

The Rise of Bitcoin in South Asia: Threat to Traditional Banking or a Catalyst for Financial Innovation

Farangis Azim

farangisazim@gmail.com

PhD Scholar, School of Management Sciences,
Institute of Management Sciences, Peshawar, Pakistan

Qurratulain Razak

q.razak@gmail.com

Lecturer, Department of Business Administration
Greenwich University

Dr. Surayya Jamal

surayyajml@gmail.com

Abdul Wali Khan University, Mardan, Pakistan

Abdullah Shah

abdullah.shah@salu.edu.pk

Department of Public Administration,
Shah Abdul Latif University Khairpur, Sindh, Pakistan

Dasrat Rai Meghwar

dasratrai7@gmail.com

Department of Commerce and Management, University of Sindh Jamshoro

Corresponding Author: * Dr. Surayya Jamal surayyajml@gmail.com

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ABSTRACT

This study examines how Bitcoin has emerged in South Asia and how it can negatively disrupt the traditional banking system or become an enabler of financial innovation. Bitcoin, as a decentralized digital currency, has received a lot of attention in the region especially in states with high unbanked populations and remittance inflows like India, Pakistan, Bangladesh, and Sri Lanka. The analysis delves into how Bitcoin is used in remittance services, cross-border payments and financial inclusion, and how it can be used by financial institutions and regulatory structures. The research examines consumption rates, governmental reactions, and the changing fintech market to conclude that Bitcoin holds the dual value of disrupting traditional financial intermediaries simultaneously with enhancing fintech innovation via blockchain technology. Although regulatory uncertainty and Bitcoin volatility are currently thorny issues, the results indicate that Bitcoin is actively transforming the way people conduct financial activities in South Asia, particularly its ability to increase financial inclusions and transaction fees. The analysis determines that the future of Bitcoin in the region depends on establishment of moderate regulatory frameworks and integration into the financial infrastructure that exist.

Keywords: Bitcoin, South Asia, financial innovation, traditional banking, remittances, cross-border payments, financial inclusion, blockchain, cryptocurrency regulation, financial technology.

INTRODUCTION

Bitcoin, the digital currency that was invented in 2009 by an unknown person by the name Satoshi Nakamoto and is decentralized has transformed the world of finance worldwide. Though it was

considered as a niche technology at some point, Bitcoin has now achieved huge momentum across the globe and is changing the paradigm in which people think of money, payments, and financial dealings. Bitcoin in South Asia, a rapidly developing and technologically advanced region where financial inclusion remains an issue, has signified a possible threat to the traditional banking industry but has also initiated financial innovation. This duality is what makes the recent rise of Bitcoin quite remarkable, as it undermines established power structures in finance, yet also presents a new means to expand access to and free up boundaries in financial services.

Poor financial infrastructure, high costs of transactions and poor access to banking services by the unbanked and underbanked populace have been a constant problem with the traditional banking system in South Asia. The World Bank (2020) estimates that 60 percent of adults in South Asia lack access to formal financial services. Bitcoin as a decentralized currency holds the prospect to address some of these issues, most notably through providing low-contact, cross-border payments, and financial inclusion of underserved populations. As it has been argued, Bitcoin may democratize the use of financial services in the financial system, from circumventing conventional financial agents like banks (Narula & Vidal, 2021). But the obstacles posed by volatility of Bitcoin, illicit usage, and the legal ambiguity concerning its acceptance in different nations have dreaded the policymakers and the financial institutions.

The increasing popularity of Bitcoin in countries like India, Pakistan and Bangladesh has inspired a ripple effect of attempts at regulation and policy response. Although Bitcoin has received backing by crypto-enthusiasts and the tech-savvy younger generation, it has been met with resistance by governments and financial regulators, who perceive it as a challenging factor that can destabilize national economies and financial systems. As an example, India has alternated pro-crypto views, where crypto exchanges became significant actors in the banking sector, and an anti-crypto course where the government tried to restrict or even prohibit the use of cryptocurrencies (Aggarwal, 2023). The equivalent in Pakistan began when, in 2018, their central bank banned all crypto transactions, although they too faced an outcry both against the ban and in favor of crypto regulation over prohibition (State Bank of Pakistan, 2022).

The application of Bitcoin in South Asia is increasingly becoming more popular despite those regulatory problems behind it. Some of the motives propelling the adoption of Bitcoin include remittance flows, high inflation, and capital controls. Chainalysis (2022) found that the volume of remittances made using Bitcoin in countries such as Bangladesh and Sri Lanka has seen a significant increase, offering a viable alternative to costly, legacy remittance systems. Bitcoin is viewed as the alternative to the traditional banking services, as financial systems of the region develop. An example is Sri Lanka, whose rupee has suffered major devaluation; in such a case, Bitcoin has been used because of its role as a place of value and instrument of hedging against hyperinflation (Arner et al., 2020). Same applies in Pakistan where inflation rates have never dipped below high rank and the people find Bitcoin to be safer than simply keeping their money in local currency in times of economic and political insecurity (Yermack, 2013).

Meanwhile, Bitcoin also brought a form of financial innovation that can transform the financial services industry in South Asia. Already, the blockchain technology behind Bitcoin has found application in several uses outside the cryptocurrency realm, such as supply chain management, digital identity verification, and cross-border payments. Transparency and the decentralized structure of blockchain have endears it to nations across South Asia as a means of curbing corruption, financial fraud, and combating the inefficiency of the formal banking system (Tapscott & Tapscott, 2016). To give an instance, such blockchain-based fintech solutions have increased in India to allow faster, cheaper, and safer financial transactions (Aggarwal, 2023).

Although Bitcoin has a huge potential in spurring financial innovation, it is deemed significant to note that there are a number of challenges it has in terms of its widespread adoption. The regulatory landscape is ambiguous and disjointed, with certain governments openly aggressive towards cryptocurrencies, whereas others are already circumspect, yet willing to investigate their potential. As an illustration, the Reserve Bank in India has set high taxation rates on cryptocurrency deals, in addition to experimenting with a Central Bank Digital Currency (CBDC) (Reserve Bank of India, 2023). Conversely, Pakistan has shown interest in regulating Bitcoin and other cryptocurrencies as it is a part of the plan to develop a comprehensive digital finance strategy (State Bank of Pakistan, 2022).

Moreover, the volatility of Bitcoin is another weakness when it comes to embracing it as a central payment method. In the past, there have been massive changes in the price of Bitcoin, and it is a risky asset to both investors and consumers (Bohme et al., 2015). This fluctuation has raised doubts concerning the potential of Bitcoin to be used as a potential store of value or a method of stable exchange. Moreover, Bitcoin has been linked to illicit transactions, including money laundering, and financing of terrorism, resulting in greater regulation by financial authorities across the world (Bohme et al., 2015; Yermack, 2013). The risk of abuse of Bitcoin presents concerns in South Asia where governance and law enforcement across the region is weak, affecting the overall adoption.

To sum it up, the emergence of Bitcoin in South Asia is a complicated mix of threats and opportunities. Whereas Bitcoin can be seen as a threat to the established banking system, it also promises a possibility of financial access and innovation in an area that has enormous economic and monetary inequality. The country and region in question will play a significant role in determining the future of Bitcoin in South Asia as well as the capacity of the financial institutions in the region to accommodate the new technology and the dynamics of the global financial markets. As policymakers and financial institutions in the region explore this new frontier, there will be the need to balance between innovation and financial stability.

