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The role of collectivist cultural practices in supporting a hybrid payment system among small and medium enterprises (SMEs) in Pakistan

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Abstract

Despite having to rely on hybrid payment systems that combine manual and electronic methods, less developing countries such as Pakistan still manage to perform business transactions successfully. This success is partly due to the indigenous collectivist cultural practices in Pakistan society. However, an explanation of how indigenous culture supports information systems in general, and in particular payment systems, is scarce. This study adds to the knowledge of culture and information systems by exploring how indigenous culture in Pakistan enables hybrid payment systems to flourish. A case study was conducted in the marble industry of KPK Pakistan where qualitative data were collected through semi-structured interviews with the industry's participants. The findings highlight the role of the indigenous collectivist cultural practice of Pakhtunwali in successfully implementing the hybrid payment system in SMEs in Pakistan. The study makes a theoretical contribution to knowledge about culture and payment systems by examining the role of collectivist cultural practices in supporting the hybrid payment system in Pakistan. The study highlights the role of collectivist cultural practices in overcoming the limitations of the hybrid payment system. The study also informs SME owners/managers about the importance of local cultural practices in Pakistan and how these can be utilized and maintained to improve the transactional practices of businesses.

Keywords Hybrid payment system, Collectivist cultural practices, Culture and payment system, Information system, Small and medium enterprises

Introduction

Over the past few decades, payment industries have been through tremendous changes and have grown exponentially and played a vital role in the economies of the

countries [53]. The robust growth in the payment industry has increased the quantum of payments and their size [12]. With the expanding industry size, there is an evolution in the payment system, its process, and its mechanism, due to which new forms of payment types have emerged [68]. For instance, previously manual types of payment systems operated in which cash or paper-based instruments were used for payment settlements but now with the advent of new technology, the paper-based settlements have been converted to electronic forms which have increased the speed of completing transactions and reduced operational risks [63].

The most popular new types of electronic payment systems are electronic cash, credit cards, debit cards, smart

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cards, e-wallets, and mobile payments [28, 50]. Some of the payment systems used by companies in the inter-company system have been shifted to electronic channels and are used for ordering, invoicing, transport processing, payment confirmation, and delivery acceptance. By successfully automating the payment system, companies have been able to reduce communication costs, monitor contract fulfillment, confirm delivery, and update the company’s inventory, production, and accounting data including sales, purchasing, and operations [54].

Another major type of payment is the hybrid payment system known as RTOB (Real Time Online Branches) facility, it’s a hybrid payment system because, in this payment facility, part of the transaction process is manual and partly electronic. RTOB is the payment facility offered by the banks in which all the respective branches are connected online and are kept under the control of the commercial banks, it provides services to customers such as online transfer of money [17]. To utilize the RTOB facility customers physically visit the bank branch where they record the details of the payee on a receipt manually, and then the teller (Bank Employee) enters those details in the system (Fig. 1), and then through the bank, electronic payment system money is transferred to the payee account [67].

This hybrid payment system is most popular and commonly used by firms in less developed countries like Pakistan, especially the small firms, which still depend on the banks’ traditional infrastructure to move the money and finish retail transactions, as in these countries most of the transactions are carried out at bank branches in person and manually [17, 41]. The figures below demonstrate the importance of this hybrid payment facility (Fig. 2),

as according to the State Bank of Pakistan [86], during the year 2022–23 this channel has processed 199.90 million transactions worth PKR 113,941.90 billion, depicting YoY (Year on Year) growth in volume and value of transactions [86]. RTOB comprises the largest number of transactions done through electronic payment channels in the country [86].

It is a fact that in developed countries the diffusion of electronic payment systems is high as compared to less developed countries because of the availability of required infrastructure to support new technological advancements in the payment system [70]. As a result, these countries have seen robust growth in their payment industry over the last decade, as the global digital payment market was valued at USD 3885.57 billion in 2019 and is expected to reach USD 8686.68 billion by 2025 [12].

Meanwhile, in less developed countries, electronic payment systems are still in their infancy and some individuals and firms still prefer to work with a manual payment system and utilize banks for their transactions [41]. There are numerous reasons why less developed countries like Pakistan favor a hybrid payment system for their payment obligations, such as lack of sufficient infrastructure [87] security issues [52], and most importantly, a large portion of the population does not have access to the electronic payment system due to the paucity of resources [17]. For these reasons, Pakistan, which is the sixth most populous country in the world with 220 million inhabitants, is a cash-based economy where 85% of the population is unbanked, financially and marginalized, and uses traditional banking facilities or cash for their payment obligations [51]. Of the 220 million inhabitants,

