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**REPORT**

***Data Privacy and Awareness: A Study Among Users of e-Commerce Platform in Bangladesh***

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***Data Privacy and Awareness: A Study Among Users of***

***e-Commerce Platform in Bangladesh***

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***Abstract***—This report aims to investigate data privacy awareness and concerns among users of e-commerce platforms in Bangladesh. The study involved surveying 56 participants using multiple-choice questions to evaluate their knowledge and behaviors regarding data collection during online purchases. A Google Form was used as the data collection tool. Results from the survey show that 71.4% of respondents are aware their personal data is collected. However, 35.7% have never read any privacy policy, mainly due to complexity and length. Furthermore, 37.5% expressed concern about data misuse, and 25% reported experiencing or suspecting a privacy breach. The study highlights the importance of increasing user awareness and implementing clearer data protection practices on Bangladeshi e-commerce platforms.

**Keywords: E-commerce; Data Privacy; Data Awareness.**

INTRODUCTION

**A. Background and Context**

The rapid growth of e-commerce has revolutionized the way businesses and consumers interact, leading to the digitalization of global trade and the establishment of virtual marketplaces [1]-[3]. Online shopping has become an essential part of modern commerce, offering consumers the convenience of purchasing goods and services from anywhere in the world. According to the latest global statistics, e-commerce has seen exponential growth, with the global retail e-commerce sales expected to surpass $7 trillion by 2025.However, there are issues with this rapid expansion as well, particularly with data privacy. Personal data such as names, addresses, and bank account information are gathered by online retailers. Inadequate protection of this data makes it vulnerable to theft and exploitation [4], [5]. Many people are not entirely aware of how their data is used or how to protect it. According to a survey, even though many people are aware of the hazards, they still fail to take adequate precautions to safeguard their personal information [6]. Therefore, it's critical that consumers and businesses understand and take seriously online privacy.

**B. Review of Existing Work**

In recent years, concerns over data privacy in e-commerce have intensified, especially as online transactions become more frequent and data collection practices more invasive. Studies have shown that consumers often lack awareness of how their personal information is collected, stored, and used by e-commerce platforms [6]. Research conducted in South Asia revealed that many websites do not follow transparent data policies, increasing the risk of misuse [7]. Furthermore, despite users’ growing concern over privacy, a significant portion rarely reads privacy policies or understand the legal implications [8]. These findings underscore the need for enhanced transparency, user education, and stronger data protection regulations in the digital marketplace.

**C. Research Gap**

While numerous studies have examined data privacy issues in the context of global e-commerce, there is limited research focused specifically on user awareness and privacy concerns within the Bangladeshi e-commerce landscape. Existing literature often emphasizes technical solutions for data protection or focuses on broader cybersecurity frameworks. However, there is a lack of empirical evidence on how Bangladeshi users perceive data privacy, their understanding of privacy policies, and their behavior when sharing personal information online. Moreover, user-level awareness, emotional response to privacy threats, and practical engagement with data protection practices remain underexplored. This study seeks to fill this gap by focusing on the knowledge, perceptions, and attitudes of e-commerce users in Bangladesh regarding personal data privacy.

**D. Research Objectives**

This study aims to investigate data privacy concerns and awareness levels among users of e-commerce platforms in Bangladesh by focusing on the following objectives:

* To assess the level of awareness among Bangladeshi e-commerce users regarding the personal data collected during online transactions.
* To examine how well users understand and engage with the privacy policies provided by e-commerce platforms in Bangladesh.
* To identify the types of personal data most shared by users on Bangladeshi e-commerce platforms.
* To explore users’ perceptions and concerns about the risks of data theft or misuse during online shopping.

E. **Overview**

This study explores data privacy awareness among users of e-commerce platforms in Bangladesh. As online shopping grows, users often share personal information without fully understanding how it is used or protected. The research aims to assess how aware users are of privacy risks, their behavior regarding privacy policies, and their concerns about data misuse. By focusing on Bangladeshi consumers, the study highlights key gaps in awareness and the need for better privacy education and practices.

1. **Methodology**

**A. Research Design**

This study followed a **quantitative** research approach using primary data to examine data privacy awareness among e-commerce users in Bangladesh. A structured online survey was distributed to regular online shoppers, mainly university students and working individuals. The questionnaire focused on participants’ awareness of personal data collection, habits of reading privacy policies, and concerns about data misuse. A total of 56 responses were collected. The goal was to identify common gaps in privacy awareness and behavior among diverse Bangladeshi users in the digital marketplace.

**B. Setting and Sampling**

The survey was conducted among students at the American International University–Bangladesh (AIUB) as well as other general individuals. A total of **56 participants** took part in the study.

