Perception towards the Acceptance of Digital Health Services among the People of Bangladesh

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Abstract: - The research intends to determine the influential factors of individual willingness to use digital health services in Bangladesh. The quantitative research method was conducted to obtain the purposes of this study. To collect primary data, a questionnaire link and direct interaction with a purposive sample of 300 people were used. The sample for this study was made up of people who use digital health services. The study discovered that six factors, totaling 24 items, influence Bangladeshis' acceptance of digital health services. The reliability test for 24 variables and 6 determinants is reliable because Cronbach's alpha is 0.569, which is greater than the standard 0.5. This study discovered a positive correlation between social and cultural, technological, economic, convenience, security, and perceived utility using a two-tailed test with a significance level of 0.01 or less. The study found that economic advantages and technology literacy understanding greatly influence digital health care acceptability, with greater statistically significant outcomes than other determinant factors. Policymakers, healthcare practitioners, and technology developers can use the data to customize their plans and solutions to Bangladeshi requirements. Promoting positive perceptions and removing barriers will increase digital health service use in Bangladesh, increasing healthcare outcomes and accessibility.

Key-Words: - Digital Health (DH), Digital Health Services (DHS), Perception, Economic Benefits, Technological Literacy, Social and Cultural, Bangladesh.

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1 Introduction

The field of digital health services (DHS) focuses on the provision of healthcare in the era of digital technology, encompassing the integration of informatics and technological advancements in medicine and healthcare, [1]. This integration is applied to various aspects of clinical practice, patient experiences, and the broader political, social, and economic implications of healthcare, [2]. DHS encompasses a range of technological advancements and applications in the healthcare sector, [3].

The rapid development and advancement of mobile and wireless technologies over the last few decades have paved the way for global health service delivery to be transformed, [4]. Almost everyone has used a cell phone to access some type of electronic

information at some point, generally through voice calls to an office (such as a local agriculture office or bank) to request information. Nonetheless, despite extensive promotion and advertising, many people were unfamiliar with the provision of electronic health information or services, as well as the term digital health, [5].

The utilization of DH technologies holds promise in contributing to the attainment of the Sustainable Development Goals (SDGs) in India conducted, [6]. By bolstering health systems and augmenting health promotion and disease prevention efforts, digital health has the potential to make significant strides toward achieving these goals.

Despite their unfamiliarity with formal terms such as DH, some of them utilize mobile phones to access health-related information. Some of those with relevant knowledge were hesitant to use technological devices to acquire health information, such as the internet and call centers. As a result, many use their phones to seek friends, relatives, or social acquaintances for guidance but are unaware of or do not use established DHS, [7].

Because of the unprecedented spread of mobile phone technologies and other digital devices, as well as their innovative applications for addressing health priorities, a new field of E-health known as digital health services has emerged. Digital health is an exciting field with the potential to significantly improve healthcare delivery. However, the Bangladeshi people's perception of the acceptance of DHS is behind the world's ongoing development. Bangladesh faces numerous challenges, including inadequate ICT infrastructure, financial issues, resistance to change, usability, a lack of policy, and interoperability, all of which contribute to a negative perception of DHS acceptance, [8].

This article aims to investigate the current state of digitalization in healthcare services, with a particular focus on the findings derived from previous studies conducted in diverse contexts within Morocco, [9]. By examining the existing research, this study seeks to shed light on the extent to which digital technologies have been adopted and integrated into healthcare practices in Morocco. The digitization phenomenon has also made its way into the healthcare sector, as evidenced by the integration of digital processes and tools. The emergence of digital formulas in Morocco can be attributed to the extensive implementation of telemedicine, e-learning platforms, and the exchange of information among key stakeholders such as the pharmaceutical industry, healthcare professionals, and patients, [10].

One of the most significant barriers to the development of digital health services was the connectivity and compatibility of electrical devices, [11]. Users are more comfortable using digital health services applications because of the connectivity and compatibility of electric devices.

1.1 Research Problem

Although digital health services are becoming increasingly popular in both developed and developing countries, they are likely to be novel and limited in Bangladesh because most people are unfamiliar with them, [12]. Nobody has ever heard of digital health services, regardless of age or gender. Several companies in Bangladesh have already begun to offer digital health services, but many people in this country are still unaware of the benefits of digital health services, [13]. The goal of this study is to learn more about people who use digital technology or a mobile phone and their attitudes towards digital health acceptability in Bangladesh. As a result, the study's purpose was to examine how factors such as perceived social and cultural, technological, economic, convenience, security, and perceived usefulness influence the perception of those who use DHS in Bangladesh.

