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Accounting without a General Ledger: Insights from Micro, Small and Medium Enterprises in Pakistan

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Abstract: *This study examines the formality of accounting practices within Pakistan's micro, small and medium enterprises (MSMEs). Data was gathered from 110 MSMEs located in Karachi, Pakistan. The research focused on eight dimensions of accounting systems: chart of accounts, payroll records, receipt and payment records, party ledgers, employee time records, segregation of duties, documentary support, and budgetary control. These dimensions were analyzed in relation to four firm-level attributes: organization type, firm size, firm age, and type of business. The results indicate that most firms do not utilize these accounting dimensions, a finding that is consistent across various firm ages and business types. However, firm size shows some association with the utilization of four of the eight dimensions. The implications of these findings are discussed in the context of agency and institutional theories, and some policy recommendations are provided. Future research could use this exploratory study to investigate the motivations and structural barriers that influence the adoption or avoidance of formal accounting practices by MSMEs, as well as how these enterprises use accounting information and the challenges they encounter.*

Keywords: Accounting practices, accounting records, SMEs, determinants of formal accounting practices, entrepreneurial ventures.

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1. Introduction

Entrepreneurial ventures typically begin as micro or small businesses. In Pakistan, micro-enterprises are usually operated by self-employed individuals or those with fewer than ten employees, not including seasonal workers (State Bank of Pakistan, 2012). Small enterprises are defined as businesses that employ between 10 and 35 individuals. Collectively, micro, small and medium enterprises (MSMEs) include all businesses with fewer than 250 employees. These enterprises account for nearly 90 percent of all businesses in Pakistan, contributing approximately 40 percent to the GDP and employing 80 percent of the non-agriculture workforce (Small and Medium Enterprise Development Authority, 2018).

Despite their significant potential for economic development, there has been limited academic research on MSMEs, particularly regarding their accounting practices. There is a need for research into the antecedents and consequences of accounting and financial reporting in MSMEs for several reasons. First, MSMEs differ from larger enterprises in important ways (Asaduzzaman, 2016). Most are established as sole proprietorships or partnerships, which are non-corporate entities, whereas most compliance regulations are designed for corporate entities. Consequently, MSMEs often fall below the compliance threshold, allowing them to avoid minimum accounting practices mandated by regulatory frameworks. Second, nearly 50 percent of MSMEs fail within the first five years, primarily due to poor cash flow management, lack of demand and insufficient capital (USA Link System, 2023). These challenges could potentially be addressed through timely access to relevant information. Third, the personal involvement of business owners in daily operations can lead to the perception that accounting information systems, even manual ones, are unnecessary. This perception challenges the assumption that accounting is vital and required (Ibrahim et al., 2020). In this context, some scholars argue that MSMEs must recognize the importance of formal accounting information systems, as these systems can significantly impact financial performance, particularly return on investment (Asaduzzaman, 2016). Furthermore, studying accounting systems and practices in MSMEs is particularly crucial in developing and underdeveloped countries, where a larger number of businesses operate informally and are undocumented.

Do MSMEs need accounting? The primary purpose of accounting is to support decision-making; MSMEs are no exception. Without accurate and timely information, their decision-making is likely to be suboptimal, potentially hindering growth and sustainability. While opinions differ on the extent to which MSMEs should invest in formal accounting, previous literature underscores its importance. Formal accounting systems and access to formal financial information have been linked to higher growth and performance in small and medium enterprises (SMEs) (Esmeray, 2016; Ismail & King, 2005). This growth is partly due to the improved access to finance that formal accounting provides for MSMEs. In the absence of formal accounting, MSMEs often encounter difficulties in accessing financial markets, which limits their expansion opportunities (Kung'u, 2011).

To address gaps in the existing research, this study investigates the accounting practices of entrepreneurial MSMEs in Pakistan. Specifically, we explore two key research questions: First, what formal accounting practices that enable the availability of financial information are adopted by MSMEs in Pakistan? Second, how do these practices vary across different firm-level characteristics such as organization type, firm size, firm age and type of business? Additionally, this study focuses on entrepreneurial entities—ventures established from the ground up by their current owners, rather than inherited or family businesses.

This study differs from previous research conducted in Pakistan (see, for example, Latif et al., 2023; Zehra & Ahmed, 2019) in several ways. First, it emphasizes the adoption of formal accounting practices that facilitate the availability of financial information, rather than focusing on how that information is used for decision-making, the latter being the primary objective of many prior studies. The absence of formal accounting practices often limits the availability of clear and timely information, negatively affecting decision-making effectiveness and enterprise performance. Thus, this study takes a more foundational approach. Second, it specifically targets entrepreneurial MSMEs, broadening the scope of the research. Third, it examines a combination of four firm-level characteristics to assess their association with the adoption of formal accounting practices—an approach that has not been previously explored in the context of MSMEs in Pakistan. As there is currently a lack of research on the types of formal accounting practices employed by MSMEs in Pakistan, the quantitative data produced by our research paves the way for more in-depth qualitative studies that can investigate the motivations and challenges associated with adopting formal accounting practices.