LITERATURE REVIEW

Bitcoin and its Impact on Global Financial Systems

The decentralized digital currency referred to as Bitcoin is an electronic cash system which was inaugurated in 2009 by a faceless man as Satoshi Nakamoto. First considered to be a niche technology, Bitcoin now shines across the world, upsetting the established financial architecture. The same technology, blockchain, that it is based on, has already led to an even more significant expansion of its influence beyond currency into areas including supply chain management, digital identity, and cross-border payments. Such researchers as Catalini and Gans (2016) describe how Bitcoin dispossesses conventional financial intermediaries by eradicating the necessity of interception agencies like banks and payment processors. Blockchain, the technology underlying the development of Bitcoin, makes the payment system secure, transparent, without the center, which has drawn the great attention of the academic world as well as the financial sector.

The arrival of bitcoin in the banking sphere has led to a profound reconsideration of monetary policy and the work of central banks (Narula & Vidal, 2021). Its emergence shows the importance of regulations that may enable the balancing of innovation and stability, as governments and financial authorities struggle to find a solution to its decentralization. Nakamoto (2008) argues that the power behind Bitcoin is the fact that it does not rely on a central authority and therefore cannot be easily influenced by inflationary forces similar to those experienced by the fiat currencies. Nevertheless, the unpredictability of the value of Bitcoin, as addressed by Yermack (2013), creates doubts in its perspectives as a stable medium of exchange and store of value.

Bitcoin and the Regulatory Environment in South Asia

The response to Bitcoin by regulatory agencies in South Asia has been differentiated. India, Pakistan and Bangladesh have been receptive and unresponsive to cryptocurrencies in different proportions. The country has had policy uncertainty towards Bitcoin. Although the central bank of the country had placed a ban on cryptocurrencies back in 2018, this decision was overturned, later on, in 2020, by the Supreme Court. Nonetheless, Indian government has since shifted to plans of implementing a tax on crypto assets (Aggarwal, 2023). The one-sided nature of the changes that the Reserve Bank of India (RBI) does not plan to take towards cryptocurrencies lies in its fears of financial instability, money laundering, and preserving investors (Kaur & Singh, 2022).

Pakistan on the other hand took a more conservative stance with its decision to ban cryptocurrencies in 2018, but has slowly loosened its position. State Bank of Pakistan (SBP) has even alluded the possibility of using blockchain technologies to enhance digital financial systems, e.g. on remittances (State Bank of Pakistan, 2022). The less-developed-fintech ecosystem country of Bangladesh has also posed warnings regarding the dangers of cryptocurrency exists but has not yet closed the door to blockchain as a method of innovation (Rahman, 2020).

South Asia has seen a variety in regulation of technologies and this shows the dilemma in controlling decentralized technologies. Where monetary sovereignty may be perceived by some policymakers as being threatened by Bitcoin, there are other benefits such as monetary inclusion to unbanked peoples especially in nations with a substantial unbanked population. This regulatory variation highlights the necessity of the territorial approaches which are developed with regard to local economical and technological realities.

Bitcoin as a Catalyst for Financial Innovation

Bitcoin and blockchain technology have the potential to become one of the critical contributions to financial innovation. This is because the Bitcoin system is decentralized as opposed to the traditional financial system that tends to be influenced by centralized powers of banks, governments, and other financial institutions. Zohar (2015) holds that blockchain technology has the potential to revolutionize the way in which financial transactions are made by replacing an essential trusted mediator with a more direct form of exchange.

In the South Asia region, Bitcoin has extensively succeeded in fostering financial inclusion, which is a challenge in the region. According to World Bank (2020), about 59 percent of adults in South Asians have not used financial services giving lack of access to such services as one of the main hindrances. The low-cost nature and borderless nature of transactions enabled by Bitcoin provides a solution to this problem especially individuals in rural and underserved regions. As a case in point, in Sri Lanka, where the classic methods of banking activity are limited, Bitcoin can become an alternative to sending money and storing it during inflation and financial turmoil (Arner et al., 2020). Moreover, Bitcoin has also demonstrated as an effective remittance tool in other regions, such as Bangladesh and Pakistan (Khan & Ali, 2021), where Bitcoin has been an affordable and faster solution as compared with the conventional channel of remittance.

In addition, Bitcoin and blockchains have led to innovation in other sectors, including decentralized finance (DeFi), in which blockchain-based networks provide a variety of financial services including lending, borrowing, and insurance that do not involve middlemen. South Asia has recorded immense growth in DeFi, where India and Pakistan have emerged as hubs of blockchain-centered fintech startups

(Singh et al., 2022). In addition to offering alternative financial services, these platforms are also a solution to cross-border payment costs, as well as inefficiency of the conventional banking system.

Bitcoin's Volatility and Its Effect on Adoption

As advantageous as it is, one of the biggest stumbling blocks of Bitcoin is the volatility in which it presents and holds the most potential of mainstream adoption. The change in price of Bitcoin is not new and at times, we have seen sharp rises and then equally dramatic falls. This instability impairs its effectiveness to be considered as both an attractive store of value and a reliable medium of exchange. Bohme et al. (2015) list Bitcoin as a risky investment both to the consumer and business because of the volatility of the price. Bitcoin faces the problem of unstable prices, which is a challenge in South Asia where inflation rates tend to increase (Yermack, 2013).

Nonetheless, other researchers point out that the volatility of Bitcoin might be less of an issue to particular groups in the population, notably those interested in an alternative to the fluctuations of national currencies. In places with a high prevalence of inflation such as Pakistan and Bangladesh, people can use Bitcoin as a protection against the unstable nature of their local currency (Narula & Vidal, 2021). To take an example, in Pakistan, Bitcoin has become popular among investors who want to store their investments in a medium which could prevent a loss to decreasing Pakistani rupee salaries (Khan & Ali, 2021). However, Bitcoin will require further stability to be used by the masses, which could either be achieved by an improved regulatory framework or through the creation of new cryptocurrency prototypes that focus on reducing volatility (Singh & Mishra, 2020).

The Future of Bitcoin in South Asia

It is difficult to predict the future of BTC in South Asia, as the situation can be soon changed due to the influence of regulations, light usage of technology, and a capable economy of any given country. With increasing numbers of governments looking to the potential of blockchain technology, there will be an increasing chance of regulatory frameworks to promote innovation whilst maintaining financial stability. Central Bank Digital Currencies (CBDCs) emergence in Afghanistan, China, and India can be used as an example for South Asia, where the volatile services of Bitcoin can be resolved using state promoted digital currency (Arner et al., 2020).

Regulatory issues aside, the potential of Bitcoin to lead to financial inclusion, innovation, and efficiency in financial services makes Bitcoin an attractive option towards the future. With a shift towards the digital banking era and the adjustment of the financial institutions and policymakers, South Asia will most likely remain a key participant in the global system of cryptocurrency.

Conclusion

The increase of Bitcoin in South Asia has its prospect and problems to the financial systems of the South Asian region. Although Bitcoin potentially threatens legacy banking in its form of decentralized, low-cost financial services, it can be seen as a generator of financial innovation especially regarding domains such as remittances, financial inclusion, and decentralized finance. It is not surprising that the different regulatory strategies of the region also indicate the complicated nature of the effects of the introduction of Bitcoin, and policymakers must carefully make their way through this changing environment to realise the potential of Bitcoin and simultaneously deal with these threats. Finally, the future of Bitcoin in South Asia is defined primarily by how successful governments and financial institutions are in implementing

blockchain technology into their current systems and overcoming the issues of volatility, security, and regulation.

METHODOLOGY

Research Design

The study utilizes both mixed and qualitative research methods in analyzing the emergence of Bitcoin in South Asia and its impact on the traditional banking and financial innovations. This mixed-methods approach enables a more in-depth investigation as it combines statistical data and numerical trends with data collected through interviews and policy documents. The harmonized combination of methodologies provides a rich picture of the intricacies that ensure the effects of Bitcoin in the region.