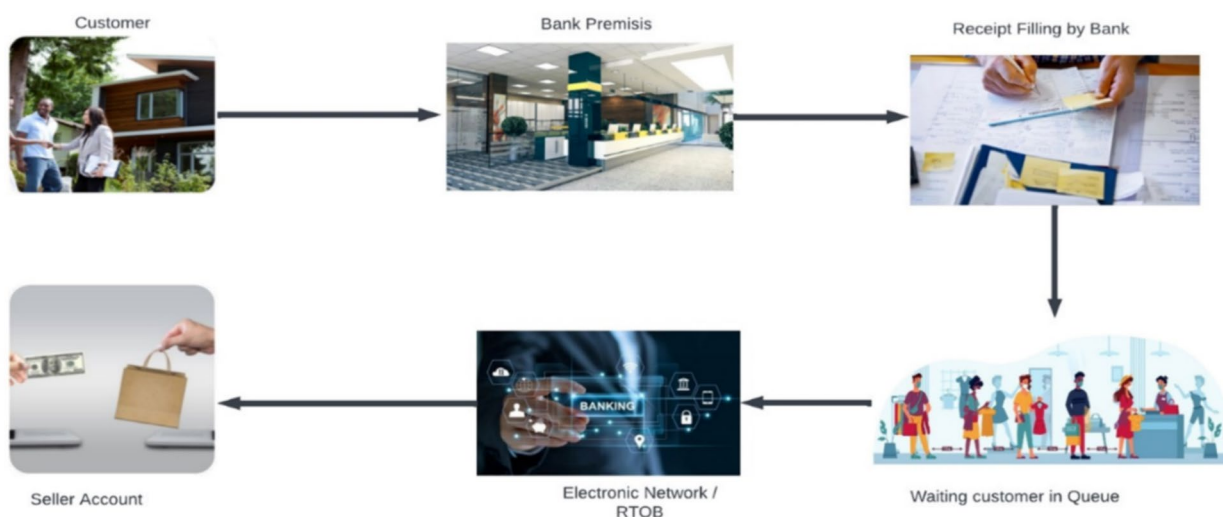


Fig. 1 Graphical representation of hybrid payment system

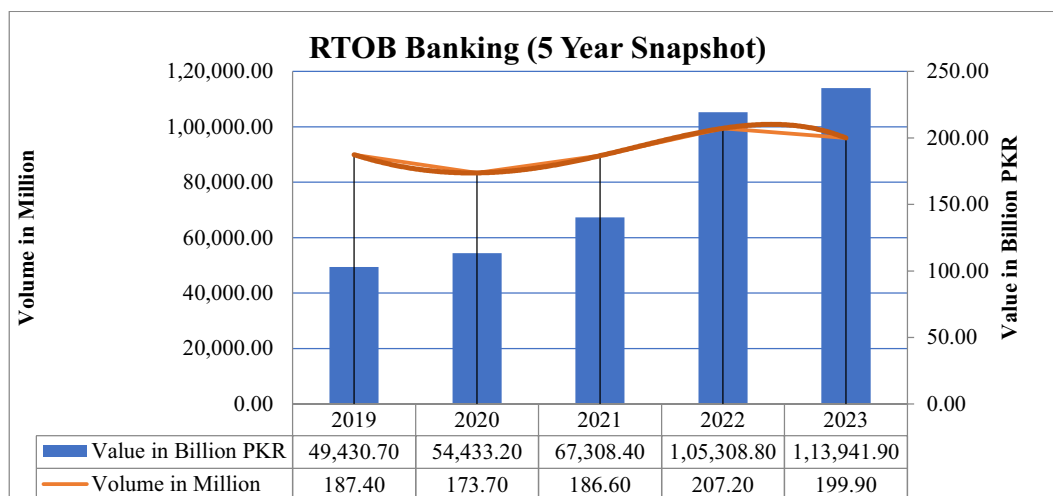


Fig. 2 Real-time online banking source: Payment System Department, State Bank of Pakistan [86]

only 3.1 million are registered as internet bank users, reflecting the low acceptance of electronic payments in the country [64, 75].

The study will contribute to the body knowledge of Culture and Information Systems in general and particularly to culture and payment systems by exploring the role of collectivist cultural practices that play a role in successfully implementing the hybrid payment system in developing countries such as Pakistan. Further, the study will extend the literature by formally associating the role of collectivist cultural practices of Pakistan in the information system and particularly in the payment system which has not been studied before.

Problem statement

Many businesses in Pakistan, especially small and medium enterprises (SMEs) rely on hybrid payment systems. Despite being behind their Western counterparts in payment systems, the 3.2 million SMEs in Pakistan contributed immensely to the country’s economy [6]. The contribution of SMEs to the GDP of Pakistan is \$122 billion, which amounts to 40% approximately of the total GDP [18]. SMEs are also employing 80% of the total non-agricultural labor force and are the largest avenue for employment in Pakistan [83, 100].

One of the biggest enablers of the success of the hybrid payment systems is the local indigenous culture [35, 45]. Pakistan is a collectivist culturally oriented country, where people follow collectivist cultural practices and are closely knotted to each other through these practices, which helps them to develop strong interpersonal relationships [39]. These cultural practices are trust, loyalty, obedience to the group, altruism, honor, and interdependence [49]. These practices are part of everyday life in

Pakistan and people rely on these practices and relationships for resource acquisition, and task completion and seek to leverage benefits in the society [103].

Most of the studies on culture and payment systems are conducted in developed countries compared to developing countries [36, 46, 47]. Second, they are more interested in the factors that influence the adoption of electronic payments using models and frameworks such as the technology acceptance model (TAM) [94] the Unified Theory of Acceptance, and the Use of the Technology Model [94] the UTAUT 2 [28, 90, 95, 102]. Likewise, similar studies in developing countries focus on the adoption factors [46, 48]. Meanwhile, culture when employed in those studies was limited to the moderating role [21, 79]. Thirdly, current studies on payment systems focus on the technical, rather than the social or socio-technical aspects of its implementation [37, 57, 77, 90].

This study attempts to enhance the understanding of the relationship between culture and IS (Information System) in general, and in particular between culture and payment system. Specifically, this study will investigate how indigenous culture in Pakistan contributes toward the relative success of its payment systems by overcoming the limitations of the existing hybrid payment system. The research question investigated in this study is:

How do collectivist cultural practices provide support in implementing the hybrid payment system in SMEs in Pakistan?

Literature review

Electronic payment system

The electronic payment system is the transfer of money from the payer to the payee through means of electronic mechanisms [15]. The advent of the electronic payment

system has created new financial needs that cannot be effectively handled by the traditional payment system [82]. It has become the popular means of payment to meet online purchases and other financial needs [81]. It has provided an altogether new vista for the companies to increase their sales and offer a range of products to consumers throughout the world, as it helps companies to increase their customer base as they are not limited to any geographical area [40].

Process of electronic payment system

The electronic payment system was developed after the existence of EFT (electronic fund transfer), which does not rely on a central processing intermediary. In that process, EDI (electronic data interchange) sends information related to credit cards or electronic checks over the medium of secured private networks between banks and corporations [77]. Recently, in the electronic payment system process, the payment gateway becomes an imperative component ensuring that transactions are exchanged without compromising security [57]. The function of the payment gateway in the process of the electronic payment system is to secure the person’s transaction information by encrypting the sensitive information to ensure that information is transferred in a secure environment between a consumer and the transaction processor [93]. The elucidation of the process of the electronic payment system follows, customers attend the website to choose a product and make payment after

that server stores the information of the order, in which request is generated in the shape of digital order along with the IP address of the customer, digital order is then directed toward the payment gateway over a safe channel [11]. The payment gateway transmits the details of customers to the relevant bank and upon approval (Fig. 3), the payment gateway sends back the data to the merchant consequently finishing the "order" and giving confirmation [93].

Hybrid payment system

Another important type of payment system is the hybrid payment system or traditional payment system which is not fully automated and involves both manual and electronic aspects of the payment process [41]. In a traditional payment system, the payment settlement involves the transfer of cash and payee information. The settlements took place in the electronic processing network of the banks which requires the withdrawal of cash from the buyer’s bank and then bringing it physically to the bank to deposit to the seller’s account [77]. The simple taxonomy of the traditional payment system can be canvassed in which payment is initiated between two “end users” of the financial system, say, two businesses in a supply chain, or a tenant and a landlord. In this process, the platform that facilitates the payment process between the two entities is called the retail payment systems of banks [26].



Fig. 3 Process of electronic payment system

Process of hybrid payment system

To elucidate the process, consider the RTOB system, RTOB is the electronic payment facility in which branches of the banks are connected online, it provides services to the customers such as online transfer of money [85]. To utilize the service customers physically visit the bank branch where they record the details of the payee on a receipt manually after that bank employee enters those details in the system and then through the bank’s electronic payment facility money is transferred to the payee account [67, 85]. So, this particular system has two parts (Fig. 4), the first part is manual, and the other one is electronic making it a hybrid payment system [41].

