Digital Finance And Financial Metrics as A Tool For Financial Inclusion in Nepal Bagmati Province

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ABSTRACT

The purpose of this study is to investigate how financial metrics and digital finance may be used in the Nepalese province of Bagmati to promote financial inclusion. It assists in discovering the characteristics that enable digital financial inclusion by attempting to uncover the critical elements that analyze society behavior in this regard. With a quantitative methodology, panel data from 6400 respondents is used in the study. To investigate correlations between variables and choose the best model for analysis, descriptive statistics, unit root tests, correlation analysis, and the CFA model are used. ADB, UDB, CDB, GDB, and QDA were discovered to have an incredibly significant positive correlation in the current study. The current study also found that the regions of Nepal's Bagmati Province had a relatively high percentage of voluntary exclusion. but there was also a very good chance of switching to the use of QDA. By analyzing the effects of numerous financial measures and digital finance within the dynamic and cutthroat financial market of Bagmati province, this study adds to the body of knowledge on financial analysis. The results provide useful information to promote digital financial inclusion in Nepal's Bagmati Province and support well-informed financial decision-making that will improve the banking and financial sector.

Keywords: Digital banking, Access and usage digital banking, Customer delight, Quality banking, Digital finance in Nepal.

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1. INTRODUCTION

We have seen that whenever there is financial inclusion, all economic activity and societal segments have easy, affordable, and simple access to financial services. Nepal is underdeveloped country and most of the demography is not aware of the formal financial system. Even while there have always been obstacles in financial inclusion, many factors are working to increase access to the financial services that many wealthy consumers take for granted. Government of Nepal should give emphasis on the need for financial inclusion by introducing financial inclusion to increasingly excluded people to the formal financial system. Making affordable, accessible everyday financial services available to a larger portion of the global populace is financial inclusion. It is also fostering economy and helping all the primary and secondary sectors by developing vitally important facilitator of, among other things, decreasing poverty, putting a stop to hunger, promoting economic progress, and supporting the secondary sectors. Achieving the Sustainable Development Goals (SDG) requires financial inclusion as well. No one should be left behind by economic development, according to the SDGs (Sustainable Development Goals). In the current study, it was discovered that there was a high positive correlation (digital financial inclusion attained by digital banking) between Access Digital Banking (ADB), Usage Digital Banking (UDB), Customer Delight Digital Banking (CDB), Grievances Handling Digital Banking (GDB) and Quality Digital Banking (QDB). Through a variety of previous initiatives, financial inclusion in Nepal has advanced. However, Nepal has extremely low utilization, especially of digital media and credit, along with insufficient and uneven access, pointing to the need for further work to create a more accessible financial system. There are indifferent bottlenecks for expanding digital banking knowledge such as difficult geography, sporadic village settlement, illiteracy, and gap in digital knowledge in Nepal. According to the Nepal Rastra Bank Act of 2058, one of the primary goals of the bank is to preserve the stability of the banking and financial sectors to improve public trust in the banking and financial system and to make financial services more accessible. It will not be feasible until the system guarantees financial customers that they will receive impartial, fair treatment along with sufficient disclosure, openness, and an efficient grievance procedure. The regulator, Nepal Rastra Bank, has issued its directives number 20, which makes provisions on Financial Customer Protection and Financial Literacy, and placed Financial Consumer Protection and Grievance Management Manual, 2077, to improve the Customer Protection and Grievance Handling Procedure adopted by the Financial Institution and, consequently, boost the confidentiality of financial customers . Grievances may be factual, imaginary or because of the disguise occurred by the customer themselves. Grievances handling in digital banking is especially important as it needs to be handled properly through periodically doing interviews, settling the anonymous complaints as it would help the customers from quitting the bank or its facilities.

