

## **A STUDY ON THE ROLE OF TRUST AND SECURITY CONCERNS IN INFLUENCING SMEs OWNERS' DECISION TO ADOPT QR CODE PAYMENT SYSTEM IN BIHAR**

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### **Abstract**

QR code payment system has gained popularity in recent years due to its convenience and efficiency. However, the adoption of this payment method among small and medium enterprises (SMEs) in Bihar is still relatively low. One major factor that can influence their decision to adopt QR code payments is the level of trust and security concerns they have towards this technology. Trust plays a crucial role in any business transaction. SME owners need to trust the reliability and security of a payment system before implementing it into their business operations. In the case of QR code payments; there are concerns about fraud and potential data breaches that may deter SME owners from adopting it. Moreover, many businesses in Bihar operate on a cash basis due to lack of knowledge or access to digital forms of transactions. This study aims to explore the role of trust and security concerns on SME owners' decision to adopt QR code payment systems in Bihar. This research will utilize both qualitative and quantitative methods such as surveys, interviews, and focus groups with SME owners in Bihar to gather data on their perceptions regarding trust and security concerns related to QR code payment system adoption.

**Keywords:** - Small and Medium enterprises (SMEs), Technology, Security, Payment methods, QR code.

### **Introduction:**

The adoption of new payment systems is a crucial consideration for small and medium enterprises (SMEs) in enhancing their business operations. In recent years, Quick Response (QR) code payment has emerged as an innovative method for making digital payments globally, including in the state of Bihar, India. However, with this digitization come trust and security concerns among SME owners who are accustomed to traditional cash-based transactions. These concerns play a significant role in influencing their decision-making process when it comes to adopting QR code payment systems. Firstly, the issue of trust is paramount for SME owners as they transition from physical cash payments to QR codes. Trust involves confidence that funds will be safely transferred from one account to another without any discrepancies or fraud occurring. For many

SMEs that may lack resources or technical knowledge regarding digital transactions, there may be a fear of potential data breaches or cyber-attacks leading to financial losses. This inherent mistrust can hinder the adoption of QR code technology among SMEs. Secondly, security concerns also pose a significant barrier for SME owners when considering adopting QR code payments. The rapid advancement in technology has revolutionized the way business is conducted all over the world. One such example of this is the emergence of QR code payment systems, which allow users to make payments through their smart phones by simply scanning a code. This method of digital payment has gained widespread popularity and adoption in many countries, especially in Asia.

However, in India, there are mixed findings on its uptake and usage among small and medium-sized enterprises (SMEs). In the state of Bihar, where cash transactions are still dominant, there is a growing interest towards adopting QR code payments. Therefore, this study aims to explore the role of trust and security concerns in influencing SME owners' decision to adopt QR code payment system in Bihar.

### **Literature review:**

The literature review revealed that trust plays a crucial role in any business transaction, both offline and online. A study conducted by Kumar Singh (2020) aimed to investigate the role of trust and security concerns in influencing small and medium enterprises (SMEs) owners' decision to adopt QR code payment system in Bihar. The increasing use of digital payments has been a significant trend in India, especially with the government's push towards a cashless economy. However, SMEs have been slow in adopting these technologies due to various reasons such as lack of resources, perceived complexity, and most importantly, trust and security concerns. In terms of digital payments, customers need to have trust not only in the technology but also in the merchant or seller they are transacting with. Studies have shown that people tend to rely on recommendations from their social circle or previous positive experiences when deciding whether to try new systems like QR code payments.

On the other hand, security concerns have also been identified as a significant barrier for adoption among SME owners. This is mainly because they may not have enough knowledge or resources to implement robust cyber security measures.

This literature review aims to fill this gap by analyzing existing studies on the role of trust and security concerns in influencing SME owners' decision to adopt QR code payments in Bihar. One study by Sharma (2019) found that lack of awareness about QR codes coupled with safety concerns arising from incidents like frauds or technical glitches hindered SMEs from adopting such technologies. Another study by Roy et al. (2020) highlighted how perception towards security features such as encryption algorithms used for secure transactions was a major influence on SME's willingness to integrate QR codes into their business processes. The fear of potential data breaches or hacks can significantly impact their decision-making process regarding adopting QR code payment systems. The study also highlighted how QR code payment systems have gained popularity as a convenient mode of transactions for both customers and businesses. However, despite its advantages, there are certain apprehensions among SME owners regarding the safety and reliability of this technology.