The rest of this study is structured as follows: Section 2 provides a review of the literature, Section 3 discusses the research methodology, Section 4 presents the results and discussion, and Section 5 outlines the conclusion, limitations and future research directions.

2. Literature Review

2.1. Accounting Practices in MSMEs

Scholars have examined the adoption of accounting practices by MSMEs worldwide and identified significant variations across countries and regions. In developed countries, regulatory compliance typically necessitates the use of formal accounting practices. Consequently, research in these nations tends to focus more on analyzing and utilizing accounting information for decision-making, shifting from financial accounting to management accounting, rather than on the creation and development of the information itself (see Armitage et al., 2016; McMahon, 2001).

In contrast, the situation in developing and underdeveloped countries is different. With fewer regulatory frameworks in place, particularly for micro and small enterprises, formal and detailed accounting information is often not maintained. For instance, Fatoki (2012) surveyed micro-enterprises in South Africa and found that while these businesses record sales and purchases, they do not maintain a complete set of accounts. Similarly, in Kenya, Busieney (2012) observes that SMEs do not use essential accounting services, even to meet minimum legal compliance. This issue largely stems from a lack of knowledge and competence, along with the absence of mechanisms to enforce legal requirements. In Ghana, Zotorvie (2017) finds that firms fail to keep proper accounting records due to insufficient accounting knowledge and the high costs of hiring accounting professionals. Other studies from Zimbabwe also highlight the lack of accounting knowledge as a primary reason for the absence of accounting information systems (see Maseko & Manyani, 2011; Nyathi et al., 2018). Furthermore, Ikem et al. (2012) note that due to the lack of formal accounting practices and the unavailability of quality accounting information, SMEs in Nigeria struggle to access financial markets.

In the Asian context, the findings are mixed. Bui et al. (2020) find that nearly all SMEs surveyed in Vietnam apply management accounting techniques, indicating the presence of financial accounting information and formal accounting practices. Similar findings are reported in Malaysia, where most SMEs prepare monthly management accounting reports (Isa et al., 2008). However, the application of these techniques varies across SMEs based on their individual characteristics (Ahmad, 2017). For example, in

Indonesia, SMEs exhibit a wide range of accounting practices, with 30 percent lacking even formal sales records whereas 35 percent preparing comprehensive financial statements (Kurniawati & Hermawan, 2012). In a qualitative study conducted in Gaza, Alattar et al. (2009) find that in the absence of an enforceable regulatory mechanism for financial reporting among micro and small enterprises, the adoption of formal accounting practices largely depends on the knowledge, skills, and experience of the managers or owners. Similarly, other studies confirm the lack of formal accounting practices among the majority of SMEs surveyed in Jordan and Bangladesh (Asaduzzaman, 2016; Smirat, 2013).

2.2. Determinants of Formal Accounting Practices

Both firm-level and contextual characteristics have been studied for their potential relationship with formal accounting practices. One key firm-level characteristic identified as a determinant of accounting practices is firm size. Ahmad (2017) notes that firm size significantly influences the adoption of more sophisticated management accounting practices in Malaysian firms. In smaller firms, the accounting function is simpler due to fewer suppliers, customers and transactions (Alattar et al., 2009). Firm size has also been identified as an important determinant in studies conducted in Vietnam (Bui et al., 2020), Zimbabwe (Dlamini, 2022), South Africa (Msomi et al., 2019), and Indonesia (Prihastiwi & Sholihin, 2018). Additionally, Nguyen et al. (2019) find that firm size mediates the relationship between production and business process characteristics and the application of management accounting practices. However, some studies, such as that by Puspita and Pramono (2019), do not find firm size to be a relevant factor.

Another firm-level characteristic relevant in some studies is firm age. Msomi et al. (2019) and Bui et al. (2020) observe a correlation between firm age and the adoption of management accounting practices. In contrast, Puspita and Pramono (2019) and Santosa and Wulandari (2019) find that firm age does not significantly impact the adoption of formal accounting practices. Furthermore, while technology adoption is often seen as an outcome, it has also been recognized as an important determinant in the adoption of accounting practices in SMEs (Msomi et al., 2019).

The personal characteristics of SME owners/managers are also relevant to the formality of accounting practices and the utilization of accounting information for decision-making. Kahsay and Zeleke (2019) find that the education and age of those managing SMEs are positively and significantly related to the adoption of accounting tools and techniques. Specifically, accounting knowledge, competence and personal experience

are identified as major determinants of formal management accounting practices (Alattar et al., 2009). Conversely, a lack of such knowledge and skills is associated with inadequate accounting records (Nelson & Onias, 2011). While some researchers link the adoption of accounting tools to the financial literacy and awareness of SME owners/managers (Dlamini, 2022; Nguyen et al., 2019), others emphasize the collaborative efforts of owners/managers working alongside trained staff (Prihastiwi & Sholihin, 2018) rather than purely accounting knowledge (Puspita & Pramono, 2019).