2. LITERATURE REVIEW

According to Campbell and Fiske (1959) cellphones have opened a lot of potential, with mobile wallets and mobile banking emerging as the two fastest-growing economic sectors. It facilitates safer and quicker banking transactions for the customers and is economical for

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the banks as well. According to Chaurasiya (2014) any nation's electronic payment system is susceptible to several dangers, including fraud, bank failures, counter-party failures, and other issues . The electronic payment system may have difficulties due to these threats. RTGS is a commonly used electronic payment method in banks and commercial organizations, but it needs support from the retail sector. Digital finance was characterized as "financial services delivered over digital infrastructure - including mobile and internet - with low use of cash and traditional bank branches" in a McKinsey and Company (2010) report from September 2016. They employ a more expansive concept of digital finance. Sub-Saharan Africa is a prime example of how mobile money may promote financial inclusion (Heitmann, 2018). The list of technology-driven financial inclusion also includes evidence of digital financial inclusion from India and Nepal, two of their neighboring developing nations. According to Lohar (2017), there are three main forces behind digital banking. Adoption comes first. The second is quickness. The final aspect is the arrival of inexperienced players. Fintech and payment banks are two examples of the new businesses that have joined the market and are competing with existing banks. Khalily and Akhter (2017). The use and accessibility of financial services have positively changed because of smartphone, cellphone, and internet services. This new channel is useful for increasing services in remote areas and for reaching the excluded population with ease. According to Pant (2016), Nepal's government and central bank have been promoting financial inclusion as a driver of the country's economic development and progress. A five-year strategic action plan (2012-2016) was developed by Nepal Rastra Bank with the goal of making financial inclusion a strategic priority. Many initiatives have been recommended since then to increase financial inclusion. Like this, Nepal's financial inclusion has been prioritized by monetary policy and the Banks and Financial Institutions Act. According to Shrestha (2020), the Government of Nepal (GON) and NRB established credit cooperatives, deprived sector credits, group guarantee programs, bank branch expansions, Rural Self Reliance Funds, and Rural Development Banks to increase financial inclusion. According to Findex data from 2017, 45% of adult Nepalis have bank accounts, while the rest of the country's population is unbanked. Therefore, in emerging and developing nations where a sizable portion of the population lacks access to financial services, financial inclusion - defined as the ability to obtain and utilize financial services- carries significant economic significance. Financial inclusion is the result of both supply-side and demand-side variables. According to Barik and Lenka (2018), Financial inclusion has expanded in SAARC countries due to rising internet and mobile usage, which has also raised financial access. Additionally, increased income and education have a beneficial effect on financial inclusion; yet there is a negative correlation between financial inclusion and unemployment and the rural population.

3. RESEARCH METHODOLOGY

The purpose, goals, and research hypotheses are described in this section. It also offers the procedures followed in creating the questionnaire. The following are the study's objectives:

1. To investigate the connection between digital financial usage and demographics.

2. To pinpoint the crucial elements accountable for advancing financial inclusivity via Digital Finance.

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Research Theory: Based on the review, the following hypothesis was developed and three metrics—access, usage, and quality—were examined and tested as indicators of digital financial inclusion:

Hypothesis H1: Digital Financial Inclusion is predicted by Access.

Hypothesis H2: Digital Financial Inclusion is predicted by Usage.

Hypothesis H3: Digital Financial Inclusion is predicted by Quality.

Hypothesis H4: Digital Financial Inclusion is predicted by Grievances.

Hypothesis H5: Digital Financial Inclusion is predicted by Customer Delight.

Convenience sampling is the sample method used in this investigation. The study's required sample size was determined to be 6400 with a 5% margin of error and a 95% confidence level. Results from the questionnaire's pre-testing indicate that α was greater than 0.65 for 11 components and less than 0.70 in the Usage Database scenario. Royston (1982) states that values of $\alpha > 0.60$ or 0.70 are likewise acceptable.