1.2 Research Objective

The research intends to determine the influential factors of individual willingness to use DHS in Bangladesh.

2 Materials and Methods

A vast number of individuals suffer from various health conditions all around the world, and many people are denied health care due to poverty, a lack of medical professionals, and a variety of other challenges. The United Nations Development Program (SDGs) are a collection of 17 global goals aimed at altering our world: the 2030 Agenda for Sustainable Development. SDG 3 stresses health and well-being for all ages, particularly in specific areas such as mental health, maternal mortality, infectious illnesses, and the healthcare workforce, [14]. Significant progress towards SDG 3 targets is possible if effective education, outrage support, and digital health in the form of telemedicine and DH are implemented on a low-resource platform, [15].

Numerous factors contribute to the complex interplay that shapes the well-being of individuals and civilizations. The health of individuals is influenced by their circumstances and the surrounding environment, [16]. The determinants of health encompass various factors that influence an individual's well-being. These factors include the geographical location of one's residence, the condition of the surrounding environment, genetic predispositions, socioeconomic status, educational attainment, and the quality of interpersonal relationships with friends and family. While the availability and utilization of healthcare services are commonly acknowledged as influential factors, their impact on health outcomes is often less pronounced compared to the aforementioned determinants, [17].

Research on resistance to change has primarily examined how individuals perceive the influence of organizational and environmental factors on their decision to either comply with or resist change. This decision ultimately leads to an intention to either accept or resist the implementation of a particular technology. The individual's perception of the value and potential threats associated with the technology plays a significant role in shaping their intention, [18].

Many people were unaware of e-health services due to a misunderstanding of the benefits of eHealth services. They have a number of issues with DHS, including a lack of expertise to handle the device and platform, a lack of awareness about the associated costs of device integrations, resistance to change, a lack of trust, and a reluctance to use DHS, [19].

E-health is not just a technological advancement but also a mental attitude. Health informatics is a cognitive approach characterized by a certain attitude and a commitment to interconnected, worldwide thinking. It leverages information and communication technologies to enhance healthcare on local, regional, and global scales, [20]. By lowering economic costs, eHealth provides more potential for transformation at every stage of the patient's medication management journey, [21].

Technology is widely used worldwide to provide and distribute healthcare services. E-health, which refers to the application of information, computer, and communication technology in the field of health or healthcare, is widely acknowledged as an essential remedy for addressing the difficulties faced by healthcare systems. These issues encompass the increasing need caused by a growing elderly population and breakthroughs in medical therapies, along with the limitations imposed by scarce resources. However, despite the universal acknowledgment of the importance and potential benefits of e-health, its implementation has often faced difficulties in meeting early expectations, primarily due to challenges connected to its execution. The importance of personnel involved in e-health implementation having a thorough grasp of the elements that impact implementation. In addition, they should possess advanced expertise in formulating strategies and interventions that promote the extensive and effective adoption of e-health while also tackling any barriers to implementation. Incorporating end users in the design and development of e-health technologies is a beneficial strategy for overcoming obstacles related to adaptability, meeting performance standards, increasing preference for flexibility, and promoting a positive reception of new health service methods, [22].

The benefits and drawbacks of utilizing online health consultations might be perceived as favorable or unfavorable. Security is recognized as one of the determinants influencing the development and growth of DHS, and it has been stated that, while security and privacy are closely related, both constructs are distinct in nature, [23]. The advantages and disadvantages might be viewed as favorable and unfavorable aspects of utilizing online health consultations, [24].

Various social and cultural factors influence people's acceptance of DHS in Bangladesh. A culture is a set of shared beliefs and behaviors among a group of people, [25]. A society can have multiple cultures, and inequalities in social status exist across cultures. Social and cultural factors will always interact with biology to influence health, [26]. This confluence of factors influences a person's perception and definition of health and illness, access to healthcare, response to treatment, and treatment expectations and options. Disease, pain, disability, pain experience, and healing are all health outcomes, [27].