Regarding contextual factors, the socioeconomic environment—particularly competition—has been identified as a significant determinant of the adoption of formal accounting practices (Alattar et al., 2009). Increased market competition necessitates cost reduction for survival, making reliable accounting information essential. However, Nguyen et al. (2019) argue that competition has a weaker influence on the adoption of accounting practices compared to firm size and other firm-level attributes. Additionally, while access to finance through formal financial institutions is often considered important for smaller firms' adoption of accounting practices, some studies report it to have an insignificant impact (Kahsay & Zeleke, 2019).

The government's active role, through subsidies and regulatory measures, has also been recognized as a crucial determinant (Msomi et al., 2019). Furthermore, some authors suggest that although firms acknowledge the need for accounting information, they may choose not to adopt formal practices due to the high costs associated with hiring accounting experts (Zotorvie, 2017). Lastly, Bui et al. (2020) observe that the prevalence of accounting practices varies significantly across different sectors of the economy.

2.3. SME Accounting Practices in Pakistan

In Pakistan, limited research exists on accounting practices and their determinants in MSMEs. For example, Zehra and Ahmed (2019) find that SMEs in Pakistan typically utilize traditional management accounting practices for their costing and pricing decisions. An exploratory study by Bakhsh et al. (2019) highlights the distinction between small and medium enterprises in this regard: medium enterprises tend to adopt modern, sophisticated practices, whereas small enterprises rely primarily on traditional tools such as budgeting and costing systems.

When examining determinants, Williams et al. (2016) find that firm-level and personal characteristics are more relevant predictors of the formality or informality of accounting practices than contextual and

environmental factors. Specifically, more formal practices are associated with firms led by women as well as by older, educated entrepreneurs with higher incomes, along with businesses that have been established longer (firm age). In a recent study on the role of management accounting practices in economic sustainability, Latif et al. (2023) identify accounting literacy as a key determinant influencing the use of management accounting practices.

These studies focus on a rather high-level utilization of accounting information (Zehra & Ahmed, 2019), and determinants with respect to formality in accounting practices in a more aggregate pattern (Latif et al., 2023; Williams et al., 2016). There remains a gap about the type and composition of formal accounting practices and their relationships with firm-level attributes, which the current study has attempted to explore.

3. Research Methodology

As an exploratory study focusing specifically on formal accounting practices rather than motivations, we employ a quantitative approach utilizing the survey method. This approach is appropriate for two reasons. First, it enables us to reach a broader sample, enhancing the external validity of the study. Second, the survey is easy to administer by accounting students because its vocabulary is simple and clear.

3.1. Participants and Data Collection

Data was collected from the owners, partners or managers of 120 entrepreneurial MSMEs in Karachi that were established between 2001 and 2018. We used the convenience sampling method, meaning that respondents were selected based on ease of access. Students enrolled in an accounting course conducted the data collection as part of a term project and received academic credit for their efforts. In nearly half the cases, data was collected in person; where personal meetings were not feasible, data was collected via telephone.

3.2. Research Instruments

Various metrics can measure the formality of accounting practices. One critical metric for capturing comprehensive formal accounting is the maintenance of a chart of accounts and a general ledger, particularly in underdeveloped and developing countries where MSMEs often lack formality. Chelimo and Sopia (2014) note that maintaining a formal general ledger not only facilitates the preparation of complete financial statements but also promotes growth. Maseko and Manyani (2011) emphasize that SMEs

should document records of receivables and payables, payroll, non-current assets, and cash receipts and payments. From a future-oriented perspective, maintaining budgets (Maelah & Yadzid, 2018) and implementing other forms of internal control (Ntim et al., 2014; Tazilah & Hussain, 2015) are essential for effective financial management strategies in MSMEs.

Based on these fundamental aspects of formal accounting practices, we identify five key ledgers for record-keeping. Additionally, we examine two process dimensions that serve as critical internal control measures and one control dimension, resulting in the following eight dimensions: (a) chart of accounts, (b) payroll records, (c) receipt and payment records, (d) parties' records (debtors, projects, creditors), (e) employee time and attendance records, (f) segregation of duties, (g) documentary support for transactions, and (h) budgetary control.

As a result, this study employs the accounting system questionnaire (National Institute of Food and Agriculture, 2016) previously used in other studies, which encompasses a total of ten dimensions, including all eight mentioned above. Although the questionnaire was originally developed for non-profit organizations, its structure and question order are well-suited for use in commercial organizations. Additionally, we gathered profiling information about the participating business ventures and their owners.

4. Empirical Results

Out of 120 participants from whom data was collected, ten cases were removed. Seven cases were excluded due to duplication, as some students had inadvertently collected data from the same organization (though mostly not from the same individual). Additionally, two cases were removed because of their size, and one case was excluded because the participant did not provide the complete information required in the survey for confidentiality reasons.

As the study is exploratory, descriptive statistics and cross-tabulations were generated based on firm size, sector and age. This analysis helped us understand the accounting systems employed in enterprises categorized by age, size and sector. Inferential statistics were also employed to examine the associations among firm type, size, age and industry concerning the eight dimensions being explored. Since random sampling procedures were not utilized, a non-parametric statistical test (chi-square) was applied.