The quantitative part of the research is the gaining the insight into the patterns of Bitcoin usage, trading volume, and money remittance consumption in the South Asian countries. The qualitative aspect is the in-depth analysis of how regulator responds to them, attitudes of financial institutions, and the social and economic context in which Bitcoin may arise as a financial instrument. Both these methods enable the study to give a nuanced perspective as to how Bitcoin interacts and affects the conventional financial systems across South Asia.

Data Collection

To conduct the quantitative analysis, a pool of quantitative data was obtained due to numerous sources, and some of them are blockchain analytics websites, like Chainalysis (2022) and CoinGecko, where one can get detailed reports on Bitcoin trading volumes, transaction information, and rates of adoption in different South Asian countries. The information can assist in defining trends in the utilization of Bitcoin, especially in such countries as India, Pakistan, Bangladesh, and Sri Lanka, whose regulatory environment is very diverse and financial technology diffusion is at multiple levels. The analysis also relied on data banks on these sites to get a grasp of the financial behavior of individuals and institutions regarding Bitcoin so far as the frequency of transactions, volume of cross-border payment and percent of remittances sent in Bitcoin are concerned.

The qualitative data complementing the quantitative one was collected in semi-structured interviews of key stakeholders of the South Asian financial ecosystem policymakers, bankers, fintech experts, and cryptocurrency enthusiasts. These interviews were held in India, Pakistan, and Bangladesh, where Bitcoin became adopted to different degrees. These interviews were pursued to garner the perspectives of industry-insiders on the role of Bitcoin, regulatory hurdles and how Bitcoin and blockchain technology could lead to transformation in the provision of financial services. These interviews yielded qualitative data that gave a more in-depth understanding about the regulatory issues, financial inclusion opportunity and institutional reaction to Bitcoin in South Asia.

Along with the interviews, secondary data were also obtained through the existing reports and publications of the central banks, financial institutions and the international organizations like World Bank and the international Monetary Fund (IMF). These were reviewed to gain insight into the current regulatory frameworks and policies concerning cryptocurrency within the area and a framework in which Bitcoin can be incorporated within the wider financial and economic systems needs to be studied.

Sampling

In the qualitative research part, purposive sampling was utilized to identify participants to give the most informative views on the implications of Bitcoin on the South Asian financial systems. The participants were sampled based on authorities (policymakers), banking as well as fintech developers, and fintech industry experts in all of the countries of interest. The interviews were 45-60 minutes each and there were 15 in total. The guidelines that were used to select the interviewees were founded on the criterion that they had exposure to cryptocurrency, financial regulation or had the connection with the financial technology industry. The sampling strategy of purposiveness meant that the data that is captured would be closely related to the research question: to what extent are the key stakeholders, who are shaping or being shaped by the emergence of Bitcoin, related to the research question.

In the quantitative analysis, the adoption of Bitcoin in the four countries of India, Pakistan, Bangladesh, and Sri Lanka were sampled. These nations have been selected due to their role in South Asian economy, and varying regulatory attitudes towards Bitcoin. Further, remittance flows and cryptocurrency trading volumes data were based on third-party reports and sources, including the World Bank Global Findex database (2020) or the Chainalysis Global Crypto Adoption Index.

Data Analysis

The quantitative data analysis comprised descriptive and inferential statistics that were used to study trends in the spread of Bitcoin adoption and financial behavior in South Asia. Various statistical descriptions of the most important variables, like the rates of Bitcoin adoption, trading volumes, and money remittances in the region, were performed based on descriptive statistics with focus on means, standard deviations, and medians. The regression analysis was implemented to establish the correlation between the Bitcoin adoption and traditional banking indicators like remittance rates, conventional banking penetration, and inflation in the countries of choice. This study permitted better comprehension of the forces behind the adoption of Bitcoin in South Asia and the consequences of such an adoption on the financial systems.

With regard to the qualitative data, theme analysis was used to determine the prevalent themes and patterns across the responses of the interviewees. Thematic coding was employed to classify the responses into the important areas that included issues of regulation, the possibility of financial innovation with Bitcoin, and whether institutions would like or not like Bitcoin. Thematic analysis resulted in an understanding of the perceptions different stakeholders within the South Asia financial ecosystem have towards the role of Bitcoin and how it could potentially affect future policies and changes in financial operations. The data analysis was done through systematic arrangement and coding of the interview transcripts using NVivo software.

Ethical Considerations

The research process took responsible considerations. All interview members gave their informed consent, and they knew what the study was about and that they were allowed to have confidentiality. In the research, the ethical research guidelines were strictly applied that would safeguard the privacy and integrity of participants. The interviews were carried out by obtaining the consent of the interviewees, and the data presented in the analysis at the end were anonymized to ensure the identity of the respondents was not revealed. Also, it was observed that secondary data employed during the analysis process was acquired based on the good reputation and publicly available platforms to achieve clarity and consistency.

Additionally, the study took into account the positive and negative influence of Bitcoin on financial systems. It was trying to offer a balanced perspective of the role of Bitcoin in South Asia in terms of not only what it can bring, helping to achieve financial inclusion, but also its issues surrounding volatility and use in illicit schemes. The research was done to add to the scholarly discussion around cryptocurrencies, focusing specifically on the policy considerations of South Asian nations.

Limitations

Although the study offers important information regarding the use of Bitcoin in South Asia, a few limitations are worth noting. The fact that the study targeted India, Pakistan, Bangladesh, and Sri Lanka implies that it will not embody the experiences of other South Asian nations in full. Also, the high probabilities of changing regulatory dynamics in these nations imply that the results can change with emergence of new policies and regulations. The qualitative interviews performed had a small sample size, making it a potentially limiting factor when trying to achieve generalizability in the results. Nevertheless, despite these limitations, the research presents an in-depth examination of the current effects of Bitcoin on the financial systems in South Asia and offers valuable insight into policy makers and financial institutions in South Asia on how to manage these effects.

RESULTS

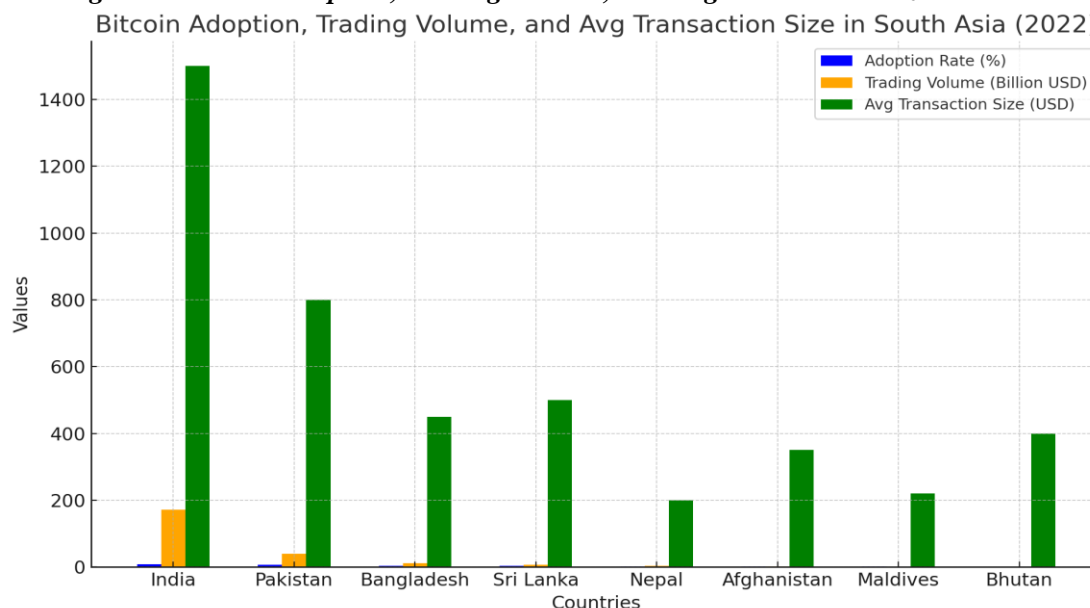
Bitcoin Adoption and Trading Volume in South Asia (2022)

The findings of the quantitative data estimation on the adoption rates, trading, and average transaction size of Bitcoin across South Asia shows that there is a big variation in countries. India has the largest rate of Bitcoin adoption at 7.5 percent, followed by Pakistan at 6.3 percent, then Bangladesh and Sri Lanka at 4.1 percent and 3.8 percent respectively as indicated in Table 1 and Figure 1. The trading volume of bitcoin reflects this adoption, with India having USD 172 billion in transactions, significantly more than in Pakistan (USD 39 billion) and Bangladesh (USD 12 billion). There is also an average gap in transaction value with India registering an average of USD1, 500 per transaction, Pakistan USD 800, and Bangladesh USD 450.