Resistance to technological change has always had an impact on our decision to accept new technology. People who are digitally literate and have internet access can easily understand the benefits of DHS. As a result, there is a positive relationship between some of these technological determinants and DHS acceptance, [28].

Transportation cost savings, reduction in doctor's fees, unavailability of medical resources, and inadequate health center infrastructure are some economic determinants associated with the acceptance of digital health among the people of Bangladesh. As a result, it is proposed that there is a positive relationship between some of these economic determinants related to the cost and acceptance of DHS, [29].

Convenience is a major motivator for people to use DHS. In other words, the more useful health applications are perceived to be, the more convenient they are. It was discovered that convenience has a positive relationship with perceived usefulness, [30].

Security is defined as the protection of systems or data from unauthorized outflows or intrusions. One of the major barriers to DH adoption has been identified as perceived security, [31].

Perceived utility refers to the user's expectation that using a specific application system will improve the efficiency of their activity, [32]. Perceived usefulness pertains to the user's expectation of improving their service performance by using DHS applications. Suggest a connection between the characteristics that impact how useful DHS are judged to be and how acceptable they are, [33].

There are interconnected relationships between security, perceived utility, convenience, and cultural and social behavioral intentions in the context of online health consultations, [34]. Since online health consultation is considered an e-commerce application in the field of eHealth, it is crucial to incorporate economic benefits into the proposed study design. Previous research has shown that service quality has a crucial role in influencing behavioral intentions, [35]. When assessing the performance of online physicians, patients typically evaluate aspects such as doctors' fees, transportation costs, and doctor-patient contacts, [36].

2.1 Conceptual Framework

The conceptual framework of this study was informed by the literature survey, as depicted in Figure 1: The present study has successfully identified six key determinants through an extensive review of the existing literature. These determinants encompass various aspects, including social and cultural factors, economic considerations, technological proficiency, convenience, perceived usefulness, and security. By thoroughly examining the available scholarly works, this research has synthesized and presented these determinants as crucial factors influencing the subject under investigation. According to the comprehensive analysis of existing literature and considering all relevant factors, Figure 1 presents a conceptual research model that aims to tackle the research questions at hand. Despite the growing interest in DHS, there is a lack of research examining the determinants of acceptance behavior in this field.

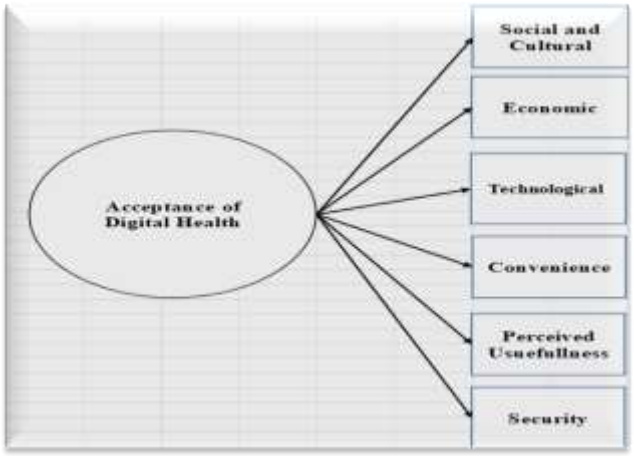

Fig. 1: Digital Health Adoption Model

The study goal is to determine the efficacy variables that, either directly or indirectly, influence people's acceptance of DHS. The factors on which this study will focus are divided into six categories. These include social and cultural factors, economic factors, technological factors, security, convenience, and perceived usefulness, [37]. While DHSs have potential benefits, they also face numerous difficulties and challenges as a new phenomenon. Problems are most noticeable during the promotion and implementation stages. Processes that can encourage user acceptance are required for the development of DHS. As a result, there is an urgent need for research on the factors influencing people's acceptance of digital health services; however, current academic studies on DHS are insufficient to meet this need, [38]. This investigation focuses on Bangladeshi users of DHS. A standardized questionnaire is used to collect responses from population groups. A non-probability sampling method is used in this study. Non-probability sampling approaches provide the researcher with a variety of methodologies to use during the data collection process.

3 Results

3.1 Profile of Respondents for the Study

The frequency distribution analysis is used in this section to describe the demographic characteristics of the study's respondents in relation to their use of DHS. Table 1 shows that 300 responses were deemed valid (with no missing data). The respondents' demographics, such as gender, educational background, age, and ownership of digital technology, are summarized. The following are the demographic characteristics of the respondents.