4.1. Overview of Respondents

Table 1 presents the frequency distribution of the sample based on the type of organization and broad industry classification. The majority of ventures (87.3 percent) were sole proprietorships, while partnerships constituted 9.1 percent, and only a few (3.6 percent) were incorporated businesses. Of the 110 ventures analyzed, 64 were in the services sector (58.2 percent), followed by 28 ventures involved in some form of conversion business (25.5 percent), and 18 were in trading (16.4 percent).

Table 1: Sample Frequency Distribution: Organization Type and Industry

Organization type			
Sole proprietorship	**Partnership**	**Incorporated**	**Total**
96	10	4	110
87.3%	9.1%	3.6%	100%
Industry			
Services	**Conversion**	**Trade**	**Total**
64	28	18	110
58.2%	25.5%	16.4%	100%

The distribution of ventures by size and age is shown in Table 2. The sample includes a diverse range of ages, from a few months to 16 years. Notably, 67 ventures (60.9 percent) were established after 2013. Regarding size, the majority of ventures (50 percent) have between 6 and 25 employees. Additionally, ten ventures (9.1 percent) operate as freelancers with no other employees. Although there are only 14 ventures with more than 25 employees, their sizes vary significantly, with some employing up to 300 people. Consequently, these larger ventures are grouped together, representing approximately 12.7 percent of the total sample.

Table 2: Sample Frequency Distribution: Venture Age and Size

Age (no. of years)					
< 2	2 to 4	4 to 6	6 to 8	> 8	Total
41	26	13	13	15	108*
37.3%	23.6%	11.8%	11.8%	13.6%	98.2%*
Size (no. of employees)					
1	1 to 5	6 to 25	25 +		Total
10	31	55	14		110
9.1%	28.2%	50%	12.7%		100%

Note: * = data not available for two ventures.

Table 3 illustrates the frequency distribution of accounting systems (manual, computerized, mixed) used by the surveyed ventures. Most ventures (48.2 percent) utilize a computer application to support their manual accounting records, while only a small percentage (15.5 percent) rely on fully automated accounting systems.

Table 3: Sample Frequency Distribution: Accounting System Employed

Manual	Mixed*	Automated	Total
40	53	17	110
36.4%	48.2%	15.5%	100%

Note: * = includes use of spreadsheets for certain accounting records.

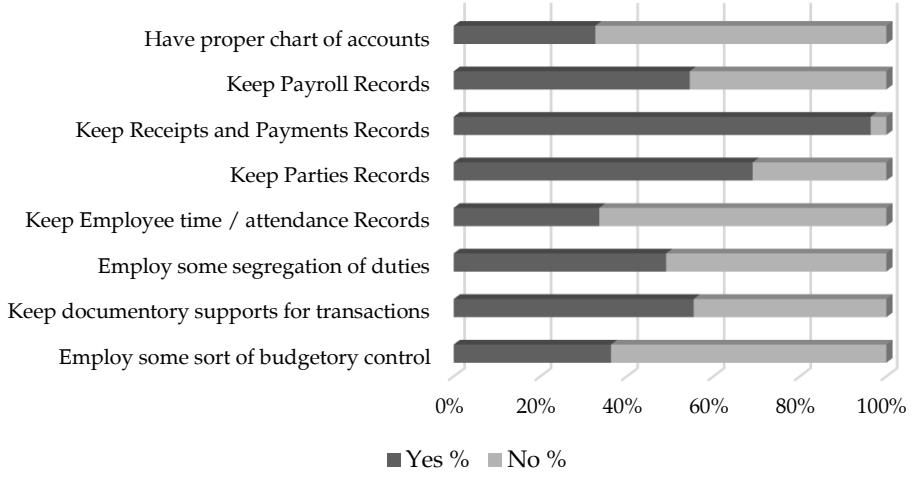
4.2. Research Question 1: Formal Accounting Practices

Table 4 presents eight key dimensions of the accounting systems explored in the survey. Only 32.7 percent of the surveyed ventures maintain a proper chart of accounts for their accounting needs. The highest level of record-keeping was reported for receipts and payments (96.4 percent), followed by records of parties involved (69.1 percent). Additionally, the data indicates that most ventures do not utilize a double-entry accounting system (formal general ledger). Figure 1 illustrates these findings, depicting the frequency percentages for each dimension surveyed. Subsequently, these findings are analyzed in relation to organization type, industry, firm size and age.