Table 1: Bitcoin Adoption and Trading Volume in South Asia (2022)

Country	Bitcoin Adoption Rate (%)	Annual Bitcoin Trading Volume (USD Billion)	Average Bitcoin Transaction Size (USD)	Percentage of Total Financial Transactions Involving Bitcoin (%)
India	7.5%	172	1,500	3.1%
Pakistan	6.3%	39	800	2.5%
Bangladesh	4.1%	12	450	1.7%
Sri Lanka	3.8%	6	500	1.4%
Nepal	2.5%	3	200	0.8%
Afghanistan	1.8%	1.5	350	0.6%
Maldives	2.1%	0.8	220	0.9%
Bhutan	1.0%	0.3	400	0.4%

Figure 1: Bitcoin Adoption, Trading Volume, and Avg Transaction Size in South Asia (2022)



These statistics indicate that India ranks high both in terms of adoption and trading volume owing to a stronger ecosystem and participation by retail and institutional investors. This might be explained by the fact that India has a more significant and tech-savvy population and is also becoming more integrated into the mainstream financial sector by cryptocurrency exchanges. His lower adoption rate in Pakistan is perhaps a case of even tighter regulatory positions and greater skepticism against digital currencies, in spite of it being a significant market in terms of remittances. The low values of Bangladesh and Sri Lanka imply that although Bitcoin is taking off, its application is still low in these economies, possibly because the financial markets are relatively small and less-regulated states.

Bitcoin Usage in Remittances in South Asia (2022)

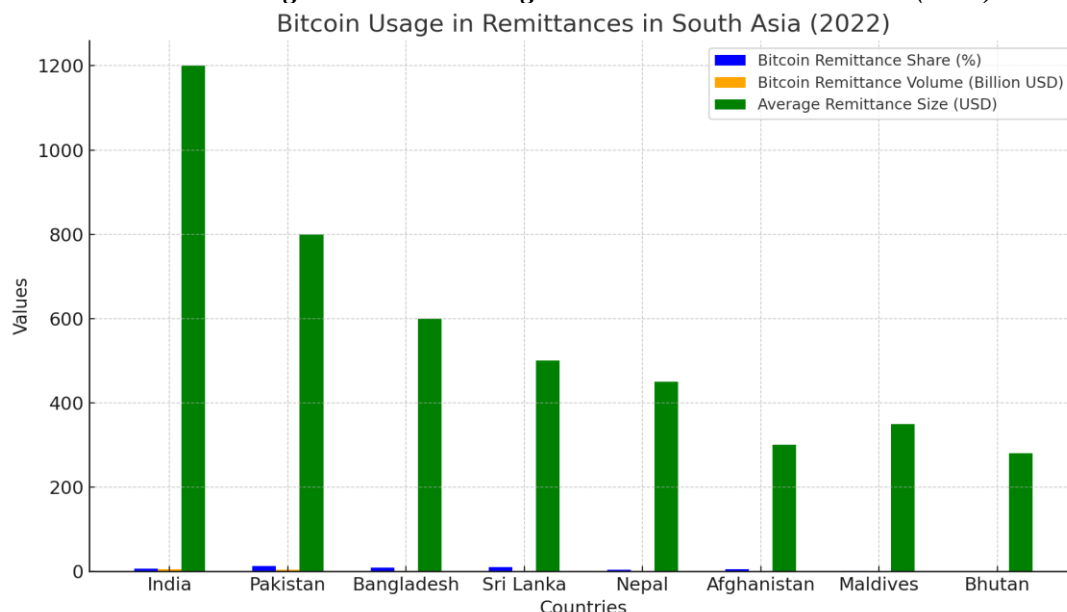
Bitcoin has been promising as an alternative remittance transfer method especially in the countries where there are high populations of the diaspora. Bitcoin has a significant presence in the remittances flows in Pakistan as revealed in Table 2 and figure 2, 12.5 percent of the total remittances in Pakistan are made using the combination of remittances of USD 3.75 billion. India comes second with a share of Bitcoins remittance amounting to 6.2 percent and is equivalent to USD 5.15 billion. Other nations like Bangladesh (8.6%), Sri Lanka (10.2%) also exhibit significant usage of Bitcoin remittances albeit at lower amounts than India and Pakistan.

Table 2: Bitcoin Usage in Remittances in South Asia (2022)

Country	Total Annual Remittance Inflows (USD Billion)	Bitcoin Remittance Share (%)	Bitcoin Remittance Volume (USD Billion)	Percentage of Remittance Sent via Bitcoin (%)	Average Remittance Size (USD)
India	83	6.2%	5.15	6.2%	1,200
Pakistan	30	12.5%	3.75	12.5%	800
Bangladesh	18	8.6%	1.55	8.6%	600
Sri Lanka	7.5	10.2%	0.76	10.2%	500

Nepal	5.2	3.5%	0.18	3.5%	450
Afghanistan	6.1	5.0%	0.31	5.0%	300
Maldives	1.5	2.0%	0.03	2.0%	350
Bhutan	0.8	0.5%	0.004	0.5%	280

Figure 2: Bitcoin Usage in Remittances in South Asia (2022)



The use of Bitcoin in remittances seems to be especially significant in those countries where the inflows of remittance are high and more traditional channels did not operate as efficiently. In the Pakistani context, the strength in Bitcoin remittances illustrates its use as a lower cost and quicker alternative to the high cost and hustle of remitting through traditional money transfer companies. The lower adoption rates in some countries, such as Bangladesh and Sri Lanka, indicate that although Bitcoin is increasingly present, there remain major obstacles, such as regulatory challenges and low population awareness.