3.2 Cronbach's Alpha Reliability Analysis

Reliability is defined as a measure's ability to produce consistent results when the same entities are evaluated under different conditions. This indicates how well a test can be evaluated consistently. There is, however, no clear consensus on the specific criteria for interpreting Cronbach's alpha. The coefficient is commonly interpreted as 0.5 for low reliability, 0.5 0.8 for moderate (acceptable) reliability, and > 0.8 for high (good) reliability, [39]. In reliability analysis for the impact of 24 variables on the acceptance of DHS, Cronbach's alpha is 0.569 in Table 2, which is an acceptable value because it is greater than the standard 0.5.

3.3 Factor Analysis

The initial result of the study is a tabular representation of descriptive statistics for all variables being examined. Typically, the survey includes the mean, standard deviation, and number of respondents (N) who have participated. The mean value represents the central tendency of a given dataset, indicating the typical or most often occurring response. Based on the mean values in Table 3, one can conclude that the easiest variable to install and save transportation costs is the most important factor influencing people to accept DHS. When people take digital technology-based health services on the perception acceptance role, the lowest value of 3.89 for 'Easy to integrate' indicates that respondents roughly agree and DH technology integration is moderately easy. All of the variables' roles in the perception and acceptance of technology-based health services can be interpreted similarly.

Table 2. Reliability of Constructs of This Study

Reliability Value		
Cronbach's Alpha	Cronbach's Alpha on Standardized Items	N of Items
.569	.579	24

Table 1. Frequencies and Percentages for Demographics Information

Demographics Statistics					
		Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Female	57	19.0	19.0	19.0
	Male	243	81.0	81.0	100.0
Educational Background	Bachelor	103	34.3	34.3	34.3
	HSC	168	56.0	56.0	90.3
	Masters	18	6.0	6.0	96.3
	Others	5	1.7	1.7	98.0
	SSC or below	6	2.0	2.0	100.0
Age	15 or below	2	.7	.7	.7
	16-25	129	43.0	43.0	43.7
	26-35	127	42.3	42.3	86.0
	36 above	42	14.0	14.0	100.0
Adoption of Digital Health Technology	Yes	300	100.0	100.0	100.0

Table 3. Descriptive Statistics

Descriptive Statistics			
	N	Mean	Std. Deviation
DHS uses	300	4.02	.856
Ownership influence on DHS	300	3.95	.835
Resistance to move	300	4.02	.882
Social connection	300	4.08	.828
Cultural belief	300	4.20	.855
Awareness	300	4.05	.825
Internet availability	300	4.06	.896
Digital literacy Knowledge	300	4.00	.869
Access to mobile phone technology	300	4.17	.941
Use of full technology-based systems	300	4.16	.843
Save transportation cost	300	4.23	.843
Reduction of waiting time	300	4.14	.907
Reduction of doctor's fee	300	4.02	.842
Unavailability of medical resource	300	4.05	.852
Easy to use	300	4.14	.943
Easy to install	300	4.43	1.024
Easy to integrate	300	3.89	1.142
Anonymity of large people	300	3.94	.932
Privacy of data	300	4.00	.922
Privacy of home activities	300	3.93	.962
Performance expectancy	300	3.99	.925
Timely response	300	4.06	.867
Flexibility of preference	300	3.97	.903
Enjoyable to use	300	4.00	.922

Table 4. KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.702
Bartlett's Test of Sphericity	Approx. Chi-Square	2237.414
	Df	276
	Sig.	.000

The current investigation employed the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity to evaluate the appropriateness of factor analysis. Bartlett's test is an additional measure that may be utilized to assess the robustness of the association between variables. The Kaiser-Meyer-Olkin (KMO) measure is utilized to assess the sufficiency of sampling in factor analysis. A KMO value of about 0.5 is considered good, indicating that the responses obtained from the sample are suitable for further factor analysis. According to Kaiser's (1974) recommendations, a value of 0.5 is considered the least acceptable level, while values falling between 0.7 and 0.8 are deemed good. Additionally, values beyond 0.9 are regarded as outstanding. Perform and analyze a factor analysis. Based on the findings shown in Table 4, the Kaiser-Meyer-Olkin (KMO) measure yielded a value of 0.702, falling within the acceptable range of 0.7 to 0.8. This suggests that the data can be deemed suitable for factor analysis. Additionally, Bartlett's Test of Sphericity yielded a statistically significant result (Chi-Square = 2237.414, $p < 0.001$), indicating that the correlation matrix is not an identity matrix and supports the appropriateness of doing factor analysis.

