iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 13 **Issue:** I **Month of publication:** January 2025

DOI: https://doi.org/10.22214/ijraset.2025.66067

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 13 Issue I Jan 2025- Available at www.ijraset.com

A 360-Degree Evaluation of E-Commerce in Bangladesh

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Abstract: ***This research demonstrates a comprehensive review of the e-commerce fragment in Bangladesh according to the 360-degree standpoint, looking at its advancement, challenges, and upcoming prospects. The ask approximately explores the enthusiastic scene of e-commerce, driven by mounting web entrance, flexible phone utilization, and a young, tech-savvy masses. Key factors conducive to the sector's fast advancement join favorable Government courses of action, rising buyer certainty in online trades, and the rise of unused commerce models. Be that because it may, the industry faces basic challenges, such as considered inefficient viewpoints, installment entryway issues, and authoritative deterrents. Through a mixed-methods approach, uniting quantitative data examination and subjective bits of information from industry masters, the think almost recognizes essential zones for upgrade. It besides highpoints viable methods utilized by driving e-commerce stages in Bangladesh to investigate these challenges. The revelations propose that tending to infrastructural inadequacies, progressing cybersecurity measures, and developing a solid regulatory environment are crucial for doable advancement. The evaluation underscores the potential of e-commerce to change over the Bangladeshi economy by making cutting edge commerce openings, developing undertaking, and progressing comprehensive advancement. Proposition are given for policymakers, businesses, and partners to handle the total potential of the e-commerce natural framework in Bangladesh.***
Keywords: 360, e-commerce, factors, challenges, environment, industry, MFS, digital, Bangladesh.

I. INTRODUCTION

E-commerce in 360-degree evaluation has created as a transformative oblige in Bangladesh, reshaping routine exchange sharpens and opening present day streets for budgetary improvement. With quick movements in development, extending web invasion, and the far-reaching choice of smartphones, the e-commerce industry has experienced a critical improvement in afterward a long time. As a making economy with a broad and youthful people, Bangladesh gives wealthy ground for the improvement of computerized commerce. The government's proactive approach, checking exercises like Computerized Bangladesh, coupled with private division progressions, has enlivened the assignment of e-commerce over urban and semi-urban locales (Islam and Mahmud, 2021). From online marketplaces to ride-sharing organizations, the progressed economy is touching about each perspective of buyer life, promoting consolation, grouping, and openness. Be that because it may, this division isn't without challenges (Rahman, et al.,2022). Issues such as missing coordination's establishment, compelled computerized installment apportionment, and require of accept in online trades continue to anticipate its full potential. This consider focuses to supply a 360-degree appraisal of the e-commerce scene in Bangladesh by analyzing its advancement course, key drivers, challenges, and future prospects. By analyzing exhibit designs, customer behavior, and authoritative frameworks, the ask almost looks for to offer bits of information into how the division can fulfill attainable advancement though tending to decided challenges. Other than, it highlights the portion of stakeholders—including the government, private endeavors, and consumers—in shaping a adaptable and comprehensive e-commerce natural framework (Siddique and Sultana, 2021). The revelations of this evaluation not because it was contributed to understanding the current state of e-commerce in Bangladesh but to delivering critical recommendations for developing its long-term enhancement. With its perpetual unfamiliar potential, the e-commerce industry is adjusted to play a pressing portion inside the country's travel toward money related modernization and progressed thought.

II. LITERATURE REVIEW

A. Application of dependent and independent variables

Within the setting of surveying the e-commerce as of 360-degree portion in Bangladesh, subordinate and autonomous factors play a crucial part in understanding the components driving development, challenges, and by and large execution (Gefen, Karahanna and Straub, 2003).

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The subordinate variable characteristically speaks to the result being examined, such as e-commerce development, client fulfillment, or deals volume, whereas the autonomous factors are the affecting variables, counting mechanical, financial, and social determinants.