Hybrid vs. electronic payment system

In a hybrid payment system, there are certain features and characteristics associated with it, for example, first, to conduct the transaction customers have to visit the branch in person along with the cash or check, which consumes time and requires the depositor to fall in queues to make the transaction [67]. It exposes customers and individuals to vulnerabilities and different kinds of risks such as privacy risks, social risks, information risks, and financial risks (theft and counterfeit currency) [64]. Second, in the traditional payment process sometimes a customer is dependent on bank staff to help in completing the transaction like filling in the right details in the receipt and choosing the right receipt which sometimes leads to human error where branch staff manually inputs the transaction details [67]. Third, the possible delay in transactions due to computer network breakdowns often causes problems for customers [14]. Most importantly transactions have to be performed during the bank’s operating hours. Nevertheless, the traditional payment system is preferred by individuals or businesses who need high-value

transactions that they cannot perform in an electronic payment system because it has a transaction limit [1, 7, 74]. Secondly, traditional payment is preferred by individuals who are not tech-savvy and have less knowledge about the electronic payment system [60]. They are comfortable visiting the branch and interacting with the bank employees whom they have known for a long time. Thirdly, most people do not have access to computing technology and prefer traditional payment systems [64].

In an electronic payment system, customers can operate their respective accounts round the clock (24/7), where they ubiquitously and instantly interact with their bank accounts from any physical location [42]. With this facility, the notion of attending the bank during operating hours is a non-issue. Traveling time and money are non-requirements to conduct transactions which add to the ease of doing transactions [14]. Electronic payment systems increase convenience for customers to pay commercial bills, online shopping payments, and fund transfers, and generate online bank statements with just a click [71]. Electronic payment system also makes it possible to conduct real-time and secure financial transactions as online transactions are backed by the safe and secure IT network provided by the bank which minimizes the risk of conducting the transaction [5, 8]). Since transactions conducted over the Internet are secure, customers feel peace of mind and security [19, 31, 88]. In an electronic payment system, customers conduct transactions on their own and remove the chances of posting errors on the part of branch banking staff. Another important consideration is the lower cost operation of the electronic payment system which helps in reducing the cost of the transaction and puts less burden on the brick-and-mortar bank branches [78].

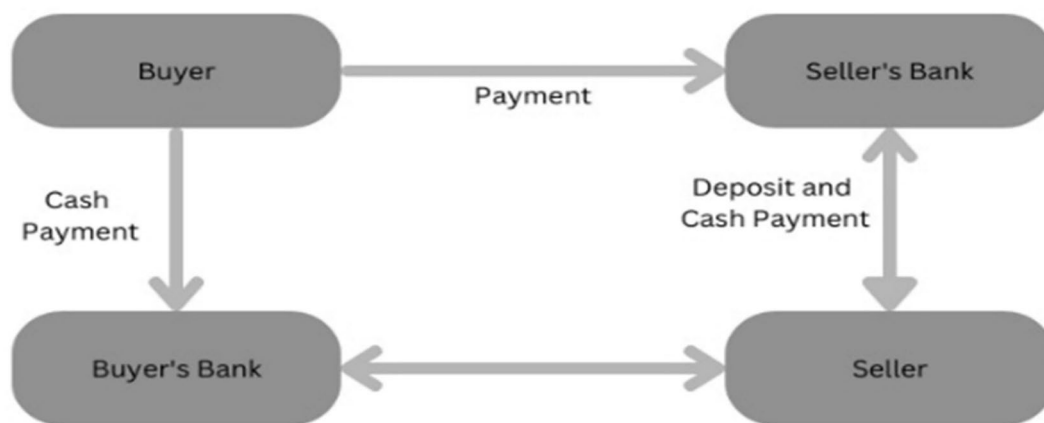


Fig. 4 Process of hybrid payment system

Culture and payment system

Previous studies have vehemently argued that culture plays a strong role in the payment system's adoption, implementation, and usage [21, 102]. Few studies have been conducted to analyze the effect of culture on the payment system. For example, in the study conducted by Baptista and Oliveira [21], in an underdeveloped region of Africa, they found that performance expectancy, hedonic motivation, and habit were the most significant antecedents of behavioral intention. Furthermore, findings show that collectivism, uncertainty avoidance, short-term, and power distance were found to be the most significant cultural moderators. Another study by Khan et al. [47] conducted in Pakistan and Turkey used (UTAUT2), along with cultural moderators from Hofstede. The study provides new insights into the determinants of technology acceptance by examining cultural effects on individual customers toward online banking. The findings of the study suggest that performance expectancy, facilitating conditions, habit, perceived security, and price value as important antecedents of behavioral intentions. Findings show that cultural moderation of collectivism and uncertainty avoidance played a significant role in explaining the behavioral intention and usage behavior for online banking. In a similar vein, the study conducted by Khan et al. [46] investigates and compares online banking acceptance in the cultures of Pakistan and Turkey using (UTAUT2) integrated with perceived credibility to predict customers' behavioral intentions and their usage of online banking. The study employs cultural dimensions as a moderator of customer usage behavior. The findings of the study show that performance expectancy, hedonic motivation, habit, and perceived credibility are determinants of online banking acceptance in Pakistan, whereas performance expectancy, social influence, price value, habit, and perceived credibility are the factors influencing Turkish bank customer intentions. Further findings of the cultural moderators show that collectivism and long-term/short-term orientation affect customers' usage behavior in Pakistan while uncertainty avoidance, power distance, and masculinity/femininity moderate the usage behavior of Turkish customers. Similarly, a study by Sharma et al. [79] in Fiji, employed (UTAUT), incorporating customer satisfaction and perceived risk constructs and cultural moderators of individualism and uncertainty avoidance. The study shows the positive influence of performance expectancy, effort expectancy, social influence, and facilitating conditions while perceived risk negatively influences IB usage intention. Importantly the cultural dimension of uncertainty avoidance dampens the influence of IB adoption intention. On the other hand, a

study by Al-Okaily et al. [13] also employed UTAUT2 and analyzed the moderating impact of culture on the intention to use digital payment systems they found inconsistent results to the previous studies in which culture does not moderate the influence of intention to use the digital payment system in Jordan.

Further, in collectivistic cultures, people often seek information from social networks due to their strong herd behavior preference ([55, 69]). In these cultures, social influence is motivated by the collectivist cultural orientation and plays a significant role in the acceptance of an electronic payment system [102] For example the study by Tan and Leby Lau [89] found that a collectivist society like Malaysia, along with other factors, social influence had a direct and positive effect on the behavioral intention toward an electronic payment system, in which the decision has been influenced by, coworkers, classmates, friends, and mass media. Similarly, another study by [20] in which they examined the effect of social and cultural factors on ICT innovation with a particular focus on mobile banking/electronic payments. They found that social influence has positively influenced behavioral intention toward the use of mobile banking/electronic payment systems. Likewise, the study by Gupta et al. [33] also indicates that social influence has a significant positive influence on the behavioral intention toward digital payments. This is because, in a collectivist culture like India, people value the opinions of others while making their decisions. Similarly, the study by Muhammad Naeem et al. [65] suggests that social media, social circles, family members, and teams of customer service agents play an important role in the adoption and usage of mobile/digital banking. While few researchers highlight that social influence has a negative relationship with behavioral intentions to adopt digital payment systems, these studies were conducted in a specific context where people were heeding their thoughts or due to other socio-cultural factors [9, 59].