Table 4: Key Findings Regarding Accounting Information Systems

ID	Accounting component/dimension	Yes	Yes %	No	No %	Total
COA	Have a proper chart of accounts	36	32.7%	74	67.3%	110
Payroll	Keep payroll records	60	54.5%	50	45.5%	110
R&P	Keep receipts and payments records	106	96.4%	4	3.6%	110
Parties	Keep parties' records	76	69.1%	34	30.9%	110
TimeRec	Keep time/attendance records	37	33.6%	73	66.4%	110
SOD	Employ some segregation of duties	54	49.1%	56	50.9%	110
Doc	Keep documentary supports	61	55.5%	49	44.5%	110
Budg	Employ some sort of budgetary control	40	36.4%	70	63.6%	110

Figure 1: Accounting Dimensions



4.3. Research Question 2: Firm Characteristics and Formal Accounting Practices

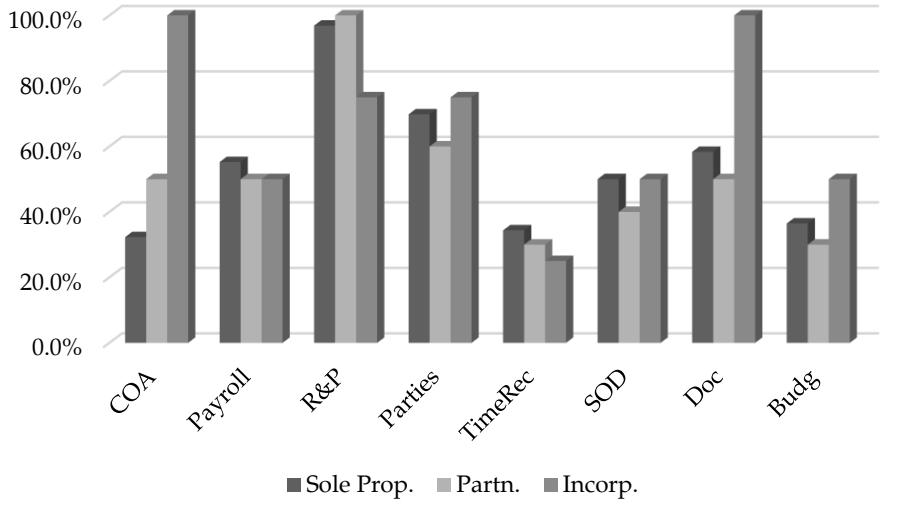
4.3.1. Organization Type and Accounting Systems

Table 5 gives data for the eight accounting dimensions analyzed by organization type, which includes three categories: sole proprietorship, partnership and incorporated ventures. Figure 2 compares the eight dimensions across these three groups. As anticipated, the results show that incorporated ventures exhibit the highest use of nearly all accounting system dimensions, likely due to their obligation to comply with legal accounting and record-keeping regulations.

Table 5: Accounting Information System Dimensions and Organization Type

Organization type	**Sole proprietorship (n = 96)**		**Partnership (n = 10)**		**Incorporated (n = 4)**	
Item ID	Yes	%	Yes	%	Yes	%
COA	31	32.3%	5	50.0%	4	100.0%
Payroll	53	55.2%	5	50.0%	2	50.0%
R&P	93	96.9%	10	100.0%	3	75.0%
Parties	67	69.8%	6	60.0%	3	75.0%
TimeRec	33	34.4%	3	30.00%	1	25.00%
SOD	48	50.0%	4	40.00%	2	50.00%
Doc	56	58.3%	5	50.00%	4	100.00%
Budg	35	36.5%	3	30.00%	2	50.00%

Figure 2: Accounting Information System Dimensions by Organization Type



A chi-square test of independence is conducted for each of the eight accounting dimensions to determine if organization type is related to any dimension. While it is generally expected that incorporated businesses exhibit proper accounting and record-keeping practices (as indicated by the sample data in Table 5), the overall results are insignificant at the 5 percent level (Table 6), suggesting that organization type within MSMEs is not correlated with any of the eight accounting dimensions. However, these statistics should be interpreted cautiously due to the very small number of observations for incorporated ventures in the sample (only four).

Table 6: Chi-Square Test Results for Organization Type and Accounting Dimensions

Dimension	Value	DF	p value
COA	3.309	2	0.191
Payroll	0.134	2	0.935
R&P	5.659	2	0.059
Parties	0.474	2	0.789
TimeRec	0.216	2	0.897
SOD	0.364	2	0.834
Doc	5.422	2	0.066
Budg	0.497	2	0.780

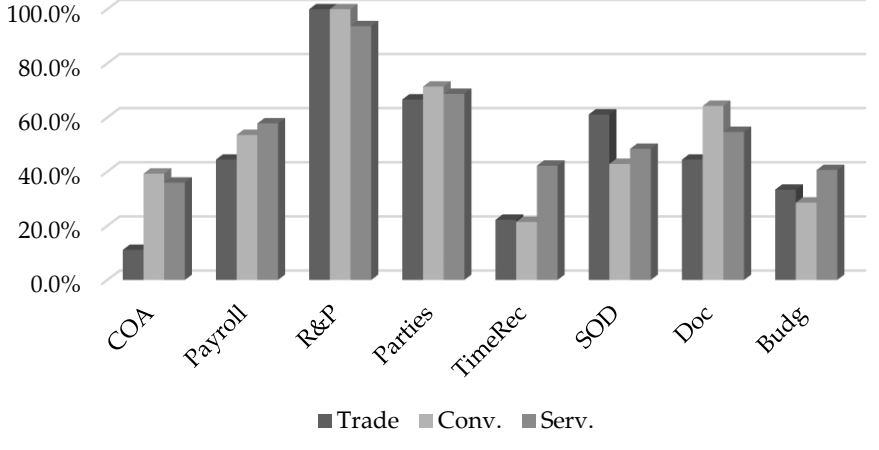
4.3.2. *Industry and Accounting Systems*

Table 7 presents the results of the eight accounting dimensions analyzed by three broad industry categories: trade, conversion and service. Figure 3 compares these dimensions by industry type and indicates that it is not possible to distinguish between accounting record keepers and non-keepers based solely on broad industry classifications.