4. RESULTS

Multicollinearity Analysis- To check the multicollinearity between the latent constructs, two collinearity diagnostics are used: tolerance and variance inflation factor (VIF). Critical values for tolerance and VIF are >0.10 and <10, respectively. It can be observed that the value of tolerance for debit cards varies between 1.493 to 2.963 and VIF varies between 1.245 to 2.011, thus multicollinearity is not a problem in the case of debit cards. Tolerance and VIF for credit cards vary between 0.280 to 0.523 and 1.364 to 2.354. For digital banking they vary between 0.440 to 0.726 and 1.263 to 3.944. For digital financial services they vary between 0.228 to 0.845 and 1.242 to 2.586, respectively. Thus, based on the values of tolerance and VIF, it can be said that multicollinearity is not an issue for the debit card, credit card, digital banking, and digital financial services. Confirmatory Factor Analysis (CFA)- In total there are 10 latent constructs, namely: Access Digital Banking, Usage Digital Banking, Quality Digital Banking. Access, Usage, Grievances, Customer Delight and Quality are used as an indicator of Digital Financial Inclusion (DFI) of the Items of Digital Banking. Usage indicators measured how respondents used digital banking services such as what was the regularity of the banking products/services usage over time. Access indicators indicate the possibility and the outreach of the banking services, using demand-side hurdles, such information or cost, that prevent consumers from accessing banking institutions can also be included. Examples of these barriers include the spread of bank branches and point of sale (POS) devices in rural areas. The variety of options accessible to customers, the degree to which banking products are understood and met their demands, and the clients' awareness of these products are all described by quality metrics. Consumer delight and grievances handling are considered here.

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Table 1.1 Descriptives of the Items of Digital Banking

Variables	SRW
Access DB (ADB)	
B1: Information provided by bank regarding the digital banking is relevant for me.	0.563
B2: Bank provides me with timely information regarding digital banking.	0.878
B3: Bank provides me with complete information regarding digital banking.	0.924
B4: Bank provided me with the complete guide to use digital banking.	0.671
Usage DB (UDB)	
B5: I frequently use digital banking.	0.542
B6: I find digital banking a better option than cash.	0.769
B7: Digital banking provides me with the convenience to use it 24x7.	0.701
B8: I think that I can enjoy the service of digital banking 24 hours.	0.559
Quality DB (QDB)	
B9: I am completely aware of digital banking.	0.421
B10: I am satisfied with the process of digital banking.	0.964
B11: I am fully satisfied with digital banking.	0.845
B12: I believe that digital banking will assure me of an error-free transaction.	0.706
GREIVANCES HANDLING(GDB)	
B13: My grievances are handled effectively	0.457
B14: Bank takes care of my grievances timely	0.571
B15: Bank provides me complete information regarding my grievances	0.913
CUSTOMER DELIGHTMENT(CD)	
B16: Customers are delighted by the behavior of the bank employees	0.621
B17: Customers are delighted by the responses given by the bank	0.846
B18: Customers are delighted by the financial services of the bank	0.712

Source Survey. Note: SRW: Standardized Regression Weights

Standardization of the coefficient is typically performed in multiple regression analyses where the variables are measured in different units of measurement (e.g., income measured in dollars and family size measured in number of individuals) to determine which of the independent variables has a greater effect on the dependent variable. It also measures the "magnitude" of the impact of one variable on another and is therefore a broad measure of effect size. The correlation between the independent and dependent variables is equal to the standardized regression coefficient for basic linear regression with orthogonal predictors. In the above table we can find that different variables standardized regression weights have

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been calculated. Different, independent, and dependent variables have different weights, which shows the variability of the variables.

