps are a valuable tool for visualising complex data sets in a simple format, and they are widely used in fields such as finance, marketing, and information technology.

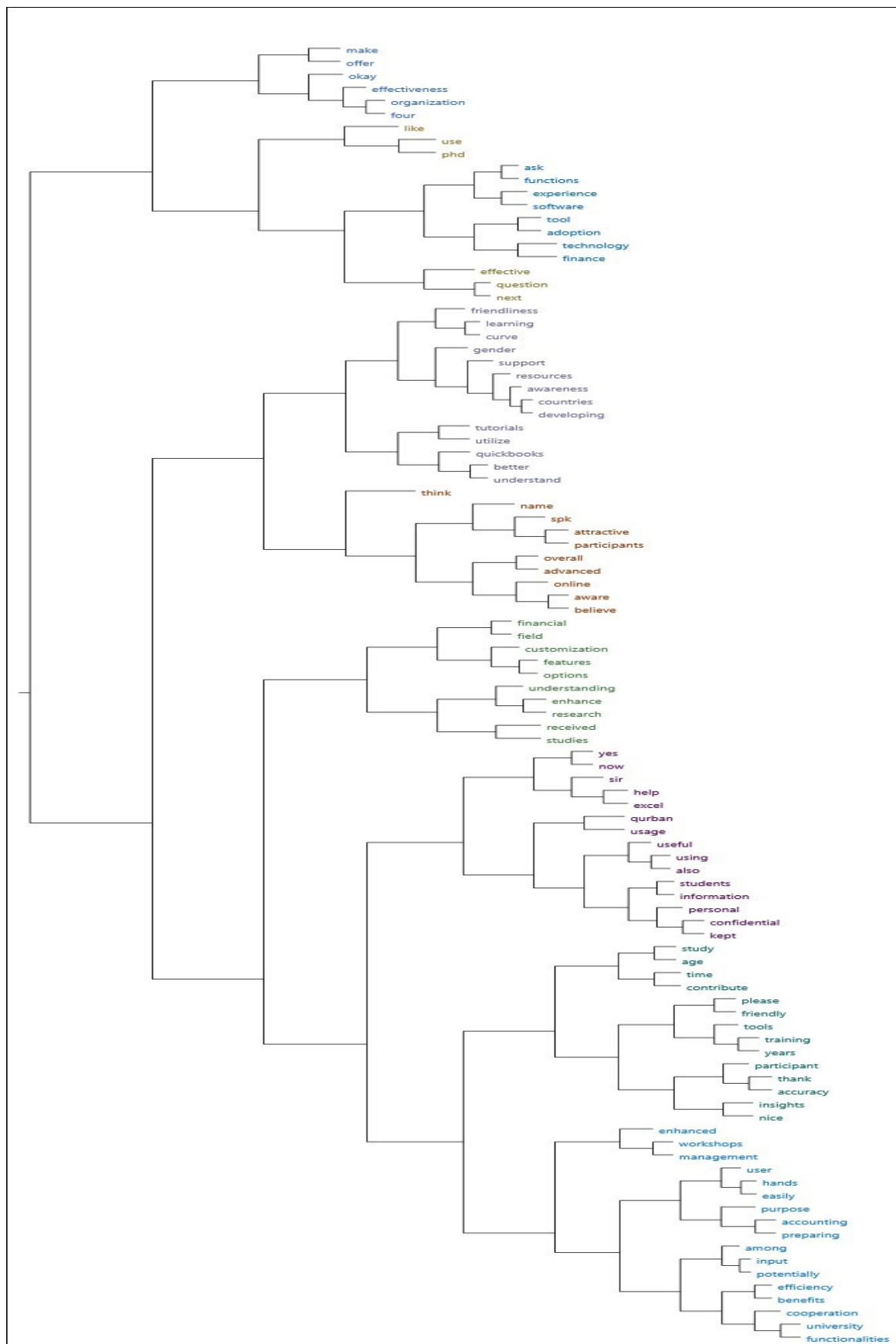


Figure 3: Cluster Analysis

Cluster analysis is a statistical approach for categorising and grouping related objects or observations based on their features or properties. It is an unsupervised

learning technique commonly used in data mining, machine learning, and pattern identification.

Cluster analysis seeks to identify groupings of items or observations that are more similar to one another than to others. This is accomplished by determining the similarity or dissimilarity of objects or observations based on their properties and then categorising them into clusters based on these similarities or dissimilarities.

Discussions

A hierarchical chart can be called a tree diagram or a flowchart; it is a graphical representation of a program or a system that represents connections among a number of levels or parts. It is composed of boxes or nodes in the form of a series of lines that indicate the hierarchy or flow of information or operations.