Most of these studies were conducted in the context of electronic payment systems or fully automated payment systems ignoring the hybrid payment system. Secondly, the above studies have used established theoretical models or frameworks such as UTAUT, and UTAUT2, in which the findings remain in the scope of the constructs of these models. The role of culture in these studies is limited to moderation and overlooked the overarching effect of culture on the payment system specifically on the hybrid payment system which has not been studied before. In the below table, we have summarized the results of the previous studies regarding culture and payment systems, and hybrid payment systems vs electronic payment systems (Table 1).

Table 1 Brief previous literature

Authors	Countries	Models/Methodologies	Findings of the study
<i>Culture and payment system</i>			
Baptista and Oliveira [21]	Africa	(UTAUT2) (2012), with cultural moderators from Hofstede/ Quantitative	The studies found that performance expectancy, hedonic motivation, and habit were the most significant antecedents of behavioral intention toward online banking. Furthermore, findings show that collectivism, uncertainty avoidance, short-term, and power distance were found to be the most significant cultural moderators
Khan et al. [47]	Pakistan and Turkey	(UTAUT2), moderated by cultural variables/ Quantitative	The findings of the study suggest that performance expectancy, facilitating conditions, habit, perceived security, and price value as important antecedents of behavioral intentions. Findings show that cultural moderation of collectivism and uncertainty avoidance played a significant role in explaining the behavioral intention and usage behavior for online banking
Sharma et al. [79]	Fiji	(UTAUT), moderated by cultural variables/ Quantitative	The study shows the positive influence of performance expectancy, effort expectancy, social influence, and facilitating conditions while perceived risk negatively influences IB usage intention. Importantly the cultural dimension of uncertainty avoidance dampens the influence of IB adoption intention
Khan et al. [46]	Pakistan and Turkey	(UTAUT2), cultural dimensions as a moderator/ Quantitative	The findings of the study show that performance expectancy, hedonic motivation, habit, and perceived credibility are determinants of online banking acceptance in Pakistan, whereas performance expectancy, social influence, price value, habit, and perceived credibility are the factors influencing Turkish bank customer intentions. Further findings of the cultural moderators show that collectivism and long-term/short-term orientation affect customers' usage behavior in Pakistan while uncertainty avoidance, power distance, and masculinity/femininity moderate the usage behavior of Turkish customers
Al-Okaily et al. [13]	Jordan	UTAUT2, culture as moderator/Quantitative	The study found inconsistent results to the previous studies in which culture does not moderate the influence of intention to use the digital payment system in Jordan
<i>Hybrid Vs. Electronic payment system</i>			
Muhammad [64]	Pakistan	Thematic analysis/ Qualitative	The study highlights the challenges of shifting from traditional banking to Internet banking during the Covid-19
Anjum et al. [14]	Pakistan	Regression Analysis/ Quantitative	The study found the problems associated with traditional banking and concluded that traditional banking in Pakistan has enormous room to capture more customers by offering good services and infrastructure
Jadil et al. [42]		Meta-Analysis of the UTAUT Model	The study found out the impact of UTAUT variables on the usage intention and behavior of the consumers on mobile banking. The study features the benefits of online payment systems
Afshan and Sharif [5]	Pakistan	UTAUT, TTF and ITM/Quantitative	The study provides an all-inclusive approach in understanding the acceptance of mobile banking by incorporating three established theories of technology acceptance

Table 1 (continued)

Authors	Countries	Models/Methodologies	Findings of the study
Shankar and Rishi [78]	India	Performing confirmatory factor analysis (CFA)	The findings show that access convenience, transaction convenience, and possession/post-possession convenience predict mobile banking adoption intention

Theoretical lens: social capital theory

The social capital theory is the underpinning theoretical lens used in this study. It refers to the social relationships between people that harness productive outcomes from those relationships [62]). The term social capital encapsulates the features like social trust, norms, and networks that people can draw [3]. Social capital represents the tenets of goodwill, sympathy, trust, and personal bonding, which are stimulated by social relations that facilitate actions and coordination in society [4]. The social capital theory has different definitions and perspectives, but Nahapiet and Ghoshal [66] conceptualized it as a multidimensional construct with three distinct and complementary dimensions: structural, cognitive, and relational. The structural dimension of social capital relates to the connections, ties, and relationships that are formed by the network. It determines how actors in the network accumulate and develop ties to extend their social capital [38]. It plays a significant role in deriving benefits and leveraging resources embedded in social capital, for example knowledge and emotional support [92]. The density and frequency of these structural relationships help in building trust easily among the actors and they become willing to share common norms and values [92]. The relational dimension of social capital relates to the quality of these interpersonal relationships in terms of trust and trustworthiness [25], norms and obligations [58], and identity and identification [92]. The cognitive dimension refers to the sharing of goals and vision [92] as well as a common understanding of language and codes that are shared by the actors in the network [66]. These codes act as a common conceptual apparatus for the actors in the network to understand and comprehend the actions and enable them to work effectively and together [76]. The role of collectivist cultural practices in the hybrid payment system can be comprehended through the multidimensional constructs of social capital theory and its elements which will provide a foundation for the data analysis.

Research method

The qualitative research approach has been adopted for the study because it helps in providing a deeper understanding of the studied phenomena based on the participant's experiences. It helps in garnering quality findings from the participants by attaining in-depth exploratory

studies of the case throughout the research [22, 27, 30]. Qualitative research helps to explore the actual practices prevailing in society and in this way, understanding is developed to locate the viewpoint where social interaction takes place [80]. Furthermore, we opted for a case study research design for this study because the case study research builds an in-depth, contextual understanding of the case, relying on multiple data sources [97]. The case study design was chosen when the researcher is interested in finding out questions especially containing 'how' and 'why' questions [97]. Regarding the current research, a single case study design was chosen for the investigation in which small and medium enterprises of the marble industry situated in the KPK (Khyber Pakhtunkhwa) province of Pakistan have been selected in which the role of collectivist cultural practices in the hybrid payment system will be explored. In a single case study method usually, a small geographical area or a very limited number of individuals are selected for the study [101]. Stake [84] posits that a single case study should be concentrated on a single inquiry and holistically in its entirety to design and meet the requirement of the research question. In addition, the focus is on selecting a single representative/typical case [97] that captures how collectivist cultural practices help in the successful implementation of the hybrid payment system among SMEs in Pakistan.