Table 1.2 Descriptives

	MEAN	SD	CD	ACC	USG	QUL	GRE
CD	3.1802	0.4998	1				
ACC	2.9427	0.3947	.509**	1			
USG	3.5768	0.3164	-0.166**	0.037**	1		
QUL	3.7113	0.4372	-0.260**	-0.151**	0.788**	1	
GRE	3.2564	0.2974	0.153**	0.456**	0.270**	0.571**	1
** CORRELATION IS SIGNIFICANT AT THE 0.01 LEVEL (2 TAILED) * CORRELATION IS SIGNIFICANT AT THE 0.05 LEVEL (2 TAILED)							

Source: SPSS

The descriptive statistics shows the significance level of the access digital banking, grievances handling digital banking, quality digital banking and usage digital banking of the Bagmati Province of Nepal. The above table shows the level of satisfaction amongst the customers of Bagmati Province of Nepal. As per the mean scores, it is found thar the customers in Bagmati Province of Nepal are moderately satisfied with their digital banking services provided by their respective banks. In particular, the findings depict that the service providers of Bagmati Province of Nepal are less satisfied with the grievances solving and the customer delight they receive from their financial services providers. There is a positive relation between all the variables. Access digital banking in Bagmati Province of Nepal has the negative relationship with ither variables. Usage digital banking in Bagmati Province of Nepal has the positive relationship with other variables. Quality digital banking in Bagmati Province of Nepal plays the positive relationship between other variables. Customer delight in Bagmati Province of Nepal has the positive relationship with other variables of the region. Finally, we can assume that the grievance handling in Bagmati Province of Nepal is handled in incredibly positive manner.

4.1 Status of Digital Financial Inclusion Prediction by Access

The below figure shows the status of digital financial inclusion prediction by access of the banks in Bagmati Province. In the analysis, the respondents have given the disagreement regarding the access of digital banking.

Hypothesis H1: Digital Financial Inclusion is predicted by Access.

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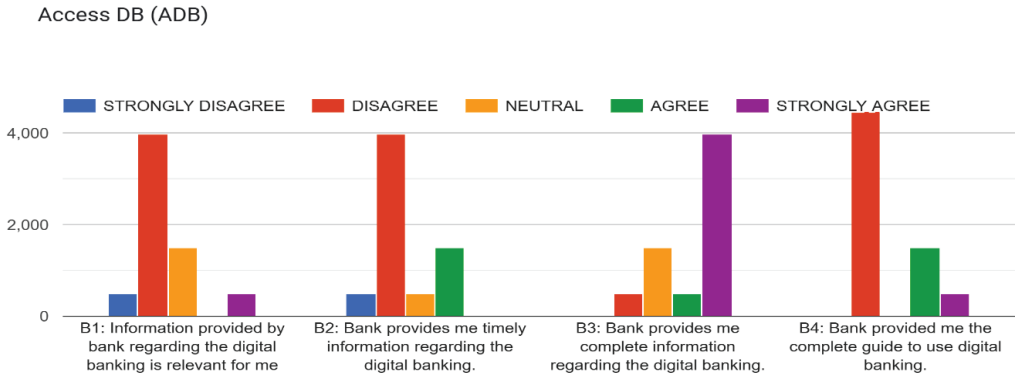
Figure No: 1.1



Source: Survey.

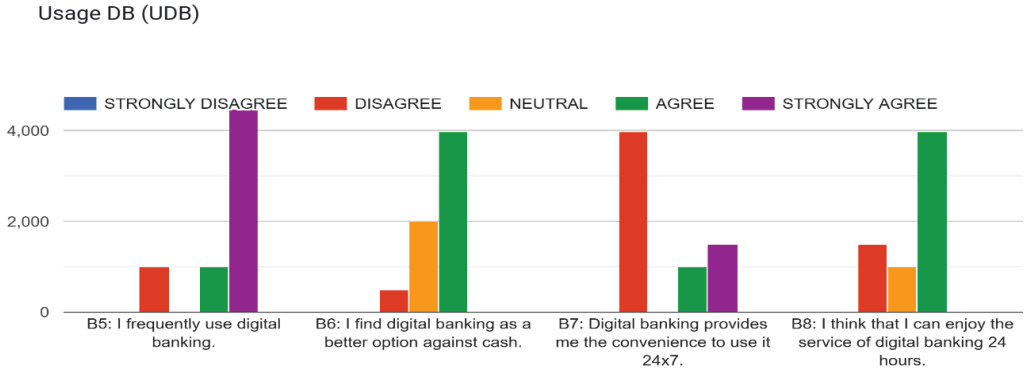
As we can see in the above figure, most of the respondents disagreed with the relevancy of the information provided by the bank to them. The information sought by the customers was also not provided on time by the bank employees. Whenever the respondents visited the bank, the bank provided them with the complete information regarding digital banking whereas when the guidance was sought the bank failed to guide their customers in this regard. The access digital banking needs to be improved from the bank's side so that the customers would easily access the banking services.