Table 7: Accounting Information System Dimensions and Broad Industry Classification

Industry	Trade (n = 18)		Conversion (n = 28)		Service (n = 64)	
Item ID	**Yes**	**%**	**Yes**	**%**	**Yes**	**%**
COA	2	11.1%	11	39.3%	23	35.9%
Payroll	8	44.4%	15	53.6%	37	57.8%
R&P	18	100.0%	28	100.0%	60	93.8%
Parties	12	66.7%	20	71.4%	44	68.8%
TimeRec	4	22.2%	6	21.4%	27	42.2%
SOD	11	61.1%	12	42.9%	31	48.4%
Doc	8	44.4%	18	64.3%	35	54.7%
Budg	6	33.3%	8	28.6%	26	40.6%

Figure 3: Accounting Information System Dimensions by Broad Industry Classification



A chi-square test of independence is also performed for each of the eight accounting system dimensions to assess whether broad industry classification is related to any dimension. The results are insignificant at the 5 percent level (Table 8), indicating that broad industry type classification does not affect the maintenance of accounting system records in MSMEs.

Table 8: Chi-Square Test Results for Industry and Accounting Dimensions

Dimension	Value	DF	p value
COA	4.667	2	0.097
Payroll	1.027	2	0.598
R&P	2.983	2	0.225
Parties	0.125	2	0.94
TimeRec	5.016	2	0.081
SOD	1.487	2	0.475
Doc	1.783	2	0.41
Budg	1.308	2	0.52

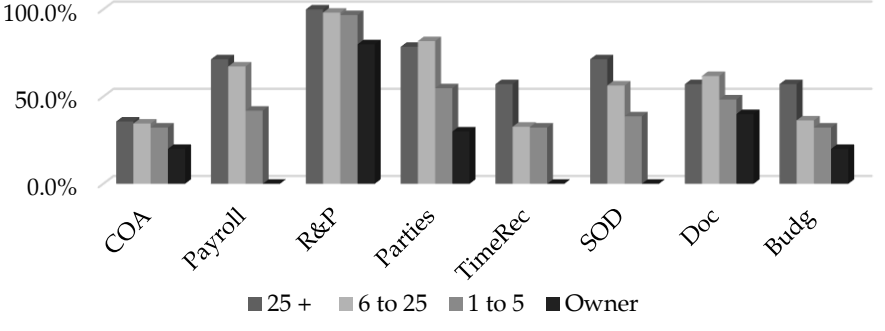
4.3.3. Firm Size and Accounting Systems

Table 9 presents the results of the eight accounting dimensions analyzed by firm size, as determined by the number of employees (categorized into four groups; see Table 2). Figure 4 compares these eight dimensions across the four groups. As expected, larger firms maintain more accounting system dimensions than their smaller counterparts. Additionally, sole proprietors (n = 10) have the least comprehensive accounting records across all eight dimensions.

Table 9: Accounting Information System Dimensions and Firm Size

No. of employees	25 + (n = 14)		6 to 25 (n = 55)		1 to 5 (n = 31)		1 (n = 10)	
Item ID	Yes	Yes %	Yes	Yes %	Yes	Yes %	Yes	Yes %
COA	5	35.7%	19	34.5%	10	32.3%	2	20.0%
Payroll	10	71.4%	37	67.3%	13	41.9%	0	0.0%
R&P	14	100.0%	54	98.2%	30	96.8%	8	80.0%
Parties	11	78.6%	45	81.8%	17	54.8%	3	30.0%
TimeRec	8	57.1%	18	32.7%	10	32.3%	0	0.0%
SOD	10	71.4%	31	56.4%	12	38.7%	0	0.0%
Doc	8	57.1%	34	61.8%	15	48.4%	4	40.0%
Budg	8	57.1%	20	36.4%	10	32.3%	2	20.0%

Figure 4: Accounting Information System Dimensions by Firm Size



A chi-square test of independence is conducted for each of the eight accounting dimensions to determine if there is a relationship between firm size and each dimension, as detailed in Table 10. This analysis reveals a significant relationship in four of the dimensions ($p < 0.05$), indicating that firm size is associated with the maintenance of certain accounting system dimensions: payroll records, receipt and payment records, parties' ledgers, and segregation of duties.

Firms with a higher number of employees are expected to maintain payroll records due to their larger staff. Similarly, larger firms have more flexibility to implement segregation of duties than smaller firms, and tend to maintain accurate parties' ledgers as well as receipt and payment records. However, no significant relationship is found in the other four dimensions. One of these dimensions, documentary support, is relatively well observed across all firm size categories, while the other three dimensions—chart of accounts, employee time records and budgetary control—are the least observed. Consequently, no distinctions can be made regarding firm size in these four dimensions.