The survey was conducted online over a two-week period. Participants were recruited through voluntary sampling, targeting Bangladeshi users of various e-commerce platforms. In total, 55 responses were collected. The sample included individuals from diverse age groups, genders, and educational backgrounds to ensure a broad representation of e-commerce users in Bangladesh

**C. Data Collection Methods**

The collected data was compiled and analyzed using descriptive statistics, including percentages and frequency distributions, to identify key trends and patterns related to data privacy awareness and concerns among Bangladeshi e-commerce users. We compared different groups of people (like age and gender) to see how their privacy awareness levels differed from each other.

**D. Data Analysis Procedures**

The collected data was compiled and analyzed using descriptive statistics, including percentages and frequency distributions, to identify key trends and patterns related to data privacy awareness and concerns among Bangladeshi e-commerce users. We compared different groups of people (like age and gender) to see how their privacy awareness levels differed from each other.

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**E. Ethical Considerations**

Participation in the survey was entirely voluntary and anonymous. Respondents were informed about the purpose of the study and assured that their responses would remain confidential. No personally identifiable information was collected, and all data was used solely for academic research purposes, adhering to ethical standards for privacy and informed consent

1. Results

The second largest group of participant is slightly environment friendly which is 25.4%.The most lowest participant is not environmental friendly at all which quantity 9.9%.the rest of the participant are very environmentally friendly and extremely environmentally friendly.

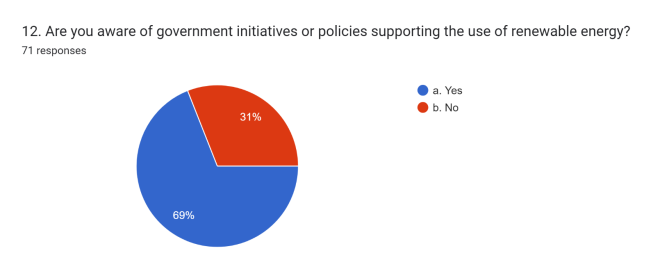


Fig 12: Policies supporting the use of renewable energy

Figure 12 shows about the percentage of aware of government initiatives of policies supporting the use of renewable energy. Most of the participant of this survey replied yes which the percentage is 69% .On the other hand, rest of the participants Replied no which percentage is 31%.

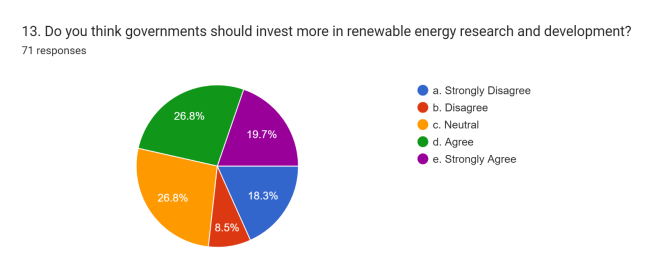


Figure 13: Peoples opinion on government required investment in renewable energy research and development

Figure 13 shows public opinion on government investment in renewable energy R&D. Both **"agree"** and **"neutral"** responses were most common at **26.8%** each, followed by **19.7%** who **strongly agreed**. The remaining participants **disagreed**, indicating limited opposition. Overall, the results suggest moderate to strong public support for government involvement in renewable energy research.

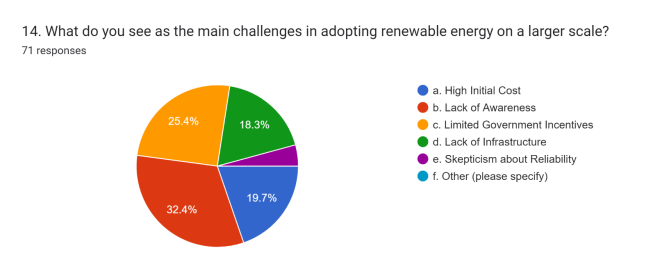


Fig 14: Primary obstacles impeding the widespread embrace of renewable energy

Figure 14 highlights the key barriers to renewable energy adoption, with the most cited being a lack of awareness (32.4%), followed by insufficient government incentives (25.4%), high initial costs (19.7%), infrastructure limitations (18.3%), and concerns about reliability (4%). These findings indicate that beyond technical and financial hurdles, informational and policy-related factors play a critical role in shaping public adoption. Addressing these challenges through a combination of education, supportive policies, and targeted investments is essential to accelerate the transition to renewable energy.