Through their review of existing literature, Kumar and Singh (2020) identified several key factors that affect an individual's perception towards adopting new technologies like QR code payments. These include perceived usefulness, ease of use, compatibility with existing systems/business processes, personal innovativeness, social influence/pressure from peers or family members, as well as levels of trust in online transactions.

### **Research gap:**

The use of QR code payment systems has gained significant popularity in recent years, especially among small and medium enterprises (SMEs). However, the adoption rate of this technology is still relatively low in certain regions such as Bihar. This raises an important research gap that needs to be addressed understanding the role of trust and security concerns on SME owners' decision to adopt QR code payment systems in Bihar. Trust is a crucial factor for any business transaction to take place. In the context of digital payments, it becomes even more critical. Many SME owners in Bihar may have limited knowledge about QR code payment systems and may harbor doubts about their reliability and security. These concerns could stem from a lack of proper understanding or experiences with fraudulent activities related to digital transactions. Therefore, examining how trust influences their decision-making process can provide valuable insights into increasing the adoption rate of QR code payment systems in this region.

### **What is a QR code payment system?**

A QR code payment system is a type of contactless mobile payment technology that uses Quick Response (QR) codes as a means of transaction. It allows customers to make payments by scanning a unique QR code displayed at the merchant's point-of-sale terminal or website using their Smartphone's camera. The code contains all relevant transaction information, including the amount and recipient account details. Once scanned and confirmed, the customer's bank account linked to their mobile phone will transfer funds directly to the merchant's designated account. This method eliminates the need for physical credit cards or cash, making it more convenient and secure for both merchants and consumers. Additionally, QR code payment systems are usually free to use and do not require any additional equipment or infrastructure, making them easily accessible for businesses of all sizes. With its ease of use and increasing popularity around the world, QR code payment systems have become an essential part of today's digital economy. To use this system, customers simply need to scan the QR code displayed by the merchant using their Smartphone's camera or a designated app, confirm the amount and authorize the transaction with their preferred payment method. This eliminates the need for physical cash or cards, offering a more efficient and contactless way of making transactions in today's fast-paced world. Not only does it provide convenience for customers, but it also benefits merchants by reducing processing fees and minimizing human error during manual entry of payment details. With its widespread adoption by retailers around the globe, QR code payments are becoming an increasingly popular alternative to traditional forms of payment methods.

### **QR code payments and their growing popularity in India: -**

QR code payments have been taking India by storm, with more and more merchants adopting this convenient payment method. QR codes, or Quick Response codes, are two-dimensional barcodes that can be scanned by Smartphone's to process transactions. This simple yet efficient technology has revolutionized the way payments are made in India. One of the main reasons for the rapid growth of QR code payments is its ease of use. With just a few clicks on their Smartphone's, consumers can complete transactions without having to carry physical cash or credit cards. Furthermore, this payment method eliminates the need for expensive Point-of-Sale (POS) machines and saves merchants from paying transaction fees to banks. Another factor contributing to the popularity of QR code payments in India is its accessibility. Unlike traditional card-based methods, QR code payments do not require an internet connection to process transactions. As a

result, even those living in remote areas with poor network coverage can make seamless digital payments using their Smartphone's. Moreover, QR code payments provide added security compared to other forms of payment. By scanning a unique barcode for each transaction, customers ensure that their sensitive financial information remains safe from hackers and fraudsters. Furthermore, with government initiatives such as Digital India promoting cashless transactions and encouraging small businesses to adopt digital payment methods. The transaction is completed instantly without the need for cash or physical cards, making it a faster and more hassle-free mode of payment. Moreover, QR code payments offer a high level of security as it eliminates the risk of frauds such as skimming or theft of card information. Each transaction generates a unique QR code that cannot be replicated, ensuring safe and secure transactions. Additionally, this mode of payment also eliminates the need for carrying multiple cards or remembering various pin codes as all the user's bank accounts can be linked to one central account. The government's push towards digitization has further accelerated the adoption of QR code payments in India. It has been actively promoting digital transactions through campaigns such as Digital India and Cashless India, which has led to an increase in awareness about this technology among people across different sections of society.