Table 10: Chi-Square Test Results: Firm Size and Accounting System Dimensions

Dimension	Value	DF	p value
COA	0.878	3	0.831
Payroll	19.191	3	0.000*
R&P	8.704	3	0.034*
Parties	14.865	3	0.002*
TimeRec	6.106	3	0.111
SOD	11.41	3	0.010*
Doc	2.511	3	0.473
Budg	3.995	3	0.262

4.3.4. Firm Age and Accounting Systems

The impact of firm age on accounting systems presents competing theoretical perspectives. On the one hand, older firms may be expected to maintain more comprehensive accounting system requirements due to their greater experience and awareness of the importance of proper accounting. On the other hand, newer firms led by younger and relatively educated individuals may also excel in accounting and record keeping.

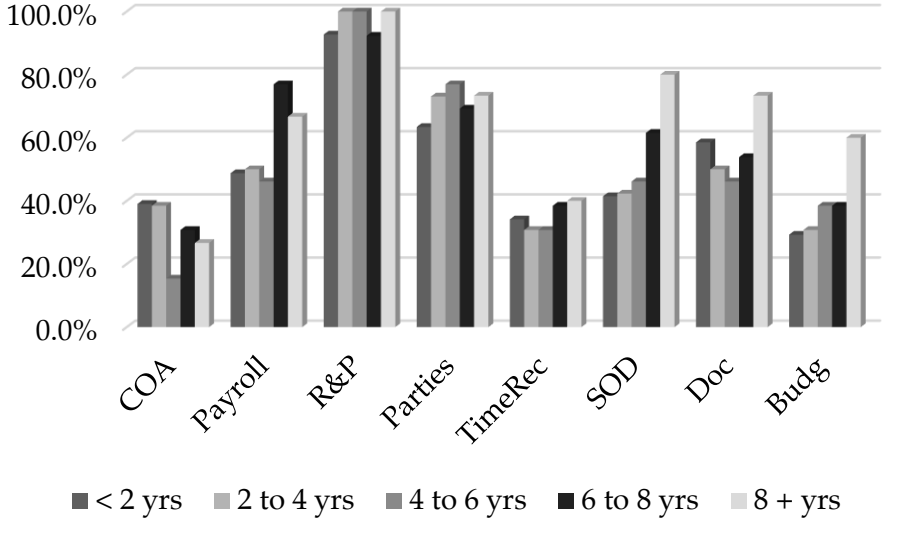
Table 11 gives the results of the eight accounting dimensions analyzed by firm age. Figure 5 compares the eight dimensions across five age groups. As shown in Figure 5, only two dimensions—segregation of

duties and budgetary control—appear to be associated with firm age, while no major differences were observed among the five age groups in the remaining six dimensions.

Table 11: Accounting Information System Dimensions and Firm Age

Firm age	< 2 years (n = 41)		2–4 years (n = 26)		4–6 years (n = 13)		6–8 years (n = 13)		8+ years (n = 15)	
Item ID	**Yes**	**< 2 yrs**	**Yes**	**2–4 yrs**	**Yes**	**4–6 yrs**	**Yes**	**6–8 yrs**	**Yes**	**8+ yrs**
COA	16	39.0%	10	38.5%	2	15.4%	4	30.8%	4	26.7%
Payroll	20	48.8%	13	50.0%	6	46.2%	10	76.9%	10	66.7%
R&P	38	92.7%	26	100.0 %	13	100.0 %	12	92.3%	15	100.0 %
Parties	26	63.4%	19	73.1%	10	76.9%	9	69.2%	11	73.3%
TimeRec	14	34.1%	8	30.8%	4	30.8%	5	38.5%	6	40.0%
SOD	17	41.5%	11	42.3%	6	46.2%	8	61.5%	12	80.0%
Doc	24	58.5%	13	50.0%	6	46.2%	7	53.8%	11	73.3%
Budg	12	29.3%	8	30.8%	5	38.5%	5	38.5%	9	60.0%

Figure 5: Accounting Information System Dimensions by Firm Age



The chi-square test of independence is conducted for each of the eight dimensions of accounting systems to determine their relationship with firm age. The results for all eight dimensions are insignificant at the 5 percent level, as presented in Table 12. However, segregation of duties (SOD) shows marginal significance at the 10 percent level. We can conclude that firm age is not associated with the maintenance of a proper accounting information system.

Table 12: Chi-Square Test Results: Firm Age and Accounting System Dimensions

Dimension	Value	DF	p value
COA	4.149	5	0.528
Payroll	4.667	5	0.458
R&P	4.309	5	0.506
Parties	1.653	5	0.895
TimeRec	1.57	5	0.905
SOD	9.947	5	0.077
Doc	5.37	5	0.372
Budg	5.075	5	0.407

4.4. Discussion of Findings

The first research question aimed to explore the accounting practices of MSMEs, focusing on the eight core dimensions of record-keeping, processes and controls. Of these, the chart of accounts (consequently double entry accounting with formal general ledger) was the least adopted by the surveyed MSMEs, while receipt and payment records—specifically cash-basis single-entry accounting—were the most commonly used. Regarding the four firm-level characteristics in research question 2, only firm size was associated with four of the eight accounting practices. In contrast, firm age, organization type and sector did not show significant associations.