The result of factor analysis in a rotated component matrix is shown in Table 4.

The eigenvalues, which represent the fraction of total variance explained by each component, are presented in the Table 5, [40]. The eigenvalue of a factor may be computed by summing the squared factor loadings over all variables. The calculation of

the percentage of variance accounted for by a factor involves dividing its eigenvalue by the number of variables, which is equivalent to the sum of variances due to the fact that the variance of a standardized variable is equal to 1. The eigenvalue ratio quantifies the extent to which the variables explain the factors' explanatory power. Factors with low eigenvalues (e.g., 1.0) have little explanatory power in accounting for the variances of variables. Consequently, it is advisable to avoid such factors as they redundantly overlap with other factors, [41]. The provided source is an illustration of Exploratory Factor Analysis, without a specified date. Table 5 displays a total of 24 variables, with each variable representing a distinct component. In the present scenario, the cumulative number for 9 components indicates that the overall percentage of variation explained is 60.10%.

Factor loadings play a fundamental role in the process of giving labels to different factors. Loadings that exceed 0.6 are categorized as "high," whilst loadings that fall below 0.6 are classified as "low." Four of them are considered to be of modest magnitude. The above image depicts an illustration of Exploratory Factor Analysis. Consequently, a positive loading is indicative of a negative sentiment towards a certain element, whereas a negative loading suggests a favorable sentiment, [42]. The rotated solution is given in Table 6. SPSS was used to extract principal factors with varimax rotation from the 24 factors. In Table 6, all variables exceeding 0.45 loadings and under 0.45 were left blank for ease of use. The first factor (three variables) is strongly related to the second factor. As a result, all other factors can be used as variables in further analysis.

Table 5. Total Variance Explained

Total Variance									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.189	13.289	13.289	3.189	13.289	13.289	3.071	12.797	12.797
2	2.162	9.010	22.299	2.162	9.010	22.299	1.754	7.310	20.107
3	1.838	7.657	29.956	1.838	7.657	29.956	1.740	7.252	27.359
4	1.535	6.394	36.350	1.535	6.394	36.350	1.519	6.329	33.688
5	1.266	5.275	41.625	1.266	5.275	41.625	1.417	5.906	39.594
6	1.206	5.025	46.649	1.206	5.025	46.649	1.280	5.333	44.927
7	1.115	4.645	51.294	1.115	4.645	51.294	1.277	5.323	50.250
8	1.064	4.432	55.726	1.064	4.432	55.726	1.243	5.178	55.427
9	1.050	4.376	60.102	1.050	4.376	60.102	1.122	4.674	60.102
10	.990	4.126	64.227						
11	.909	3.789	68.016						
12	.873	3.636	71.651						
13	.838	3.491	75.142						
14	.822	3.427	78.569						
15	.760	3.168	81.736						
16	.737	3.072	84.809						
17	.708	2.949	87.758						
18	.696	2.899	90.657						
19	.623	2.596	93.252						
20	.583	2.430	95.682						
21	.506	2.109	97.791						
22	.464	1.933	99.724						
23	.045	.189	99.912						
24	.021	.088	100.000						
Extraction Method: Principal Component Analysis.									

Table. 6 Rotated Component Matrix

Rotated Component Matrix[a]									
	Component								
	1	2	3	4	5	6	7	8	9
Reduction of doctor's fee	.979								
Digital literacy Knowledge	.977								
DHS uses	.973								
Flexibility of preference		.653							
Privacy of data		.629							
Internet availability		.564							
Use of full technology-based systems		.499							
Timely response			.745						
Reduction of waiting time			.685						
Access to mobile phone technology			.589						
Awareness				.707					
Social connection				.671					
Ownership influence on DHS				.569					
Cultural belief					.740				
Easy to install					.491				
Performance expectancy					.476				
Easy to use									
Easy to integrate						.756			
Resistance to move						.539			
Save transportation cost							.742		
Unavailability of medical resource							.572		
Anonymity of large people								-.672	
Enjoyable to use								.519	
Privacy of home activities									-.727
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.[a]									
a. Rotation converged in 14 iterations.									