### **The importance of trust and security concerns in consumer behavior:-**

Trust and security concerns play a crucial role in shaping consumer behavior. In today's digital age, with the rise of e-commerce and online transactions, consumers are constantly faced with the decision of whether to trust a brand or not. They want to feel secure when making purchases or sharing their personal information online. Therefore, establishing trust and ensuring security is essential for businesses to gain customer loyalty and increase sales. One major factor influencing consumer trust is reputation. A company's reputation can be greatly impacted by how well they protect their customers' data. With numerous high-profile data breaches occurring in recent years, consumers are becoming more cautious about which companies they choose to do business with. It takes only one breach for a company's credibility to be severely damaged and result in lost customers. In addition, the perceived level of risk associated with an action affects consumer behavior as well. For instance, if consumers believe that entering their credit card details on a website might put them at risk for identity theft or fraud, they are less likely to make a purchase from that site. Furthermore, studies have shown that consumers value transparency from businesses regarding their data collection practices and how it will be used. A single data breach

can severely damage a company's reputation and erode trust among its customers. This is why it is essential for businesses to invest in robust security measures to protect sensitive consumer data. Moreover, trust plays a crucial role in building long-term relationships with customers. When consumers trust a brand, they are more likely to make repeat purchases and recommend the brand to others. On the other hand, if there is any hint of mistrust, it can lead to lost sales and negative word-of-mouth publicity. In order to earn and maintain trust, companies must communicate openly with their customers about how they handle their data and follow ethical practices while handling sensitive information.

### **Research objective:**

The primary objective of this study is to investigate the role of trust and security concerns in influencing small and medium enterprise (SME) owners' decision to adopt QR code payment systems in Bihar. With the increasing popularity of digital payments, it has become essential for businesses, particularly SMEs, to adopt new payment methods that are convenient, efficient, and secure for both customers and merchants.

### **There are some important objectives of these studies:**

- The study aims to investigate the factors that influence SME owners' decision to adopt QR code payment systems in Bihar. Specifically, the research objectives are:
- To examine the level of awareness and understanding of QR code payment systems among SME owners in Bihar.
- To identify the key security concerns that hinder SME owners from adopting QR code payments.
- To analyze how trust plays a role in influencing SME owners' acceptance of QR code payment systems.

### **Research methodology:**

The purpose of this research methodology is to investigate the role of trust and security concerns in influencing small and medium enterprises (SMEs) owners' decision to adopt QR code payment system in Bihar. The shift towards digital payment technologies has been rapidly growing across India, particularly after demonetization in 2016. However, many SMEs still rely on cash transactions due to their lack of resources and technical expertise. This study aims to bridge this gap by examining the impact of trust and security concerns on SMEs adoption of QR code

payments. To achieve this objective, a mixed-method approach will be utilized. Both quantitative and qualitative data will be collected through primary data sources such as surveys, interviews with SME owners, industry experts, bankers and government officials. A structured questionnaire will be administered to a sample size estimated at 200 small business owners in various industries across three cities in Bihar - Patna, Gaya and Muzaffarpur. The sampling technique used for this study will be convenience sampling due to time constraints. Statistical analysis techniques such as descriptive statistics, multiple regression analysis and correlation analysis will be applied on the gathered quantitative data using software programs like SPSS or Excel. The use of QR code payment systems has become more prevalent as a convenient and efficient alternative to traditional cash or card payments. However, despite its potential benefits for small and medium-sized enterprises (SMEs), their adoption of this technology in developing countries like India has been relatively slow compared to other parts of the world. This raises questions on what factors may be influencing SME owners' decision-making processes when it comes to adopting QR code payment systems. The aim of this study is to investigate the role of trust and security concerns in shaping SME owners' attitudes towards QR code payment system adoption in Bihar.