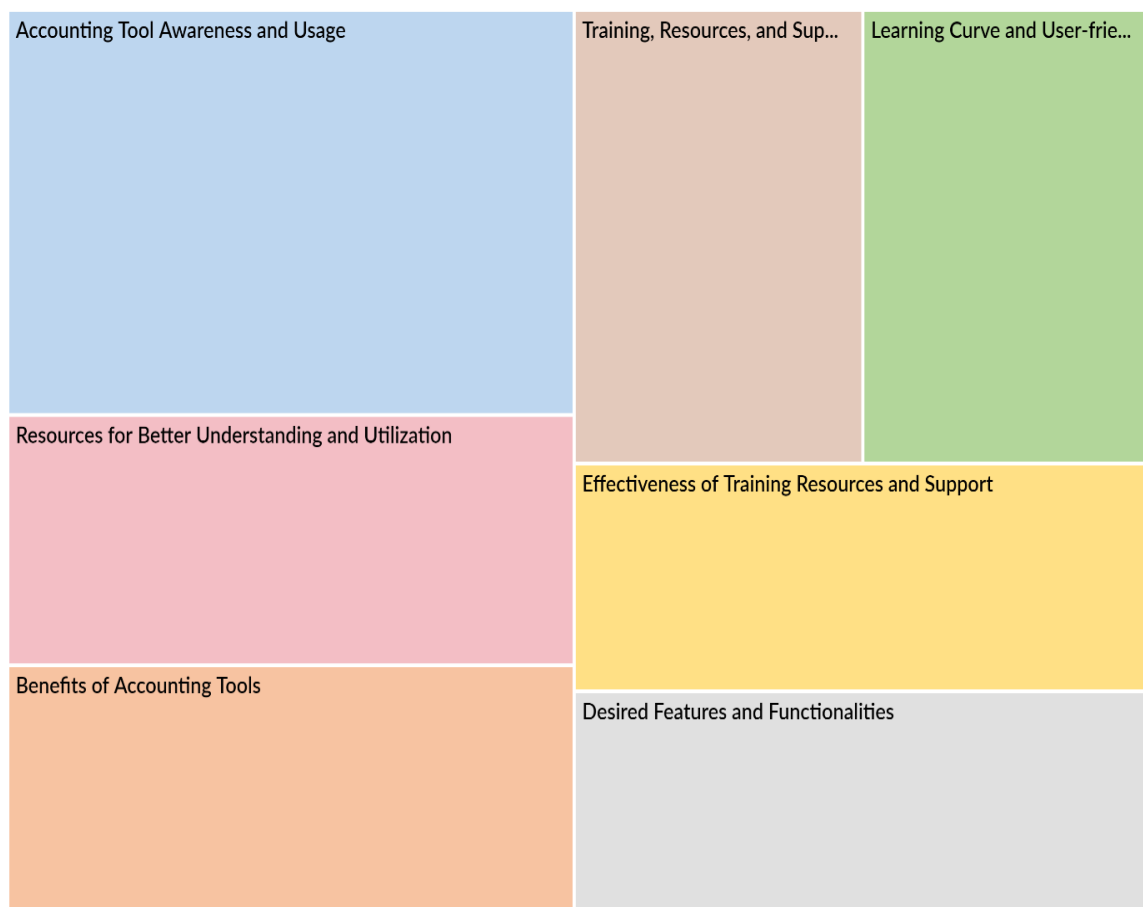


Figure 4: Hierarchy Chart

The boxes denote levels or components of the system or organization and the lines which relate between them determine the relationship or connection between them. Hierarchical charts are typical in project management as well as places of organizational structures, decision making and many others, where one needs to know the relationships and dependency between various components or levels.

Conclusions

Lastly, the study has shed much light on how students in poor countries adopt the accounting tools by bringing into light the important factors affecting the adoption and use of the tools. These factors, according to the findings, are access to technology, digital literacy, quality of accounting tools and also the institutional support which goes a long

way in establishing the effectiveness of the deployment of the accounting tools in these regions. The significance of overcoming the obstacles connected with the issues of infrastructure, cost, and necessity of applying the adequate and convenient instruments, the establishment of digital literacy among students and teachers is emphasized by the research. In addition, the role of educational institutions and the governments in introducing policies and investments into creating a friendly environment in embracing technology cannot be ignored. It is by appreciating such factors and their effects that the stakeholders will be able to establish more focused dynamics to address the challenges and take advantage of the opportunities that accounting tools offer in the improvement of learning outcomes, and digital inclusion in developing nations. These findings can be expanded by future studies through comparative research, methodologies, and assessment of the successfulness of adopted interventions geared towards the adoption of accounting tools. Finally, such initiatives will help to increase the academic performance and economic growth in these areas.

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