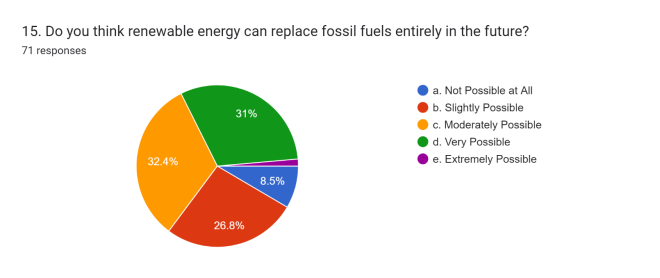


Fig 15: Varied viewpoints regarding the potential for renewable energy to replace fossil fuels

Figure 15 displays varied viewpoints regarding the potential for renewable energy to entirely replace fossil fuels. Approximately 8.5% of participants doubt its feasibility, while 26.8% see it as somewhat achievable. A larger segment, at 32.4%, regards it as moderately possible, and 31% believe it's highly achievable. A smaller but hopeful 2% believe it's extremely attainable. These diverse opinions reflect a spectrum of perspectives on the possibility of shifting entirely from fossil fuels to renewable sources, with a considerable portion expressing different levels of optimism.

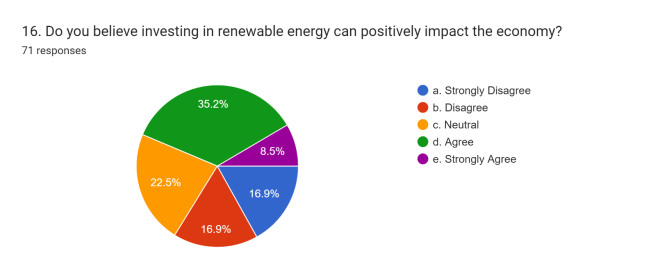


Fig 16: Whether investing in renewable energy

Figure 16 depicts opinions on whether investing in renewable energy can have a positive impact on the economy. A combined 33.8% express disagreement, with 16.9% each in the "Strongly Disagree" and "Disagree" categories. On the other hand, a substantial 43.7% hold positive views, with 35.2% agreeing and 8.5% strongly agreeing. The remaining 22.5% maintain a neutral stance. This diversity in responses highlights differing perspectives on the economic effects of renewable energy investment, with a notable proportion recognizing its potential for positive influence.

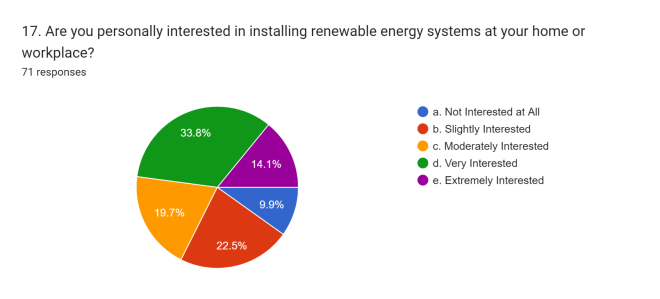


Fig 17: Installing renewable energy systems at home or work.

Figure 17 reveals individual interest levels in installing renewable energy systems at home or work. A considerable 33.8% express very high interest, while 14.1% are extremely interested. Additionally, 19.7% are moderately interested, and 22.5% have a slight interest. Only 9.9% claim to have no interest at all. These responses indicate a notable overall enthusiasm for incorporating renewable energy systems, with a significant proportion expressing a strong desire to adopt sustainable energy solutions in their personal or professional spaces.

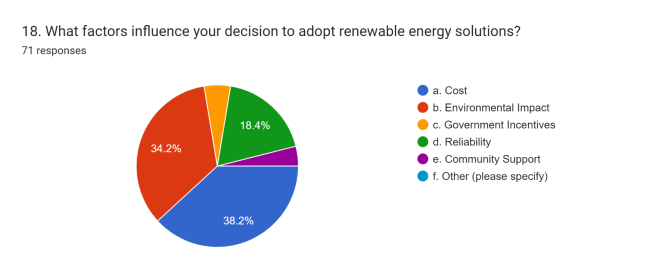


Fig 18: Solution of renewable energy

Figure 18 illustrates the factors influencing decisions to adopt renewable energy solutions. Cost emerges as a predominant consideration, with 38.2% of respondents prioritizing financial aspects. Environmental impact closely follows, with 34.2% recognizing the importance of sustainability. A smaller but noteworthy 18.4% focus on reliability, emphasizing the need for consistent energy sources. Government incentives play a role for 5% of respondents, while an equal percentage values community support. Notably, no respondents specified other factors. This distribution emphasizes the multifaceted nature of decision-making, combining economic, environmental, and communal considerations in the adoption of renewable energy solutions.

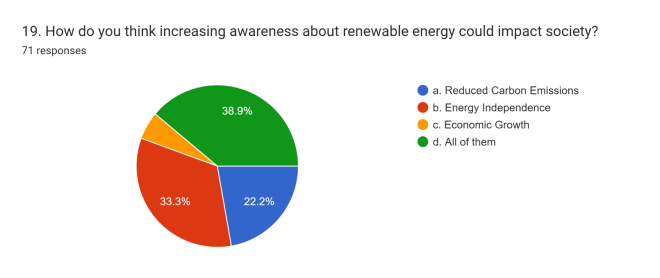


Fig 19: Awareness about renewable energy transformative impact on society

Figure 19 shows awareness about renewable energy could have a transformative impact on society. It would decrease carbon emissions by 21.9%, aiding in the fight against climate change. It could also bolster energy independence, reducing reliance on unstable sources by 34.2%. Additionally, there's potential for economic growth, indicated at 5.5%. Overall, 38.4% believe all these aspects would benefit from increased awareness about renewable energy, paving the way for a cleaner environment, more reliable energy, and economic advancement.