Research case context

The context of the study is the marble industry of KPK province in Pakistan, as the context can be a given organization, its industry, its locale, or even the population of an organization [34], the marble industry of KPK. The KPK province is rich in marble resources and is considered the main hub for the marble industry in the country. There are a lot of marble reservoirs and industrial concentrations in this region. Pakistan has approximately 297 billion tons of huge reservoirs of marble stones and most of them are located in the mountainous region of the KPK province of Pakistan [61]. Pakistan's annual quarry production is 3.82 million tons, and marble tiles are around 2.5 million tons, contributing 2% to the global market [32]. Marble is also the 5th largest contributor to Pakistan's GDP, worth \$134 million, exporting it to China, the USA, and other European countries. China

accounts for 60% of Pakistan's total marble exports [32]. Secondly, the region of KPK is traditional and has its unique cultural traditions, and the role of these cultural practices is deeply enshrined in the society, shadowing every aspect of the life of the citizens residing in KPK [49]. Those cultural practices are known as Pakhtunwali, which is a moral and living code of honor that prevails in society [43]. It manifests a standard course of action for its citizens which has been historically constructed, shared, and agreed upon to be collectively followed by the society [49]. The central features and tenets of the Pakhtunwali include Melmestia (Hospitality) (Arab [16]), Hujrah (Guest house), Rorwali (Brotherhood) [99], Nang (Honor), Badal (social reciprocity) [73], Tiga (Truce) [24] and Jirga (council of elders) [44]. Furthermore, Pakhtunwali has the potential to play an important role in shaping the work ethic and business operations in KPK. For example, the value of "nang" or honor is closely linked to one's reputation and can influence decisions regarding work and business. In addition, the principle of "Badal" or reciprocity is important in some contexts where people feel compelled to reciprocate for perceived benefits in the workplace. While the principle of "Melmestia", "emphasizes hospitality and kindness to guests and strangers. This can manifest itself in businesses through a focus on building strong relationships with customers and clients. Moreover, the socioeconomic development in the region is less as compared to other provinces of the country due to which the region lacks modern technological infrastructure [2].

Data collection and analysis

Primary data were collected through qualitative methods that underpin the interpretive stance in the study [96]. A total of 12 semi-structured interviews (see Appendix File A) were conducted including the suppliers and manufacturers which form a dyad. Dyadic research concentrates on the patterned mutual action between two people. In the current study, the dyad is the supplier-manufacturer relationship. It will consider the interpersonal relationship that affects the payment system. The interpretations of the data will refer to the relationship that exists between these two entities [56, 91]. This dyad was chosen because the suppliers extract the stones from mines and send them to manufacturers because the supplier can only send them to the manufacturer in the supply chain. So, supplier immediate relationship can be developed with the manufacturer. Secondly, they can provide relevant information about the payment system because the flow of products is from supplier to manufacturer and the flow of money is from manufacturer to supplier. In total, there were six suppliers from the area of Buner and Mohmand, KPK, Pakistan, because these areas carry

a vast amount of Marble reservoirs in their mountains. Six manufacturers are from the area of Mardan, Jhangira, and Risalpur, KPK, Pakistan. Most of the marble industries are located in the industrial zones of these cities.

Interviews were conducted with the owners of these small firms as primary units of data collection. The interviews were held in the field at their mines and the manufacturing units in their respective areas. The selection criteria include having small marble firms and residents of KPK. In-depth interviews lasted around 40–70 min and were conducted in the local language, Pashtu, and were tape-recorded after obtaining consent. The interview questions are based on the dimension of social capital theory: Who are the people involved in the transaction and how the rules and procedures of the payment system are enforced? In the payment system whom do you trust and why do you trust them?

After translating and transcribing the interviews, the transcriptions were uploaded into the software, Quirkos, for Dyadic analysis. The data analysis for the study is based on an interpretive approach, in which throughout the data analysis, the perspective of social capital theory was used as a "sensitizing device" [66], to guide the data analysis. First and foremost, the data in the form of transcriptions were recorded on the Quirkos software for the coding process, in which codes were created in line with the dimensions of social capital theory, i.e., structural, relational, and cognitive, (See Appendix File B). For example, in the relational dimension, all the statements that are relevant to the trust are clustered under the code of trust, similarly, statements related to norms are clustered under the code of norms. As social capital theory is a sensitizing device for data analysis, throughout the process statements and quotes are summarized and clustered in relevant codes. This process helps in organizing the data and provides efficiency in accessing the data or the relevant statements and quotes.

After the codes were created, the data were summarized in narrative form and presented in tabular form in the finding section against the dimension of social capital theory. The significant statements and quotes related to the social capital theory elements were highlighted from the data for every dimension of social capital theory (Table 2). This process is known as "horizontalization" in which a cluster of meanings is formed from the significant statements [27, 72].

Results

Network ties

Network ties are the representation of the impersonal configuration of linkages between people or units. The findings revealed the mechanism and process through which the ties between the actors in the dyads are

Table 2 Structural dimension of social capital

Structural dimension	First Dyad	Second Dyad	Third Dyad	Fourth Dyad	Fifth Dyad	Sixth Dyad
Network Ties	Established during the marketing campaign	The commission agent acts as the main tie	Established During a regular monthly visit to the market	Zemaka (business land) agreement	Ties are established at Kanta	The tie is established through a guarantor

established which eventually helps in executing the process of hybrid payment.

The results of the study show that in KPK, Pakistan, and Pashtun society in particular, there are various mechanisms through which network connections are established between actors that help them build relationships and ultimately support the hybrid payment system. For example, in some dyads, the relationships between the supplier and the manufacturer are established during the suppliers' marketing campaign. They arrange a visit to the supplier's mines and meet his family members, including the supplier's father and brother. Meeting family members is very important in Pashtun society because it reflects the intensity of the bond between the actors. This is because, in Pashtun society, a stranger is not allowed to meet family members unless they are closely related. Similarly, in other dyads, the commission agent, and the guarantor act as the most important ties between the supplier and the manufacturer. They ensure the timely delivery of the marble and timely payments. The agent and the guarantor do their best to ensure a safe and sound transaction because, in case of non-performance of the obligation on either side, the responsibility for the fulfillment of the obligation lies with them. It is in the general interest of the intermediary and the guarantor that both sides honor their obligations during the transaction. Similarly, ownership of land is associated with dignity and prestige in Pashtun society (Table 3), so in one case the zemaka (land) agreement plays a role in establishing relationships between the actors.

Trust

Trust is at the core of the relationship and is essential to maintain peaceful and stable social relations for collective behavior and productive cooperation. Findings of the dyads highlight the elements of trust building, some of which are peculiar to Pashtun society. For instance, in Pashtun society visiting home and meeting family members is a significant act, it shows that both parties bestowed so much trust upon each other that they allow each other into their homes, because in Pashtun society a stranger or a person outside the family cannot visit the home. Likewise, background information is important as it provides the foundation for relationships, which includes tribe name, location, and reputational

status. In the same vein in Pashtun society, it becomes easier for them to build trust because they have access to their paternal lineage which has a strong implication in the Pashtun society. It helps them to access their family background and their reputation in the area. They can easily collate information like family reputation, and enmity with anyone because in Pashtun society one has enmity with someone, so they avoid dealing with them because they do not want to make future problems for themselves. It is a custom in Pashtun society that before accepting any marriage proposal both sides ensure that they don't have enmity with anyone. So, being from the same area helps them to build trust and trustworthiness in their relationship. Furthermore, findings show that trust and trustworthiness are at the core of the relationship, which drives the payment system. The sustainability of the payment system widely depends on trust which is why the actors in the dyad remain honest and fair in their dealings. In some cases, it was observed that trust is built with the help of middle parties like agents and guarantors who ensure the trustworthiness in the transaction as the breach of trust could damage the Nang of the agent and guarantor which they cannot afford in Pashtun society.