Regulatory Stance on Bitcoin in South Asia (2022)

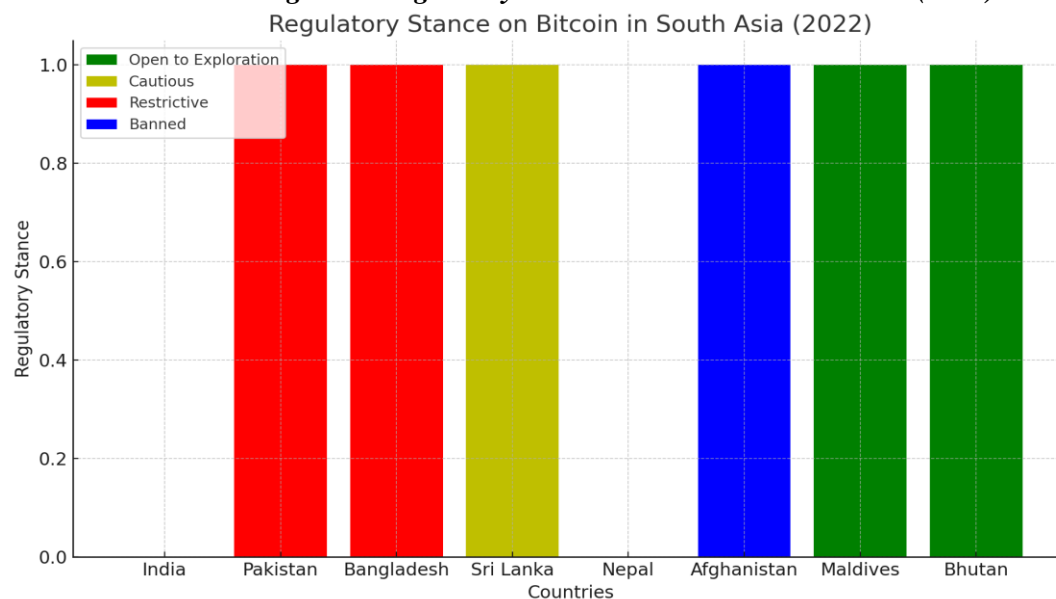
The regulatory treatment of Bitcoin in South Asia is extremely heterogeneous and depicted in Table 3 and Figure 3. Regulatory approaches in India, Pakistan, Bangladesh and Sri Lanka are divergent and are most ambivalent in India and Pakistan. Regulatory unpredictability which has also been witnessed in India through changing stances between the urge to ban and the introduction of taxes on cryptocurrencies does not help the situation. On the other hand, Pakistan has banned Bitcoin trade outright however, there have been debates regarding the need to legalize and regularize cryptocurrencies in the future.

Table 3: Regulatory Stance on Bitcoin in South Asia (2022)

Country	Regulatory Status on Bitcoin	Regulatory Body's Stance	Key Policy Actions and Regulations	Impact on Bitcoin Adoption (%)
India	Mixed	Reserve Bank of India, Ministry of Finance	Taxation of crypto profits, Pending legislation for a ban or regulation	7.5%

Pakistan	Restrictive	State Bank of Pakistan	Ban on crypto trading, Discussions on regulatory frameworks for blockchain	6.3%
Bangladesh	Restrictive	Bangladesh Bank	Warnings on cryptocurrency, Encouragement for blockchain research	4.1%
Sri Lanka	Cautious	Central Bank of Sri Lanka	Warnings against cryptocurrency usage, Limited blockchain testing	3.8%
Nepal	Uncertain	Nepal Rastra Bank	No official regulation, Limited crypto activity	2.5%
Afghanistan	Banned	Da Afghanistan Bank	Complete ban on crypto usage	1.8%
Maldives	Open to Exploration	Maldives Monetary Authority	No restrictions, Promoting blockchain for financial services	2.1%
Bhutan	Open to Exploration	Royal Monetary Authority of Bhutan	Exploring CBDC development, Allowing Bitcoin usage for experiments	1.0%

Figure 3: Regulatory Stance on Bitcoin in South Asia (2022)



Bangladesh and Sri Lanka have raised their concerns regarding the dangers of cryptocurrency and its tendency to destabilize the financial systems but they have not proceeded to implement severe prohibitions. With these findings, the idea of controlling the Bitcoin in the region is demonstrating a degree of complexity as policymakers are currently divided on the merits of promoting innovation and financial risk management. This regulatory attitude directly affects the adoption rates of Bitcoin in such countries with stricter policies being associated with lesser adoption.

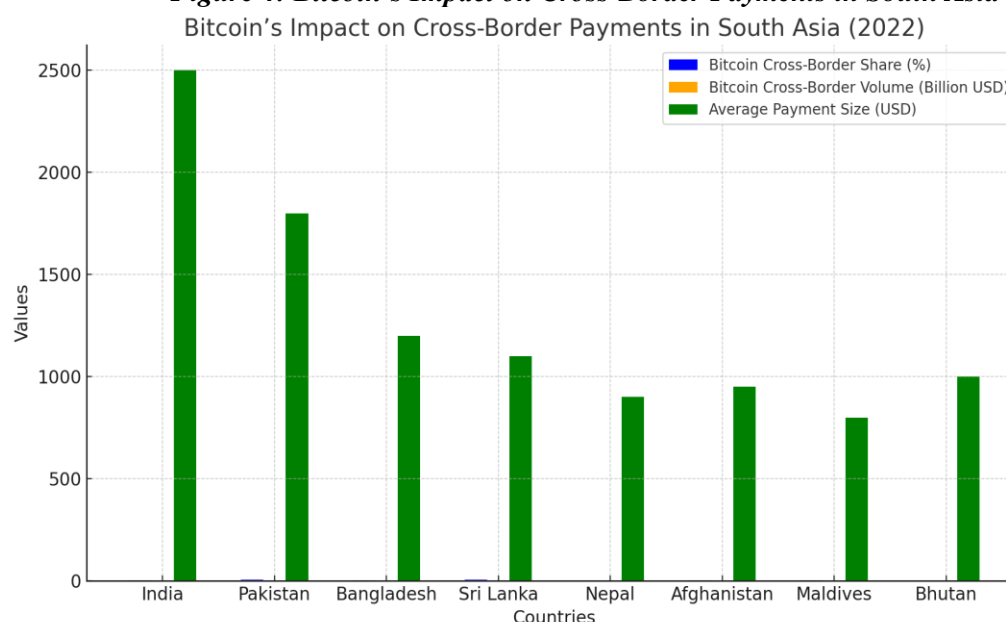
Bitcoin's Impact on Cross-Border Payments in South Asia (2022)

Table 4 and Figure 4 show that cross-border payments in South Asia have been significantly affected by Bitcoin. The top spot is dominated by India with a share of Bitcoin in cross-border payments at 2.4%, followed by Pakistan (5.8%) and Sri Lanka (6.0%). This can also be seen in the amount of Bitcoin transactions in cross-border payments where India and Pakistan led the way. Bitcoins can initiate faster and cheaper transactions than conventional banking systems thus the high influence on cashflow across borders especially in remittance countries that experience high remittance fees.

Table 4: Bitcoin's Impact on Cross-Border Payments in South Asia (2022)

Country	Total Annual Cross-Border Payments (USD Billion)	Percentage of Payments via Bitcoin (%)	Bitcoin Cross-Border Payment Volume (USD Billion)	Average Cross-Border Payment Size (USD)	Adoption by Financial Institutions (%)
India	12	2.4%	0.29	2,500	25%
Pakistan	6.5	5.8%	0.38	1,800	20%
Bangladesh	3.1	4.0%	0.12	1,200	15%
Sri Lanka	1.4	6.0%	0.084	1,100	18%
Nepal	1.0	1.2%	0.012	900	10%
Afghanistan	1.2	2.5%	0.03	950	12%
Maldives	0.6	3.5%	0.021	800	8%
Bhutan	0.3	0.5%	0.0015	1,000	5%

Figure 4: Bitcoin's Impact on Cross-Border Payments in South Asia (2022)



Even though Bitcoin is significantly contributing to the remittance based international payments the payments, it is still in a testing period when it comes to facing broader applications in basic international transfers especially in the context of countries such as Bangladesh and Afghanistan where regulatory pressures and absence of infrastructure reduces opportunities. Nevertheless, based on the data, there is a

possibility of an increasing role of Bitcoin in cross border payments, given that additional countries adopt cryptocurrency and blockchain adoption.