3.4 Correlation Analysis

Correlation is employed as a means of examining the extent of association between two variables. The correlation coefficient is a statistical metric utilized to quantitatively assess the extent of association between variables. The correlation coefficients for both variables are standardized between -1 and +1. A value of 0 signifies the absence of a linear or monotonic relationship, while a value of 1 suggests a progressively stronger link that finally approaches a straight line. The observed interpretations of correlation coefficients are as follows: a correlation coefficient ranging from 0.00 to 0.10 is considered inconsequential, a correlation coefficient ranging from 0.10 to 0.39 is considered weak, a correlation coefficient ranging from 0.40 to 0.69 is considered moderate, a correlation coefficient ranging from 0.70 to 0.89 is considered high, and a correlation coefficient ranging from 0.90 to 1.00 is considered extremely strong.

According to the data shown in Table 7, there exists a positive link between social and cultural factors, technological knowledge, economic factors, convenience, security, and perceived usefulness, and the acceptance rate of DHS when using a two-tailed test with a level of significance of 1%.

4 Discussion

The relationship between health service acceptance rate and social and cultural factors is statistically significant and somewhat favorable ($r(300) = 0.106$, $p = 0.066$). Furthermore, the correlation between technological and DH acceptance was found to be moderately positive and statistically significant ($r(300) = 0.479$, $p = 0.000$).

Table 7. Correlation between Acceptance of DH and Six Determinants

Correlations								
		Acceptance of DHS	Social & cultural	Technological skill	Economical	Convenience	Security	Perceived usefulness
Acceptance of DHS	Pearson Correlation	1	.106	.479**	.423**	.045	.072	.035
	Sig. (2-tailed)		.066	.000	.000	.442	.216	.545
Social &cultural	Pearson Correlation	.106	1	.172**	.178**	.165**	-.033	.073
	Sig. (2-tailed)	.066		.003	.002	.004	.566	.208
Technological skill	Pearson Correlation	.479**	.172**	1	.376**	.074	.088	.305**
	Sig. (2-tailed)	.000	.003		.000	.202	.127	.000
Economical	Pearson Correlation	.423**	.178**	.376**	1	.211**	.104	.223**
	Sig. (2-tailed)	.000	.002	.000		.000	.073	.000
Convenience	Pearson Correlation	.045	.165**	.074	.211**	1	.058	.034
	Sig. (2-tailed)	.442	.004	.202	.000		.317	.557
Security	Pearson Correlation	.072	-.033	.088	.104	.058	1	.073
	Sig. (2-tailed)	.216	.566	.127	.073	.317		.208
Perceived usefulness	Pearson Correlation	.035	.073	.305**	.223**	.034	.073	1
	Sig. (2-tailed)	.545	.208	.000	.000	.557	.208	
**. Correlation is significant at the 0.01 level (2-tailed).								

The level of significance for the correlation (a level of.05 or lower is considered "statistically significant"), so a significance level of.000 does not imply that the level of significance is completely zero.

It simply means that the number cannot be greater than 0.0004. ("Interpreting Correlation Tables"). This suggests that as technological knowledge grows, so will the acceptance of DHS. The study revealed a statistically significant and moderately favorable correlation (r (300) = 0.423, p = 0.000) between the acceptability of DH and the associated economic advantages. This observation suggests a positive correlation between the growth of economic advantages and the level of acceptability towards DHS, [43]. The study revealed a statistically significant and moderately favorable association (r (300) = 0.045, p =.442) between convenience and the acceptability of DH. The study revealed a statistically significant and somewhat favorable association (r (300) = 0.072, p = 0.216) between the adoption of DH and security. The study revealed a statistically significant and moderately favorable association (r (300) = 0.035, p = 0.545) between the perceived utility of DH and its acceptability. Furthermore, there is a negative relationship between security and culture and beliefs; this means that if security increases, culture and beliefs decrease, [44].