Norms

Certain norms exist and are practiced exclusively in the Pashtun business environment. They help regulate, shape, constrain, and redirect the behavior of actors in the dyad and provide a mechanism for distinguishing between right and wrong actions in their business environment. For example, any dispute over payment or the quality and quantity of marble is settled through the jirga mechanisms, which is an important principle of Pakhtunwali. It is a systematized procedure for resolving disputes in Pashtun society, the decision of which is binding on both parties. Ignoring the jirga's decision can result in serious consequences, including expulsion from the area. Similarly, the findings suggest that it is a norm to accommodate adversaries in times of crisis in the spirit of Rorwali, which is another important component of Pakhtunwali and does not make an issue of minor things in their business settings. Also, norms help them to adhere to the Pakhtunwali code. In one case, it was observed that it is a norm that suppliers are not allowed to switch to another manufacturer without a valid reason. This is seen

Table 3 Relational dimension of social capital

Relational Dimension	First Dyad	Second Dyad	Third Dyad	Fourth Dyad	Fifth Dyad	Sixth Dyad
Trust	Physical visit, and background check to ensure reputation	Commission agent ensures the trustworthiness	Trust increases with the number of exchanges between them	Established trustworthiness through fair dealings and by paying on time	Same area (Mohm- and Agency). Access to the patrilineal lineage	The guarantor ensures trustworthiness
Norms	Adjudication by the elders will be accepted	Offer a discount when the market is down	Entitlement of deduction if the marble stones are not received in proper form	The manufacturer will not stop the payment circle under any circumstances	The supplier is bound to sell marble to the manufacturer if he shifts to another manufacturer then he will have to settle the score with the manufacturer	Avoid nitty-gritty and do not make an issue of minor things
Obligation & Expectation	Quality, Quantity, and timely payment	Timely delivery and timely payments	Timely delivery and timely payments	Timely delivery and timely payments	Timely delivery and timely payments	Timely delivery and timely payments
Identity & Identification	Developing trust easily Showing compassion and loyalty	Save time Save effort	Save them from legal complications in the payment system	For non-Pashtun 90%, I will look for my business and 10% for relationships, but for Pashtun 90% I will look for relationships and 10% for business	Sacrifice profit for the sake of loyalty and relationship	Compassion toward each other Go out of the way to support each other

as a sign of disrespect and dishonor to the manufacturer and a violation of the Pakhtunwali Code. Adherence to the standards under the Pakhtunwali mechanism supports the implementation of the hybrid payment system.

Obligation and expectation

An obligation is defined as the belief of an individual or party that each of us is bound by a promise or debt to some action or course of action toward the other party. The results show that all parties have the same sense of obligation and expectation during the transaction, i.e., the demand side expects that the marble will be delivered on time in the promised quality and quantity. Similarly, the supply side expects that payment must be made at the promised time and in the promised amount. Payment must not be delayed and there must be no discrepancy between the amounts because the promised amount must be remitted. For the hybrid payment system to work, the parties must fulfill their obligations and promises made during the transaction. This is because breaking the promise and commitment will force the Pakhtunwali to act in the form of the Jirga, which all parties will avoid in order to preserve their reputation and sanctity.

Identity and identification

The results show that all of the entities involved in the dyads are from the Pakistani region of KPK and are Pashtuns by ethnicity. Therefore, they share the same social identity and are Pashtuns, which means that they adhere to the Pakhtunwali code that supports the implementation of the hybrid payment system. The results show that the shared Pashtun identity fosters elements of trust, cooperation, compassion, and utmost loyalty to their partners. They sacrifice their self-interest for the good of the relationship and their Pashtun partners. They exhibit these traits in the spirit of Badal, an essential tenet of Pakhtunwali, where it is assumed that any gesture of trust, cooperation, and compassion will be

reciprocated by their counterpart in the future. In addition, the findings suggest that Pashtun identity helps them in their business by saving time and cost of visits. The shared identity enables and helps the actors to save them from legal complications in the payment system. Because both parties are Pashtun and know that any dispute that arises will be resolved under the Pashtun Jirga mechanism which is swift and effective and acceptable to both parties. The mechanism of jirga is applicable only if you share the Pashtun identity and accept the notions of the Jirga system under the framework of the Pakhtunwali code (Table 4).

Shared language and code

Findings revealed that there are sets of special and exclusive codes that are used by the actors in the dyad to facilitate the process of the payment system. The language of the codes is Pashto because they use their native language in their business setting. These codes help them to execute transactional exchanges swiftly and expeditiously. These codes in Pashto act as a common conceptual apparatus for the actors in the dyad to understand and comprehend the actions and enable them to work effectively and together. This comprehension quickens the process and makes the payment system effective. Findings revealed these codes are an essential part of their communication and influence the combination ability of the actors in the dyad, which ultimately helps in successfully implementing the hybrid payment system. Like in one of the dyads, the code word used by the supplier and manufacturer is “Challan Milo Shwo”. This code is used by the supplier to inform the manufacturer about the delivery of marble along with the “Challan” which is the called payment document in their business setting. This document contains details like advance received by the driver in cash, tax deduction, the quantity of the marble and details of the remaining amount, date of the

Table 4 Cognitive dimension of social capital

Cognitive dimension	First Dyad	Second Dyad	Third Dyad	Fourth Dyad	Fifth Dyad	Sixth Dyad
Shared Language & Code	“Challan Milo Shwo”	“Qist”	“Baqia Paisa”	“Wasooli time de”	“Baqayajat Shta”	“Tadiya”
Shared Narrative	“I ate their salt.”	The supplier faces a loss in one whole lorry due to broken stones, the manufacturer compensates him for the whole lorry	Idealization of the legendary character of Ajab Khan Afridi	“A Ghiratmand person will never betray anyone.”	“Khaple Haga de Che pa Nangsial ke de Pakar Rashi” A true comrade comes to your aid in the time of trouble	“Pa Saloo Ma Marh Ka, Pa Yum Par Makrha.” “It is preferable to get Kill me by a hundred men but let me not get ashamed for one”

remaining amount. The specific code helps the manufacturer to organize the labor and his setup to receive the delivery.

Shared narrative

Shared narratives are the myths, stories, and metaphors prevalent in a society that help organize the order of human experience and give meaning to those who live, create, or interpret them. They provide explanations for events, what happened, why they happened, and what they mean. The results show that Pashtun shared narratives play a role in the implementation of the hybrid payment system. For example, in one dyad, actors mention the famous old Pashtun anecdote "I eat their salt," which is used metaphorically to mean eating dinner or lunch at someone's house. In Pashtun tradition, it is an important principle of Pakhtunwali when one party offers dinner or lunch to the other in their hujra (place for guests). Visiting the hujra and eating means that both parties now have a firm bond and will not betray it at any time. This particular notion provides security to the payment system as both actors in the dyad manifest that they will remain loyal and will not be engaged in any fraudulent activity which eventually helps in implementing the hybrid payment system.