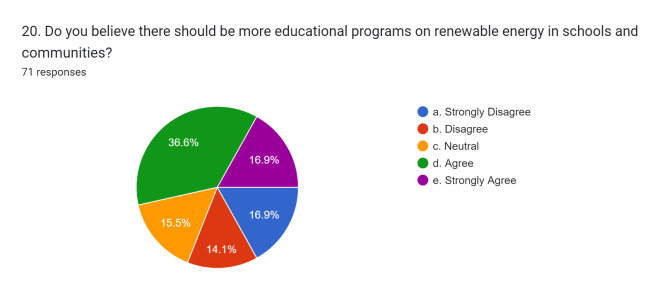
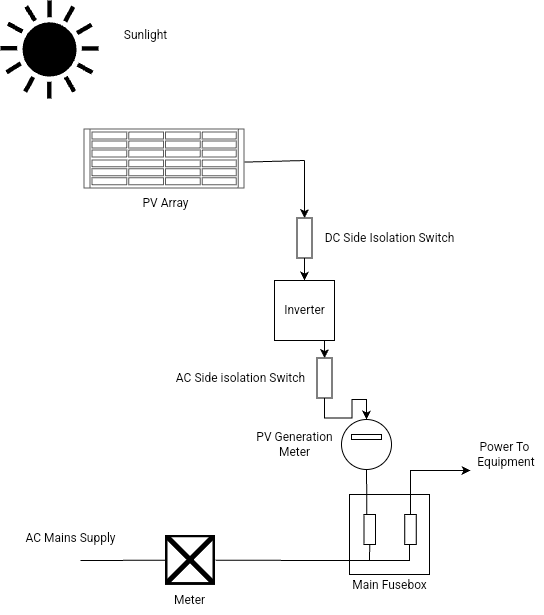


Fig 20: Necessity of incorporating renewable energy education into schools and communities

Figure 20 illustrates opinions on the necessity of incorporating renewable energy education into schools and communities. With a combined 54.2% strongly agreeing or agreeing, there's a prevalent sentiment supporting these programs. Conversely, 30.6% either disagree or strongly disagree. The remaining 15.3% hold a neutral stance. This distribution highlights a substantial inclination towards recognizing the importance of renewable energy education, indicating a growing acknowledgment of its significance in fostering environmental awareness and sustainable practices within educational institutions and local communities.

1. Recommendation

Currently 82% of the natural gas is used in the power sector for generating electricity in Bangladesh, while only 3% of the electricity comes from renewable sources. Despite this, the government of Bangladesh has unveiled a master plan to meet the increasing demand for power by focusing on future electricity generation [8]. Solar photovoltaic (PV) technology is a good option as a renewable energy source. Solar photovoltaic (PV) technology harnesses sunlight's energy directly, transforming it into electricity via solar cells comprising semiconductor materials like silicon. These panels absorb sunlight, exciting electrons within the cells and creating an electric field due to the resulting charge imbalance. This field directs the free electrons, generating a flow of direct current (DC) electricity. Collected DC electricity undergoes conversion to alternating current (AC) via inverters, making it compatible with standard electrical systems used in homes and businesses. This AC electricity can power appliances on-site or be integrated into the grid for wider distribution, exemplifying the core principle of converting sunlight into a sustainable, clean energy source. This technology advances and production scales up, the cost of solar PV continues to decrease, making it increasingly competitive with conventional fossil fuels. It also generates local jobs in installation, maintenance, and manufacturing.



Here are some features that Solar photovoltaic (PV) technology will provide:

* Availability: Sunlight is abundant and accessible in various regions, making solar energy a widely available resource.
* Sustainability: It generates electricity without producing greenhouse gases or harmful emissions, reducing environmental impact.
* Scalability: Solar panels can be installed on a small scale (like rooftop panels) or in large solar farms, catering to diverse energy needs.
* Versatility: Solar PV can power homes, businesses, and even entire communities, contributing to a decentralized energy infrastructure.

1. Conclusion

In conclusion, the energy crisis presents an opportunity for a transformative shift towards renewable resources. Embracing this transition demands a holistic approach that combines technological innovation, supportive policies, heightened public awareness, and international cooperation. By harnessing the potential of renewable resources, societies can pave the way for a sustainable and resilient energy future, ensuring energy security while safeguarding the environment for generations to come.

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Appendix