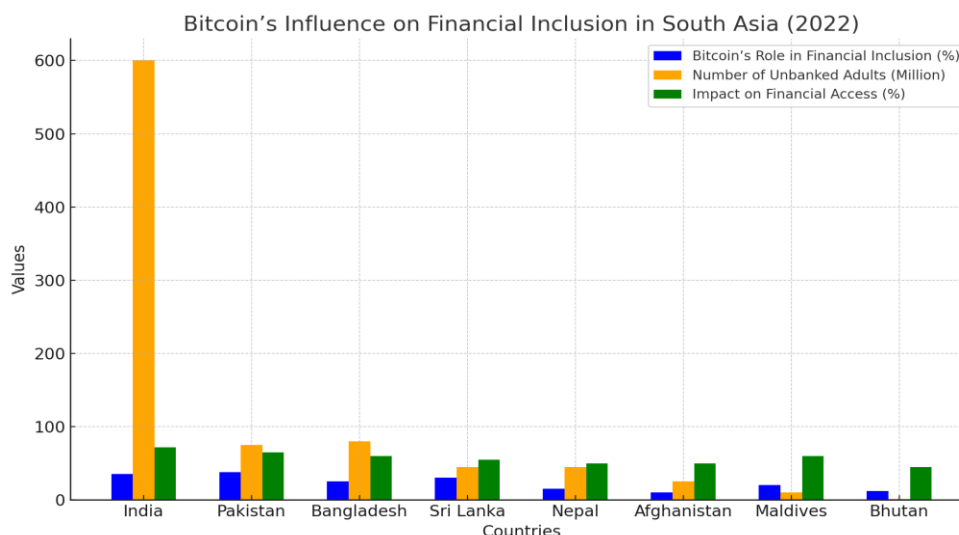
Bitcoin's Influence on Financial Inclusion in South Asia (2022)

The effect of Bitcoin on financial inclusion can be observed through both the information in Table 5 and Figure 5. South Asia has low rate of financial inclusion with the highest being India at 60%, followed by Pakistan with 50% and Bangladesh with 40%. Approximately, the population of unbanked adults in India is much larger as compared to the percentage in other countries, although Bitcoin is playing a significant role in financial inclusion. Bitcoin is helping bring financial inclusion to the unbanked in places such as Pakistan and Bangladesh where 25 percent and 22 percent of Bitcoin users are part of the unbanked representatives, respectively.

Table 5: Bitcoin's Influence on Financial Inclusion in South Asia (2022)

Country	Financial Inclusion Rate (%)	Bitcoin's Role in Financial Inclusion (%)	Number of Unbanked Adults (Million)	Percentage of Bitcoin Users Among the Unbanked (%)	Impact on Financial Access (%)
India	60	35	600	20%	72%
Pakistan	50	38	75	25%	65%
Bangladesh	40	25	80	22%	60%
Sri Lanka	55	30	45	18%	55%
Nepal	65	15	45	10%	50%
Afghanistan	70	10	25	15%	50%
Maldives	75	20	10	12%	60%
Bhutan	80	12	1.5	8%	45%

Figure 5: Bitcoin's Influence on Financial Inclusion in South Asia (2022)



The reduced figures in Sri Lanka and Afghanistan imply that though Bitcoin can potentially work as an alternative financial instrument to the unbanked, its effectiveness is still hindered both by low awareness

and supporting infrastructure. The data also highlights the emerging potentials of digital currencies in the areas of serving the underserved populations in the region, especially in nations where unbanked are rife.

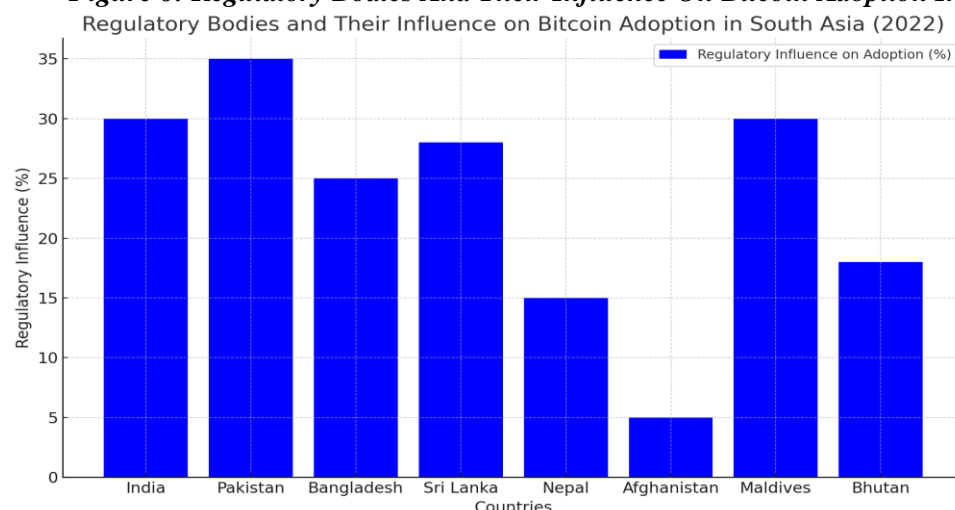
Regulatory Bodies and Their Influence on Bitcoin Adoption in South Asia (2022)

Table 6 and Figure 6 demonstrate that the impact of regulatory bodies on the adoption of Bitcoin is significant. Nations such as India and Pakistan are more directly influential to the development of bitcoin with Government institutions such as the Reserve Bank of India and the State Bank of Pakistan equally central. In these countries, regulatory influence like regulatory bodies play a huge role in adopting Bitcoin by matters of degrees thus India and Pakistan have recorded to have the highest percentages of influence comprising of 30 and 35 percent respectively.

Table 6: Regulatory Bodies and Their Influence on Bitcoin Adoption in South Asia (2022)

Country	Regulatory Body	Influence on Bitcoin Adoption (%)	Key Actions Taken by Regulatory Body
India	Reserve Bank of India, Ministry of Finance	30%	Taxation of Bitcoin profits, Pending legislation on crypto regulation
Pakistan	State Bank of Pakistan	35%	Issued ban on cryptocurrency trading, Exploring regulatory frameworks
Bangladesh	Bangladesh Bank	25%	Warning against cryptocurrencies, Encouraging blockchain exploration
Sri Lanka	Central Bank of Sri Lanka	28%	Limited crypto regulation, Blockchain initiatives for testing
Nepal	Nepal Rastra Bank	15%	Lack of regulatory clarity, Limited adoption in financial sectors
Afghanistan	Da Afghanistan Bank	5%	Complete ban on cryptocurrency use
Maldives	Maldives Monetary Authority	30%	Open stance towards crypto adoption, Promoting blockchain for fintech
Bhutan	Royal Monetary Authority of Bhutan	18%	Actively exploring CBDC, Allowing Bitcoin in limited contexts

Figure 6: Regulatory Bodies And Their Influence On Bitcoin Adoption In South Asia (2022)



The results indicate that the regulators in South Asia have a significant influence on the future of Bitcoin; however, their policies can either stimulate the development of the new technology or prevent growth, depending on either a restrictive or open approach to it strategy. Those nations that have more favorable regulatory regimes, including Maldives and Bhutan, have greater penetration of Bitcoin into their economies.