4.2 Status of Digital Financial Inclusion Prediction by Usage

The below figure shows the status of digital financial inclusion prediction by usage of the banks in Bagmati Province. In the analysis, the respondents have given the disagreement regarding the convenience in usage of digital banking whereas we acan see the priority given to frequent usage and taken it as the better option against cash.

Hypothesis H2: Digital Financial Inclusion is predicted by Usage.

Figure No: 1.2



Source: Survey.

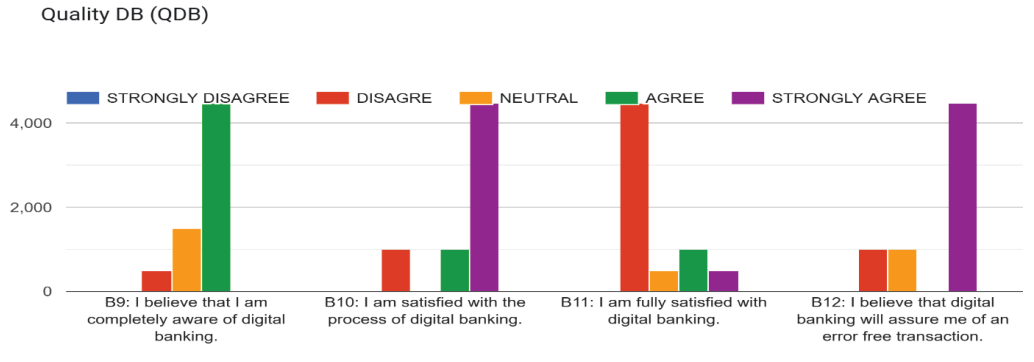
In Nepal, "digital banking" is still a new concept, but it is growing swiftly. Due to increased internet usage, people in Nepal are become more accustomed to the digitalized banking process. All banking transactions are now digital, which has sped up, simplified, and increased transparency. In Nepal, digital banking services include opening an internet account, sending money, paying utility bills, and much more. These days, banking services on the go and on the internet are essential. To transfer and receive money, just one tap or click is required. Most of the respondents frequently use digital banking services and even consider it to be a better option for cash. But they do not feel it as convenience to use it because of the network issues prevailing in most of the regions of the targeted population area. They accepted the willingness to enjoy the digital banking services 24 hours without any network glitch.

4.3 Status of Digital Financial Inclusion Prediction by Quality

The below figure shows the status of digital financial inclusion prediction by quality digital banking of the banks in Bagmati Province. In the analysis, the respondents have given the disagreement regarding the satisfaction with quality of the digital banking. We can see that respondents were having positivity in the process and error free transactions of digital banking.

Hypothesis H3: Digital Financial Inclusion is predicted by Quality.

Figure No: 1.3



Source: Survey.

Simple online banking services are offered by Nepalese Commercial Bank to its devoted clients to meet their needs and help them save money while upholding security. This study focuses on the relationship between e-customer satisfaction, e-customer loyalty, and the quality of online banking services within the framework of Nepalese Commercial Bank. Customer loyalty and satisfaction with online banking are strongly influenced by aspects of the service's quality. It suggests that raising the standard of online banking services will increase e-customer satisfaction, which will increase e-customer loyalty. Here, respondents claimed to be aware of digital banking, but they were not satisfied by the digital banking services. The reason is the weak network system. The respondents were happy with the procedure followed by the banking sector. The assurance provided by the bank regarding the error-free transaction is being accepted by the respondents. They agreed on the assurance of error-free transactions.