These findings align with the literature on MSMEs in developing and underdeveloped countries. While earlier studies have explored formal accounting processes less extensively, the literature on management accounting practices adoption in MSMEs shows results consistent with this study. Another inference from our study is that MSMEs may not adopt management accounting practices due to a lack of information typically generated through formal financial accounting processes, which many of these businesses have not implemented.

These findings can be interpreted through agency theory (Jensen & Meckling, 1976). In MSMEs, where owners are often closely involved with managers or serve as managers themselves, the agency problem is relatively minimal, resulting in lower agency costs. Consequently, the need for control mechanisms, such as accounting information, diminishes. In contrast, larger firms exhibit a greater need for accounting practices, likely due to more significant agency issues arising from the separation of ownership and management. This is particularly evident in the segregation of duties, which is more common in larger firms than in smaller ones. From this perspective,

accounting can be viewed as a need-based tool that firms utilize and invest in when they recognize a requirement for increased control and oversight.

These findings can also be understood through the lens of institutional theory (DiMaggio & Powell, 1983). Smaller firms experience less pressure from formal institutional frameworks, whereas larger firms are more constrained by these structures. This difference arises from the varying number of stakeholders; smaller firms typically have fewer stakeholders, while larger firms have many. Consequently, larger firms encounter greater regulatory pressures and higher stakeholder expectations, resulting in a stronger focus on formal requirements and the adoption of standardized accounting practices.

While the study has certain limitations, it carries important policy implications. We recommend that comprehensive national studies be conducted and funded by policymakers (for example, the Planning Commission in Pakistan or other relevant stakeholders) to assess the state of formal accounting practices and the factors influencing their adoption. Although general recommendations can be made, such as enforcing or incentivizing formal documentation and accounting, it is crucial to first determine whether these actions will yield significant benefits or merely increase the costs of doing business. Additionally, regulators and organizations that support MSMEs, such as the Trade Development Corporation and the Small and Medium Enterprise Development Authority (SMEDA), should consider implementing training and capacity-building programs for entrepreneurs. They should also promote digital accounting solutions by providing regulatory and optional support systems.

Furthermore, professional accounting bodies such as the Institute of Chartered Accountants of Pakistan (ICAP) and the Institute of Cost and Management Accountants of Pakistan (ICMAP) should proactively initiate projects aimed at reaching and supporting MSMEs, particularly those facing survival issues. These initiatives should focus on establishing a support system based on reliable accounting practices and information. We recognize that many business owners avoid automation and formalization, perceiving it as a threat of exposure to regulatory and tax compliance authorities, which are often viewed as unfriendly to business, especially in countries such as Pakistan.

Large-scale industries contribute only a small portion to overall economic development. In contrast, entrepreneurial ventures, micro-enterprises and SMEs constitute the majority of economic activity and serve as the backbone of the economy. Professional accountants should regard

addressing the needs of these smaller businesses as a responsibility rather than a favor. Adopting an institutional and proactive approach to this issue may more effectively support their growth and sustainability.

5. Conclusion

This study examines the accounting information system practices of MSMEs. Eight key dimensions of accounting systems were identified and analyzed. Unlike previous studies that focus on management accounting practices in SMEs, this study emphasizes the type and composition of accounting information rather than its practical application. This perspective adds depth to the existing research that concentrates on the functional use of accounting information. In particular, the focus on generating and accumulating accounting knowledge sheds light on why SMEs often do not utilize sophisticated management accounting practices for decision-making. A significant underlying factor appears to be a lack of foundational accounting practices necessary for generating essential information.

The results indicate that most firms do not implement these accounting system dimensions, regardless of their age, type or industry. While simpler cash-basis practices, such as recording receipts and payments, are commonly adopted, more comprehensive practices, including formal ledgers and associated sub-ledgers, are largely absent. We find that firm size is linked to the adoption of four out of the eight dimensions, suggesting that close managerial involvement in smaller firms diminishes the need for formal accounting controls. This finding is particularly relevant for policymakers and practitioners; customizing support initiatives based on firm size could improve adoption rates.

The study has certain limitations. It uses convenience sampling, which affects the external validity of the findings. Additionally, we have selected accounting practices or dimensions based on their ability to generate information in general ledgers and sub-ledgers. Non-parametric testing was employed for data analysis. Future research could explore specific areas to enhance the findings of this study. Investigating the motivations and structural barriers that influence MSMEs' adoption or avoidance of formal accounting practices could yield practical recommendations to promote the integration of structured accounting processes. Furthermore, examining additional relevant dimensions, such as tax compliance, banking relationships and financial performance, could provide further insights into the factors that encourage or hinder the use of accounting systems in MSMEs.

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