Likewise, other dyad actors believe that saving face and skin is an important element for survival in Pashtun society known as Nang (honor). So, therefore they refrain from those activities and acts which could hurt their Nang because Pashtun can live without food but not without Nang. Most Pashtuns derived this from the story of their ancestors, one of them famously known as Ajab Khan Afridi who took revenge on those who dishonored the Pashtun society by attacking their homes and women in the village of Bostikhel KPK during colonial times. Findings further suggest how metaphorical assumptions that prevail in the Pashtun society help in facilitating the payment system and provide meaning and justification for their actions. There is a metaphorical presumption used by the actors that "A Ghariatmand person will not betray you". Ghariatmand is the term for an ideal person, in a Pashtun society the one who abides by the laws and customary inherent in the Pakhtunwali code, because Pakhtunwali differs them positively from all non-Pashtuns". It is an important tenet of Pakhtunwali, people spend their entire lives making themselves Ghariatmand persons, so any little wrongdoing could potentially harm their Ghayrat persona.

Discussion

The current study is about the role of collectivist cultural practices in supporting the implementation of a hybrid payment system in SMEs in Pakistan in which part of the

transaction process is manual and partly electronic. Due to the limited technological capabilities in less developing countries, payment systems come in a hybrid form, especially in small and medium enterprises for which the ideal technological environment remains elusive [29]. So, in less developed countries and specifically in Pakistan the use of electronic payment systems is less in firms and especially in small firms [17]. The current study highlights how collectivist cultural practices in Pakistan's society in the form of Pakhtunwali help in successfully implementing the hybrid payment system within the supply chain in firms.

As mentioned earlier, the hybrid payment system has certain features and characteristics [67], such as a physical visit to the branch, certain hours of operation, and delays in transactions due to glitches [14]. All these factors seem to be inconvenient and cumbersome, which may affect the payment system. However, the results suggest that the actors in the dyads have developed strong bonds and strengthened their relationships over time, which helps them overcome such inconveniences. It is evident from the findings of the study, that Pakhtunwali and its principles play an important role in the successful implementation of the hybrid payment system. In one instance, there is a norm that both sides help each other by not getting upset over small things such as a few broken stones or a little delay in payment. They ignore these small problems to strengthen relationships, which helps them have an effective hybrid payment system. These inconveniences are normal, and both sides are familiar with these types of problems. To make the transaction process smooth, both sides accommodate and compensate each other. Similarly, Rorwali, an important tenet of Pakhtunwali played an important role in overcoming the limitation of payment delays. In such a situation, they have norms to offer discounts on marble prices. This is done to accommodate the counterpart so that he does not make a loss and can make the payment on time. This is Rorwali which actors share between themselves, and it reflects during the transaction which eventually supports the payment system.

Furthermore, the findings of the study suggest that Badal adds to the convenience which is an important principle of Pakhtunwali in which actors by sharing the same Pashtun identity help them to be compassionate and cooperative toward each other during the course of the transaction. Badal in Pashtun society means reciprocity in social relationships [73]. Actors in the dyads offer support in case of delay in the payment due to any reason, whether it's a delay from the bank side which includes network problems, breakdown issues, or a delay due to a problem in meeting the sales target within a given timeframe. Support is extended in the spirit of Badal, in which

actors believe and have faith that our gestures of support, compassion, and cooperation will be reciprocated in the same manner. So Badal helps add convenience to the payment system, in which actors have peace of mind and confidence that if payment is late due to genuine reasons they will be compensated by their counterparts.

From a cognitive point of view, it is generally assumed that Pashtuns are known for their selflessness and display such behavior in their daily lives. These aspects of Pakhtunwali are inherited from the ancestors and help to strengthen the relationship between the actors, making the relationship easier, more comfortable, and convenient and eventually supporting the adoption of the hybrid payment system. Some unprecedented stories of Badal and Rorwali bear testimony to this. For example, in one instance, when the supplier suffered a loss of a lorry due to broken stones, the manufacturer took the entire burden for the loss. He shows this gesture in the spirit of Rorwali and Badal.

Another aspect of the hybrid payment system is security, it exposes individuals and small firms to multiple risks such as privacy risks, social risks, information risks, and financial risks which include theft and counterfeit currency [64]. However, the findings of the study suggest that Pakhtunwali a local indigenous cultural practice plays its role in protecting the payment system. It was observed that before the transactions occur Pakhtunwali acts as a protector of the payment system by discouraging fraudulent behavior through jirga, which is the most vital and integral component of the Pakhtunwali code. Actors in the dyad share the same Pashtun identity and know the dynamics and consequences of the jirga, they know that any dispute or problem, that arises will be resolved under the Pashtun Jirga mechanism which acts swiftly and effectively [10]. While during the transaction Pakhtunwali supervises the payment system, actors in the dyad make sure that no such action has been done during the transaction which invokes the jirga mechanism to apply under the Pakhtunwali framework. So, actors are not supposed to leak their partner's information to any irrelevant party and ensure the privacy of their counterpart by protecting his financial information. After the transaction occurs, if any breach is found then the mechanism of jirga will be applied, it is important to mention that jirga will be applicable only if both actors share the same Pashtun identity and accept the notions of the Jirga system under the framework of the Pakhtunwali code. This particular aspect of Pakhtunwali helps deter all kinds of risks and threats associated with the hybrid payment system.

Furthermore, Nang, a central feature of Pakhtunwali, helps in protecting the payment system. Pashtun is considered an honorable and brave person if he stands by his words even if it costs him his life. So, any act which brings

damage to the Nang of the Pashtun is avoided under any circumstances. Pashtuns firmly believe that breach of commitment and words bring damage to the Nang, and they try their best not to engage in any fraudulent activity during the transaction that could damage their Nang. Because the Pashtuns spend generations upon generations building their Nang. This particular aspect of Pakhtunwali provides the desired security for the hybrid payment system. Similarly, in Pashtun culture, hujra, a place of hospitality, has great significance. Visiting a hujra and eating food signifies that both parties have a strong bond, and it becomes a symbol of loyalty, trustworthiness, and allegiance. It becomes the source of honesty in the transaction where the actors avoid fraudulent activities such as information leakage, theft, or counterfeit currency. These notions of Pakhtunwali ensure the security of the payment system and help overcome the limitations of the hybrid payment system.

So, the findings highlight the role of Pakhtunwali and its tenet in making the hybrid payment system a relative success in less developing countries. The findings of the study show how weaknesses of the hybrid payment system have been overcome by Badal, Rorwali, Jirga, Hujra, and Nang, and help in the successful implementation of the hybrid payment system within firms in the supply chain.