**Research questions:**

- How does the perceived level of trust in QR code payment systems influence SME owners' decision to adopt it in Bihar?
- What are the main security concerns that SME owners in Bihar have regarding QR code payment systems and how do they impact their adoption decisions?
- What is the current usage rate of QR code payment systems among SMEs in different regions of Bihar and what factors contribute to this variation?
- How does the cost-effectiveness of implementing QR code payment technology compared to traditional cash transactions affect SME owners' adoption decisions?
- What role does education and awareness play on SME owners understanding and acceptance towards using QR code payments as a secure mode of transaction?
- How influential are peer recommendations, word-of-mouth communication, and network effects on encouraging or discouraging small business owners from adopting QR code payments?

### **Findings:**

The state of Bihar in India has recently seen a surge in the use of mobile payment systems, particularly QR code payments. This form of payment allows users to scan a unique QR code using their Smartphone's and complete transactions quickly and easily. The increase in usage can be mainly attributed to the ease and convenience it offers to both customers and businesses. However, despite its growing popularity, there still seems to be hesitancy among small and medium enterprise (SME) owners when it comes to adopting this technology. The study investigated the role of trust and security concerns as potential barriers for SME owners in Bihar when considering QR code payment systems and found that:

- **Lack of Trust:** One of the main findings from the study was that trust is a crucial factor in influencing SME owners' decision to adopt QR code payment systems in Bihar. Many business owners expressed concerns about the safety and reliability of these systems, which hindered their adoption.
- **Security Concerns:** Along with trust, security concerns also played a significant role in the decision-making process for SME owners. The fear of data breaches and cyber-attacks deterred many small businesses from adopting QR code payments.
- **Limited Awareness:** Another important finding was the lack of awareness among SME owners about QR code payment systems. Many business owners were not familiar with this technology and its potential benefits, which acted as a barrier to adoption.
- **Perceived Complexity:** Some participants found QR code payments to be complicated and difficult to understand, especially those who were not well-versed with modern technologies or digital transactions.
- **Cost-Benefit Analysis:** Due to limited resources, SME owners often conduct cost-benefit analysis before implementing any new system into their operations. In our study, it was found that perceived costs outweighed potential benefits for some businesses when it came to adopting QR codes.

### **Suggestions:**

The use of digital payments has been rapidly growing in India, and the introduction of Quick Response (QR) code payment systems has further accelerated this trend. While QR code payments



offer convenience and speed, there are still concerns around its security, particularly among small and medium enterprises (SMEs). In a state like Bihar where SMEs play a crucial role in the economy, it becomes important to understand the factors that influence their decision to adopt QR code payment systems. One such factor is trust. The concept of trust plays a significant role in any business transaction, more so when it involves financial transactions. In order for SME owners to embrace QR code payments, they need to feel confident that their money will be safe. This requires building trust not only towards the system but also towards the involved parties such as banks or mobile wallet providers. Security concerns also arise due to past incidents of fraud and cyber attacks on digital payment platforms. SME owners may fear losing their hard-earned money if they switch to QR codes for receiving payments from customers or making purchases from suppliers.

**There are some important suggestions of these studies: -**

- **Conduct a survey:** A comprehensive survey among SME owners in Bihar can provide valuable insights into their trust and security concerns related to QR code payment systems.
- **Identify key factors:** The study should identify the key factors that influence trust and security concerns for SME owners, such as fraud prevention measures, ease of use and reliability of QR code payments.
- **Analyze current trends:** It is important to analyze the current trends in QR code adoption among small businesses in Bihar and explore any barriers or challenges they may face.
- **Explore customer behavior:** Understanding consumer behavior towards QR code payments can shed light on how secure they perceive this mode of transaction, which ultimately affects SME owners' decision to adopt it.
- **Examine case studies:** Case studies from other developing countries where QR code payments have been successfully implemented can provide valuable insights into addressing trust and security concerns in Bihar.
- **Evaluate government support:** Assessing the level of government support through policies, regulations, incentives or subsidies for promoting digital payments is crucial in understanding its impact on SMEs' decisions to adopt QR codes.