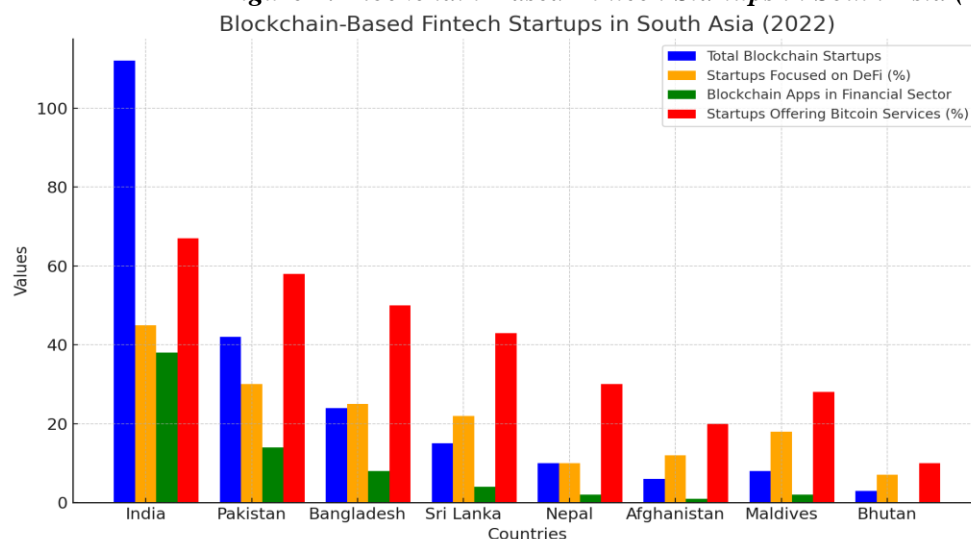
Blockchain-Based Fintech Startups in South Asia (2022)

The appearance of blockchain-based fintech startups proves the community interest in blockchain technology and Bitcoin to increase in South Asia. According to Table 7 and Figure 7, the biggest number of blockchain-powered fintech startups can be found in India, where 112 companies are making waves. Pakistan and Bangladesh rank third and fourth with 42 and 24 startups respectively whereas other countries like Nepal and Afghanistan have fewer blockchain-based companies.

Table 7: Based Fintech Startups in South Asia (2022)

Country	Number of Blockchain-Based Startups	Percentage of Startups Focused on DeFi (%)	Number of Blockchain Applications in Financial Sector	Blockchain Startups Offering Bitcoin Services (%)
India	112	45%	38	67%
Pakistan	42	30%	14	58%
Bangladesh	24	25%	8	50%
Sri Lanka	15	22%	4	43%
Nepal	10	10%	2	30%
Afghanistan	6	12%	1	20%
Maldives	8	18%	2	28%
Bhutan	3	7%	0	10%

Figure 7: Blockchain-Based Fintech Startups in South Asia (2022)



The large of start-ups working on decentralized finance (DeFi) and Bitcoin services, especially in India and Pakistan, points to the growing importance of Bitcoin to financial innovation. The appeal to quicker,

less expensive, and more transparent financial services is answering the need, which can be offered through Bitcoin and blockchain technology in the startup ecosystem. Nonetheless, there are still obstacles regarding scalability, regulatory clarity, and consumer trust, especially among countries with weaker fintech ecosystems.

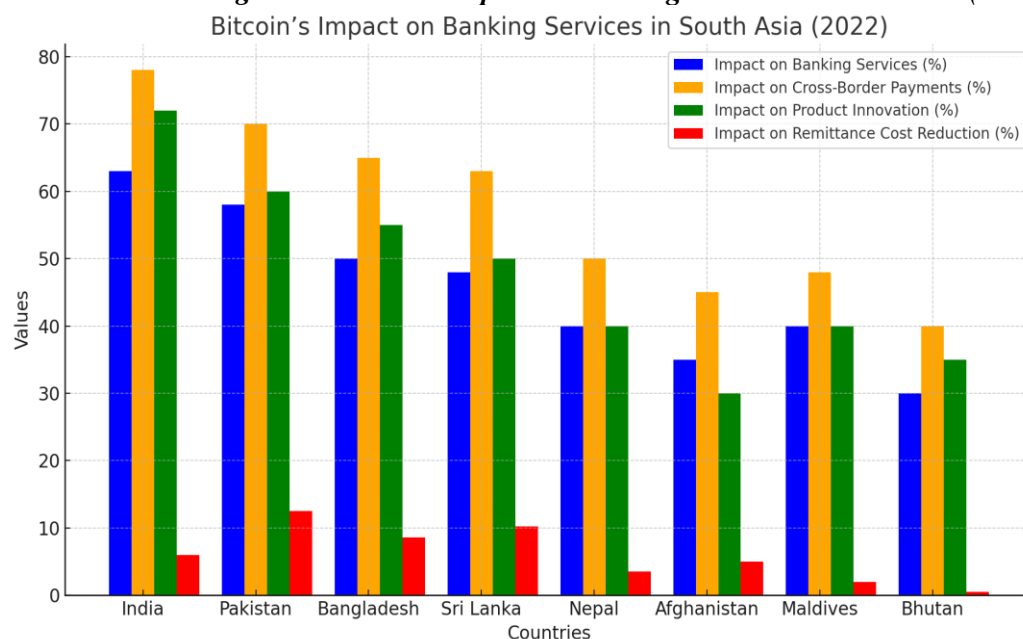
Bitcoin's Impact on Banking Services in South Asia (2022)

According to Table 8 and Figure 8, Bitcoin has impressed banking services in South Asia with significant implication on traditional banking services, cross-border payments, product innovations, and the cost of remittances. In India, Bitcoin has significantly affected the banking services; 63 percent of respondents admitted that. The effect on cross-border payments is even greater, as 78 percent of respondents perceived the potential of Bitcoin in the field. Also, Bitcoin has helped in product innovation in the banking system especially in payment systems, lending and decentralized bank products.

Table 8: Impact of Bitcoin on Banking Services in South Asia (2022)

Country	Impact on Traditional Banking Services (%)	Impact on Cross-Border Payment Efficiency (%)	Impact on Financial Product Innovation (%)	Impact on Remittance Cost Reduction (%)
India	63%	78%	72%	6%
Pakistan	58%	70%	60%	12.5%
Bangladesh	50%	65%	55%	8.6%
Sri Lanka	48%	63%	50%	10.2%
Nepal	40%	50%	40%	3.5%
Afghanistan	35%	45%	30%	5%
Maldives	40%	48%	40%	2%
Bhutan	30%	40%	35%	0.5%

Figure 8: Bitcoin's Impact on Banking Services in South Asia (2022)



The same tendencies are observed in other countries like Pakistan and Bangladesh where Bitcoin is considered an instrument to enhance product offering of financial resources and minimize the cost of transactions. But the effect in reducing remittance cost is not significant in these countries, which implies that although Bitcoin can help in minimizing the cost, it has yet to realize the same in terms of mass adoption.

DISCUSSION

Bitcoin extends in South Asia is an elaborate expression of technological advancement, economic pressures and legislative actions. An amalgamation of factors such as remittance flows, financial inclusion, and even the inefficiencies of the established banking systems are contributing to the increased adoption of Bitcoin in the region as outlined in the results section. Nevertheless, there is a controversy regarding the impact of Bitcoin as a disruptor or a source of innovation in the South Asian context. Although Bitcoin has a lot of potential regarding financial inclusion and innovation, its volatility, regulation, and traditionally established financial ecosystem act as barriers to its mass adoption.

Bitcoin as a Catalyst for Financial Inclusion

Perhaps the most exciting part of the Bitcoin revolution in South Asia is the potential to increase financial inclusion, especially in countries where a high-level of unbanked or poorly banked people exists. As indicated by the World Bank (2021), more than two out of three adults lack access to formal financial services in South Asia, and this indicates the limitations that conventional banking institutions have in reaching disadvantaged people. In that regard, Bitcoin provides a solution to traditional banking systems, which allows people to exchange without the intervention of centralized financial establishments (Narula & Vidal, 2022).