The observed negative correlation suggests that people who are more sure that their personal health information is safe and secure in DH systems are less likely to be affected by cultural or traditional beliefs that might make them less likely to adopt and use these services. There is a considerable effect on individuals' behaviors and attitudes toward the latest technologies, [45]. It is important to recognize that cultural norms, religious beliefs, and societal perceptions can initially hinder the widespread acceptance of DHS within its domain, [46]. However, it is important to acknowledge that the perceived importance of cultural and ideological barriers may diminish when individuals have a high level of confidence in the security procedures implemented to safeguard their data. Gaining an understanding of this negative relationship can offer policymakers and healthcare professionals significant knowledge, illuminating the significance of addressing security concerns to reduce the impact of cultural and belief barriers on the acceptance and use of DHS. Highlighting the need to implement robust security protocols and promoting transparent and effective communication channels can alleviate

concerns and foster greater receptiveness across diverse cultural groups in protection data. Future research might be conducted based the perception of individual belief, perception and perspective, [47].

The fundamental objective of this research work was to determine the factors which influences on individual perceptions regarding digital health systems in Bangladesh. Different approaches were used to collect 300 intended respondents. The application of this approach facilitated the collection of a diverse array of responses in a comparatively expedient fashion. Furthermore, a direct interaction with the participants was also carried out. The application of this particular approach afforded a valuable avenue for the acquisition of more comprehensive and detailed understandings, as well as the clarification of specific of the research, [48]. The findings of the investigation show that there exist six distinct factors, comprising a total of 24 individual items, which exert an influence on the degree of acceptance demonstrated by individuals in Bangladesh. The conducted reliability test involved the examination of 24 variables and 6 determinants. The consequences of the test show that the reliability is satisfactory, as evidenced by Cronbach's alpha coefficient of 0.569 where the value exceeds the commonly accepted threshold of 0.5, additionally supporting the reliability test of the analysis.

4.1 Key Findings

The crucial findings of the study are given below:

- The coefficient exceeds the commonly accepted threshold of 0.5, indicating that the reliability of the test can be considered acceptable in this study.
- The current study has presented a strong relationship with cultural, social, technological, economic, security, and other issues where the analysis of the correlation significance value is 0.01 or lower result.
- According to this study, social and cultural, technological, economic, convenience, security, and perceived usefulness determinants influence the perception of acceptance of DHS.
- By means of technology adaptability advances, individuals' attitudes towards the acceptance of the DHS will shift.
- There is an increasing trend in this study about the acceptance and perception of DHS.

5 Conclusion

The research intends to determine the influential factors of individual willingness to use digital health services in Bangladesh. The quantitative research method was conducted to obtain the purposes of this study by using six variables for the acceptance of the DHS in Bangladesh, [49]. The present study has revealed a significant positive association between various factors, including social and cultural aspects, technological advancements, economic factors, convenience, security, and perceived utility. This association was examined using a two-tailed statistical test with a predetermined significance level of 0.01 or lower. Our research has revealed that there is a strong correlation between economic advantages, technology literacy understanding, and the level of acceptability of DHS. In fact, these two factors have been shown to have a much more significant impact on acceptability compared to other determinant factors, [50]. Thus, it is hoped that this study will serve as a catalyst for additional research in this area and that the recommendations made will be implemented by the government and DHS providers to increase the current number of DHS users in Bangladesh. If the people of Bangladesh gain more technological knowledge and realize the economic benefits, their perception of DHS will improve.

Future Directions of the Study

The study laid the groundwork for several potential future directions that could further enrich our understanding of the factors influencing Bangladesh's willingness to use DHS. Conduct longitudinal studies to track changes in DHS acceptance and utilization over time, [50]. This approach can help identify trends, evolving factors, and the impact of interventions or policy changes. Supplement quantitative findings with qualitative research methods such as interviews or focus groups. Qualitative insights can provide a deeper understanding of individuals' attitudes, perceptions, and experiences related to DHS, offering nuanced perspectives to complement quantitative data. Investigate contextual factors that may influence the acceptance of DHS, such as urban-rural disparities, access to internet connectivity, healthcare infrastructure, and regulatory frameworks. Understanding these contextual nuances can inform targeted interventions and policies. Compare findings from Bangladesh with those from other countries or regions to identify similarities, differences, and cross-cultural factors influencing the acceptance of

DHS. Insights from cross-cultural comparisons can inform global strategies and best practices.

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Data will be shared upon the researcher request.

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