Contrary to the prior studies, that are conducted on the culture and payment system are in the context of electronic payment systems and they are interested in the factors that influence the adoption/acceptance of electronic payments using established models and frameworks. For instance, [21] study examined the influence of cultural dimensions on the acceptance of electronic payment systems. Their results show that collectivism, uncertainty avoidance, short-termism, and power distance are important cultural moderators that affect acceptance. Similarly, in their 2021 study, Khan et al. look at the analysis of culture as a moderator for understanding customers' usage behavior when adopting online banking. The 2020 study by Sharma et al. also uses cultural moderators such as individualism and uncertainty avoidance to understand the influence of Internet banking usage. It is noteworthy that in these studies, cultural dimensions are used to analyze their impact on the adoption, acceptance, and use of electronic payment systems, with a particular focus on their role as moderators. Our study is different from the previous studies and attempts to enhance the understanding of the relationship between culture and payment system and specifically on hybrid payment system by highlighting the role of indigenous collectivist cultural practices of Pakhtunwali and its role in the support and implementation of the hybrid payment system. From a technical perspective, the studies that have been

conducted on the payment system provide information on the technical operationalization of the payment system and explain the procedures and processes of how the payment system works [37, 57, 77]. These studies show the process and procedures of both electronic and hybrid payment systems and highlight the strengths and weaknesses of both payment systems. The current study takes headway and sheds light on the socio-technical aspect of the payment system, where local cultural practices contribute to the successful implementation of the hybrid payment system.

Conclusion and contribution

The current study has analyzed its data in great depth and presented its response to the main research aim of the study. The current study aims to explore the role of collectivist cultural practices that exist in the society of Pakistan and how they help in implementing the hybrid payment system in the small and medium enterprises of Pakistan. It was observed that due to the limited technological capability and less adoption of electronic payment systems in developing countries, the payment system comes into a hybrid form. Though the hybrid payment system has certain weaknesses and shortcomings, these weaknesses are subdued by the collectivist cultural practices that existed in the form of Pakhtunwali and make them a relative success in less developing countries like Pakistan. There is a YoY growth in RTOB transactions in the country (refer to Fig. 2).

The study makes an important contribution to the body's knowledge of culture and IS in general and particularly in culture and payment systems in several ways. To the best of our knowledge, this is the first study that has explored the concept of Pakhtunwali and its role in supporting the implementation of the hybrid payment system. Second, most of the previous studies on culture and payment systems have been conducted in the context of the electronic payment system ignoring the hybrid payment system. The current study attempts to enhance the understating of the effect of culture on the hybrid payment system. Thirdly, the current study extends the literature by formally associating the concept of Pakhtunwali in IS and particularly in payment systems that have not been studied before.

The study also adds and enriches Nahapiet and Ghoshal's classification of the social capital theory by classifying the tents espoused in the Pakhtunwali. For example, Jirga contributes to the structural dimension of social capital theory. The jirga is a traditional assembly of people (elders) for settling disputes and maintaining social order. It helps in fostering strong social bonds by bringing people together. This helps build strong relationships within families and communities and links between

different groups. The jirga system helps maintain the structural dimension of social capital by providing a mechanism for communication and coordination within the community. Badal and Rorwali have made significant contributions to the understanding of the relational dimension of social capital theory by highlighting the vital role of relationships. Badal places great emphasis on reciprocity and builds a network of relationships based on mutual exchange. By repeatedly engaging in helpful activities, Badal establishes reliability and consistency, leading to a sense of trust among individuals. Additionally, Badal's reciprocal approach fosters a feeling of obligation to reciprocate when help is required. On the other hand, Rorwali stresses the importance of brotherhood, a concept that extends beyond biological kinship in Pash-tun society. By encouraging a sense of shared identity and mutual support, Rorwali strengthens social cohesion, trust, and emotional bonds between individuals who are not directly related. The contributions of both Badal and Rorwali result in positive social interactions and the development of a dense web of trust, reciprocity, and shared norms. Nang enriches the cognitive dimension of social capital theory by emphasizing the importance of upholding honor and dignity. This concept serves as a guiding principle for behavior and interactions and creates a common understanding and normative framework. When honor is valued, it creates a mental framework that promotes communication and cooperation. With a shared understanding of nang, individuals can anticipate and expect the behavior of others, making interactions more predictable and reliable.

The study also has several practical implications as it highlights the importance of indigenous collectivist cultural practices of Pakhtunwali to the owners/managers of SMEs, in Pakistan and how they can employ and maintain cultural practices to augment the successful transactional procedure within the supply chains. Secondly, the study will help the SMEs of other developing countries, with weak technological infrastructure and system inadequacies, who cannot afford to have a completely automated payment system, execute their payment system efficiently and succinctly. Thirdly the study will help develop a policy for institutions like banks which can bring relief to the SME owners/managers as most of them are not tech savvy, by smoothening the transaction process and making it user-friendly, trustworthy, and easy-to-use which will help owners/managers to save time and bring efficiency in transaction time.

Limitations of the study

Through qualitative research and a case study approach, the study aimed to understand participants' thoughts

and behaviors and collect comprehensive data. However, one limitation of qualitative research is the possible lack of generalizability of the results. Nonetheless, the study provides valuable insights and can serve as a basis for further research in similar contexts. Future researchers are encouraged to investigate the significance of Pakhtunwali in a wider range of IS environments that is not limited to the hybrid payment system. Exploring the link between collectivist cultural practices and other IS technologies could also be beneficial. Developing and less developed countries without modern technological infrastructure can also explore the role of their indigenous cultural practices in supporting IS. It is plausible that similar cultural practices exist in other cultural contexts but may differ significantly in their significance. The study used qualitative research and a case study approach to explore participants' thoughts and behaviors and collect rich data. However, a potential challenge of using qualitative research methods is the issue of generalization, as the results may not be universally applicable. Nonetheless, they can provide a broader understanding of the topic and serve as a basis for further research in similar contexts [23, 98]. Due to the limited evidence base in this study, it is also suggested that future researchers investigate the significance of Pakhtunwali as a phenomenon in a wider range of IS environments beyond the hybrid payment system. Future studies could also examine the link between such collectivist cultural practices and other IS technologies and explore the role of indigenous cultural practices in supporting IS in developing countries with limited technological infrastructure. It is plausible to imagine that similar cultural practices exist in other cultural contexts, although their significance may be very different.

Supplementary Information

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Supplementary Material 1.
Supplementary Material 2.
Supplementary Material 3.
Supplementary Material 4.

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Author contributions

KBK worked on the concept and design, collected, and analyzed the data, and also did the interpretation and made the final draft of the paper. NI overall administrated the project and validated the final results of the study and was part of the interpretation of the data. SB was part of the main

conceptualization and helped in the methodology. NI and SB executed the final review and revised it critically for intellectual content. And edited the manuscript.

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Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Declarations

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Not applicable.

Consent for publication

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Competing interests

The authors declare that they have no competing interests with any person or organization.

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