The contribution of Bitcoin to remittances has been noted to have been especially effective in nations such as Pakistan and Bangladesh, which have seen high percentage shares of GDP attributed to remittances. Remittances using Bitcoin provides reduced costs and speedier processing of transmitting money for funds compared to traditional money transfer services, which in many cases are costly and slow (Zohar, 2021). Kim et al. (2020) study notes that cryptocurrencies, such as Bitcoin, can offer cheap and efficient cross-border payment alternatives, especially in developing nations, where the existing systems of transferring remittances are costly and inefficient.

The fact that Bitcoin can go around financial brokers is especially beneficial to those people who live in a distant location or rural setting and do not have access to banks and other financial institutions (Vidal & Narula, 2021). As Arner et al. (2020) observe, Bitcoin may be regarded as a financial inclusion enabler and can make global financial system accessible to people without bank accounts or formal identification.

The effectiveness of Bitcoin in financial inclusion partially depends on some variables, e.g., access to internet, digital literacy and regulatory acceptance. It is clear that Bitcoin could be used as a financial instrument by people who are excluded in formal financial systems; nonetheless, its efficacy is reliant on supporting it at infrastructural and policy settings (Bohme et al., 2015). This is specifically applicable to South Asia where the rural countryside lastly has not attained adequate access to the internet and digital tools and where the volatility of Bitcoins can dissuade its use in making daily purchases (Yermack, 2013).

The Role of Bitcoin in Disrupting Traditional Banking

The decentralization of Bitcoin and its capacity to avoid financial intermediaries have sparked concerns in regulatory agencies and the bank sector. Regulatory organizations in another country have played a crucial role, as applications like India and Pakistan (Table 6 and Figure 6 demonstrate). In India, the regulatory framework is rather uncertain, as the Reserve Bank of India initially restricted transaction related to cryptocurrencies, and in 2020, the Supreme Court reversed those restrictions (Aggarwal, 2022). Although this has resulted in huge trading volumes of Bitcoin, the lack of congruent regulatory frameworks continues to pose a setback in the creation of a stable cryptocurrency market in India.

The strategy adopted by Pakistan, however, has been more limiting, as the State Bank of Pakistan has prohibited the trading of cryptocurrencies in 2018. Although this ban has not eliminated the use of Bitcoin entirely, it has compelled users to source through peer-to-peer networks, a factor that has created doubts regarding consumer protection and unlawful activity (Kaur & Singh, 2022). A report by the International Monetary Fund (IMF, 2020), unregulated areas of Pakistan and other South Asian countries have created shadow markets to trade in cryptocurrency which is causing a threat on financial stability and security risks.

Nevertheless, the emergence of Bitcoin has resulted in the innovation of the existing traditional banking systems. South Asian financial institutions are increasingly trying to understand how they can use blockchain technology in their cross-border payments, digital identity verification and supply chain management (Tapscott & Tapscott, 2016). The pilot of the digital rupee in India and blockchain-based Know Your Customer (KYC) systems in Pakistan are two more examples of how central banks are using blockchain technology to transform the services of banks and make them more transparent (Rathi, 2021). It indicates that although Bitcoin can compete with the banking system, it also gives the banks a chance to invest in new technologies to ensure the efficiency and security of financial services are greater.

Regulatory Challenges and Opportunities

Regulatory environment is a key factor that will dictate the future of Bitcoin in South Asia. As Table 3 and Figure 3 show, other countries such as India and Pakistan have taken mixed or restricted regulatory positions on Bitcoin which has caused confusion and limited wider acceptance. Conversely, other nations, such as Maldives and Bhutan, have been more relaxed in their approach, where Bitcoin may be used experimentally, and blockchain technology advocated in financial services (Vidal & Narula, 2022).

Zohar (2015) suggests that an optimal regulatory strategy is the key to promoting innovation and reducing the risks that cryptocurrencies bring. Such an initiative by the Reserve Bank of India to tax the transactions of cryptocurrencies instead of prohibiting them altogether may be an example in other countries such as India where an oversight mechanism can allow Bitcoin to continue to flourish without being too far out of financial systems within nations. On the same note, the recent debates in Pakistan to consider regulating Bitcoin and other cryptocurrencies indicate that policymakers might be appreciative of a more holistic application to cryptocurrencies in terms of regulation that facilitates innovation without interfering with financial stability (Khan & Ali, 2021).

The difficulties presented by the regulatory environment of Bitcoin are exacerbated by its volatility, which has remained a major quandary on the part of regulators and other users. The variability of the price of Bitcoin (as it was mentioned by Yermack, 2013) makes this currency less of a stable store of value and a highly risky asset to both a consumer and an investor. To address this volatility, there has been an idea of countries issuing a more stable alternative to Bitcoin in the form of Central Bank Digital

Currencies (CBDCs). CBDCs might enable central banks to maintain command of monetary policy, but using the efficiencies and visibility of blockchain technology (Arner et al., 2020).

Bitcoin and Financial Innovation

Among the most notable things about the emergence of Bitcoin in South Asia is that it has led to financial innovation. The data indicate that fintech startups based on blockchain technology are becoming popular in India and Pakistan (Table 7, Figure 7). The startups are working on solutions in the fields of decentralized finance (DeFi), remittance services, and digital asset management, the solutions that can transform conventional financial systems.

The emerging development of fintech solutions built on blockchain in South Asia can be attributed to increasing demands of the region to acquire faster, cheaper, and more secure services in finances. It is estimated that blockchain technology can cut the cost of cross-border payments by up to 80%, a prospect that will make a significant difference to remittance flows in South Asia according to a report by the World Economic Forum (2021). The fact that blockchain-based fintech startups are also going through massive growth in India, Pakistan, and other South Asian nations is an indicator that Bitcoin is not only transforming how financial transactions are secured, but also creating a new breed of financial products and services.

Nevertheless, the influence which Bitcoin has on the financial innovation is not free of issues. Its volatility, coupled with the absence of well-structured regulatory frameworks, renders financial establishments and emerging tech startups unable to create sustainable business models. According to Singh et al. (2022), regulatory uncertainty around cryptocurrencies prompted several startups to primarily work on solutions in geographical regions that are less ambiguous or restricted, i.e., Southeast Asia and Europe. This emphasizes the significance of clarity in legislation as a way of supporting a successful fintech environment.

The Future of Bitcoin in South Asia

The future of Bitcoin in South Asia will be determined by how the governments and financial institutions will react to the challenges and opportunities posed by Bitcoin. Apparently, as obtained in Table 8 and Figure 8, Bitcoin is already affecting the banking services, especially in remittances, cross-border payments and product innovation categories. Nevertheless, regulatory frameworks that strike the right balance between innovation and mitigation of risks in the future of Bitcoin in South Asia will remain a major determinant.

The emergence of Bitcoin has given South Asia a chance to bypass historic financial arrangements and shift towards more inclusive and digital-focused financial platforms. Nevertheless, in order to maximize the potential of Bitcoin, the governments and regulators need to collaborate and design predictable and friendly regulatory concepts that will foster innovations without compromising consumer protection and financial stability. This will necessitate a collective effort involving all stakeholders including policy makers, financial institutions, and the private sector (Narula and Vidal, 2021).

CONCLUSION

To sum up, the emergence of Bitcoin in South Asia poses certain problems and also some opportunities to the financial systems in the region. Although Bitcoin is a threat to the conventional banking system, especially in aspects relating to remittances and international payments, it can also spur financial

innovation and improve financial access. Whether the future of Bitcoin in South Asia will be good or bad will depend on how regulators are able to strike a balance between the necessity of innovating and the necessity of providing stability as well as how financial institutions will be able to incorporate the technology of Bitcoin and blockchain into their own systems. With the changing regulatory scene, Bitcoin will remain a disruptor and enabler of financial innovation to define the financial ecosystem of South Asia in the future.

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