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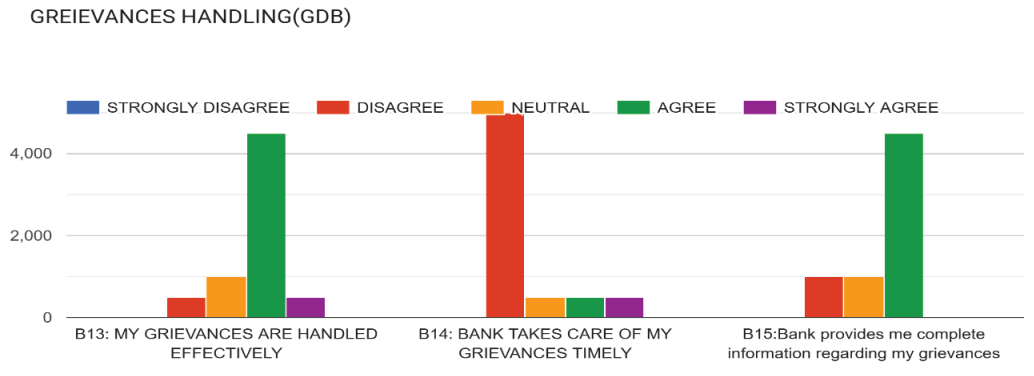
4.4 Status of Digital Financial Inclusion Prediction by Grievances Handling

The below figure shows the status of digital financial inclusion prediction by grievances handling of the banks in Bagmati Province. In the analysis, the respondents have given the disagreement regarding the timely grievances handled by the banks. But they were positive regarding the information and effective handling of grievances by the bank.

Hypothesis H4: Digital Financial Inclusion is predicted by Grievances Handling.

Figure No: 1.4



Source: Survey.

A grievance may arise because of the discontent or dissatisfaction in a customer arising out of anything related to the financial institution where he is having their accounts. Grievances handling by the financial institutions is one of the significant issues in whole Nepal. Banks are offering their customers the fastest, most efficient service possible by promptly informing them of their tariffs and rates, setting up a method for filing complaints and grievances, and outlining the process for handling these requests. They also utilize their websites to provide information to the public about the specifics of the services they offer, as well as the fee and interest rates that apply to diverse kinds of loans and deposits. The only issues which most of the respondents were having was related to the timely responding to their grievances. Since every grievance is heard, recorded, and sorted out, if done timely, the inconvenience customers face would be reduced. It is found that customers with any complaint regarding the services rendered by the bank have all the rights to contact the designated authorities of the bank to handle customer complaints and handle it effectively. According, the Nepal Rastra Bank, it is mandatory for all the financial institutions to maintain an internal set up for redressal of customer grievances/complaints.

4.5 Status of Digital Financial Inclusion Prediction by Customer Delight

The below figure shows the status of digital financial inclusion prediction by customer delightment of the banks in Bagmati Province. In the analysis, the respondents have given the disagreement regarding the responses given by the bank. There was mix response regarding customer delightment of the financial services provided by banks. The respinses shows that customers were delighted by the behavior of the bank employees

Hypothesis H5: Digital Financial Inclusion is predicted by Customer Delight.