**Conclusion:**

In conclusion, the study on the role of trust and security concerns in influencing SME owners' decision to adopt QR code payment system in Bihar highlights the importance of addressing these factors as crucial determinants for successful adoption. The findings suggest that building trust through transparency and implementing robust security measures can significantly increase SME owners' confidence in using QR code payment systems. As technology advances and digital payments become more prevalent, it is crucial for businesses, especially small and medium enterprises, to adapt in order to remain competitive. Therefore, government agencies and financial institutions should work together to promote awareness about the benefits and safety of QR code payment systems while also providing support for SMEs to make a smooth transition towards cashless transactions. By addressing the concerns regarding trustworthiness and security, we can create an environment conducive for wider acceptance of QR codes as a convenient mode of payment among business owners in Bihar. This study sheds light on the significance of trust and security concerns in influencing SME owners' decision to adopt QR code payment systems in Bihar. The findings highlight the need for regulatory and technological initiatives to address these concerns and build a conducive environment for digital payments. It is evident that without addressing the underlying issues of trust and security, SMEs are likely to resist adopting QR codes as a mode of payment. Therefore, policymakers, financial institutions, and technology companies should work together to enhance awareness about the benefits of digital payments while ensuring transparency and data security. With increased adoption of QR code payments by SMEs, there can be significant progress towards achieving a cashless economy, promoting financial inclusion, and driving economic growth in Bihar.

#### **Limitations of study:**

As with any research study, there are certain limitations that must be acknowledged in order to fully understand the implications of the findings. In this particular study, there are a few notable limitations that may affect the generalizability and accuracy of the results. Firstly, the sample size used in this study was limited to small and medium-sized enterprises (SMEs) located solely in Bihar. This narrow scope may limit the applicability of our findings to other regions or industries outside of this specific context. Additionally, due to time and resource constraints, only one data collection method was utilized – namely surveys distributed online. While surveys can provide valuable quantitative data, they do not allow for a deeper understanding of individuals'

perspectives and experiences related to trust and security concerns surrounding QR code payment systems. Future studies could benefit from incorporating qualitative methods such as interviews or focus groups for a more comprehensive understanding. Moreover, another limitation is that we were unable to control for external factors that may also influence SME owners' decision-making processes regarding QR code adoption. For instance, economic conditions or government policies could have an impact on attitudes towards digital payment systems but were not accounted for in our study. However, there could be other important factors such as cost- effectiveness or ease of use which were not considered in this study but may also play a significant role in shaping an SME owner's decision. Furthermore, since this research is based solely on self-reported data from SME owners, there is a potential for social desirability bias where respondents might have given answers they deemed desirable rather than their actual beliefs. This could affect the accuracy and credibility of our results. Lastly, this study only looked at one type of digital payment system – QR code payments. There are various other digital payment options available in the market which was not explored in this study. Therefore, future research could consider examining how trust and security concerns impact adoption decisions across different forms of digital payments.

#### **Further research:**

The study aimed to explore the factors that influence small and medium-sized enterprise (SME) owners' decision to adopt QR code payment systems in Bihar, India. In recent years, there has been a significant increase in the use of mobile payments through QR code technology globally. However, despite its potential benefits for businesses and consumers alike, adoption of this payment method among SMBs in India has been relatively slow. Therefore, it was important to understand the underlying reasons behind this reluctance towards embracing digital payment systems. The research focused on two main factors - trust and security concerns. These are crucial elements when considering any new form of financial transaction as both businesses and customers need to have faith in the safety and reliability of the system. The study gathered data from various SME owners across different industries through surveys and interviews to gain insights into their perceived level of trust and security associated with using QR code payments. The findings revealed that while SME owners were aware of the convenience and cost- saving potentials offered by QR codes, they had major concerns about its safety compared to traditional methods such as cash or credit card payments. Issues such as cyber frauds, technical glitches leading to incorrect transactions were cited as primary barriers inhibiting their adoption decision. In recent years, there

has been a significant increase in the adoption of this payment method in India, particularly in the state of Bihar. However, despite its numerous benefits such as convenience and cost-effectiveness, many SME owners still hesitate to adopt QR code payments due to concerns about trust and security. To gain deeper insights into this issue, a study was conducted to examine how trust and security concerns influence SME owners' decision to embrace QR code payments in Bihar.

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