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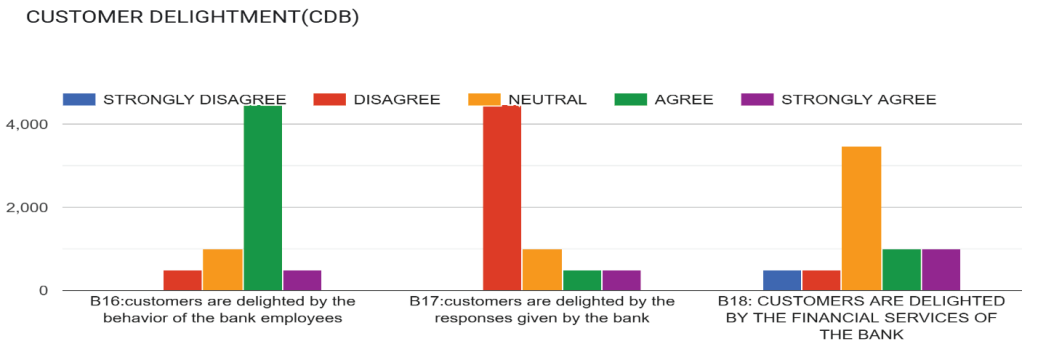
Figure No: 1.5



Source: Survey

E-customer satisfaction strongly impacted e- customer loyalty in this study too. E-customer satisfaction acted as a mediator in the association between e-customer loyalty and the quality of the online banking service. We can observe this in above figure that most of the respondents were delighted with the behavior of the bank employees but at the space they were not delighted by the response given by them. According to the respondents, most of the employees were not aware of the issues the respondents were facing. The respondents were neutrally delighted with the overall services provided by their respective banks. There was a mixed response from the customers in this regard.

5. CONCLUSION AND IMPLICATION

The two biggest barriers to the growth of digital banking are the lack of digital literacy and the emphasis on urban infrastructure development. Collaboration between the public and business sectors is necessary to lessen these setbacks. There seem to be two more significant barriers to the adoption of digital banking: loss aversion and security concerns. Both external security threats from hackers and internal data leaks from dishonest employees cause a bottleneck. Furthermore, the absence of simple access to banking services in rural areas hinders the growth of digital banking. According to this research, there is a strong correlation between digital financial inclusion and factors such as access, utilization, and quality. Therefore, five factors-"access," "usage," "grievances," "customer delight," and "quality"-are said to have an impact on digital financial inclusion. It should be noted that, out of the five variables, "quality" has the biggest impact on digital financial inclusion; usage, grievances, customer delight and access come in second, third, fourth and fifth, respectively. This implies that people would utilize digital finance increasingly if a bank offered its clients high-quality services. Because better digital financial services (DFS) would enhance the application and access aspects of digital financial inclusion, action must be taken to improve their quality after handling the grievances of the customers and taking care of the customer delight. This will help the economy attain more financial inclusion through digital means. The study goes on to say that there has been improvement in the state of digital financial inclusion in the Bagmati Province of Nepal. Additionally, the Bagmati Province of Nepal's inclusivity is noteworthy. The study's limitations include its focus on a specific Province and

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period, which may limit generalizability. Future research could explore additional variables and Provinces for a comprehensive understanding of factors affecting digital finance and financial sectors. It is necessary to alter the public's perception of DFS to further enhance the state of digital financial inclusion. According to this study, DFS are linked to higher risk in Nepal's Bagmati Province since all the perceived risk items indicate that most people were unable to express their opinions clearly when faced with perceived risk. In Nepal's Bagmati Province, this kind of mental conundrum may impede the expansion of digital banking usage. Additionally, respondents' attitudes on DFS have a direct bearing on digital financial inclusion; hence, a negative response will have a negative influence on digital financial inclusion, whilst a good response will have a positive impact. Negative handling of the customer's grievances might also lead to the respondents' attitudes on DFS. The economy, businesses, and those who are financially excluded profit financially from digital finance. Thus, digital finance and infotech should be fully utilized by the government, banks, and other financial institutions, FinTech's, and relevant authorities as engines for growing financial services. To keep digital money alive, we must prioritize educating individuals and organization about the advantages and applications of finance while also putting in place a safe payment mechanism, taking care of the grievances as well as understanding what makes customer delightful.

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