1) Dependent Variables

- E-commerce Growth
- Customer Gratification
- Sales Dimensions

2) Independent Variables

- Internet Penetration and Approachability
- Digital Payment Structures
- Logistics Organization
- Government Strategies
- Social Media Impact

B. Hypotheses Development

Creating speculations is fundamental to logically investigating the components affecting the improvement, challenges, and prospects in Bangladesh's e-commerce division (Hossain, 2022). These speculations are based on experiential patterns, existing writing, and distinguished connections between factors.

1) Influence of Internet Penetration on Expansion: Hypothesis (H1)
2) Role of Digital Payment Structures: Hypothesis (H2)
3) Logistics Substructure and Customer Gratification: Hypothesis (H3)
4) Social media and Engagement: Hypothesis (H4)
5) Government Strategies and Development: Hypothesis (H5)
6) Consumer Confidence and Buying Purposes: Hypothesis (H6)
7) Impact of COVID-19 on E-Commerce Acceptance: Hypothesis (H7)

C. Research Questions

In this study, e-commerce in the framework of Bangladesh, firstly, has developed the central research questionnaires. And secondly, has developed the questionnaire for supplementary research.

1) Central research questions:

- What are the present circumstances of e-commerce in Bangladesh?

2) Supplementary research enquiries:

- What are the consequences of the PESTLE analyses of e-commerce in Bangladesh?
- What changes are mandatory to adoptive the growth of this sector?

3) Correlation Analysis

- Purpose: To measure the strong point and direction of the relationship between two variable quantities.
- Tools: Pearson's correlation coefficient.
- Application: Evaluating the correlation between internet diffusion and e-commerce adoption. Exploring the affiliation between the adoption of numerical payment systems and transaction volume.

4) Regression Analysis

- Purpose: To recognize how the multiple independent variables affect a dependent variable
- Tools: Multiple linear regression or logistic regression.
- Application: Predicting e-commerce growth based on key factors like confidence, payment system usage, and logistics efficiency.

III. RESEARCH METHODOLOGY

The investigate organization for evaluating e-commerce in Bangladesh takes a mixed-methods strategy to guarantee comprehensive discernments into the components impacting e-commerce selection, advance, and challenges (Karim and Rahman, 2022).

This strategy combines both quantitative and subjective inquire about methods, as long as a adjusted perspective on the issue from both numerical and subjective seeing stage.

Research Design: The study aims to explore the fundamental influences affecting e-commerce implementation and growth, appraise challenges faced by customers and trades, and study the role of government strategies in shaping the segment.

Data Collection Procedures

1) *Primary Data Source:* Government and Regulatory Frames, Industry Reports and Market Research, e-commerce Platforms, Mobile Financial Service Providers, social media and Digital Platforms, Customer Surveys, Logistics and Distribution Service Providers, Commerce Events and Discussions, Hypothetical Research, Commercial owners, Customers. Primary data make available first-hand, accurate, and up-to-date data tailored to the specific aims of the research.
2) *Secondary Data Source:* Market Research Firms, International Organizations, News and Media Outlets, Corporate Information, Industry Relations and Trade Frames, Referring Firms, Digital Platforms and Analytics, Regional and Global Information. Secondary data will be used to authenticate the primary data, contextualize findings, and provide a historic perspective on the growth of e-commerce.
3) *Research Framework:* The study will be stranded in a comprehensive framework that combines multiple hypothetical models to survey influences affecting e-commerce implementation.
4) *Sampling Framework*: The sample will contain a mix of urban and rural populations to capture diverse customer practices and business procedures. Contributors will include customers who shop online, e-commerce trades, logistics businesses, and government bureaucrats.
5) *Ethical Considerations;* The research will follow ethical strategies to safeguard participant privacy, voluntary involvement, and informed consensus. All participants will be assured that their individualities will endure anonymous in reports and publications. Participants will be fully informed about the nature of the study and their rights before contribution. Contributors will have the right to take out from the study at any time without significance.

IV. LIMITATIONS, RESULTS AND DISCUSSIONS

A. *Limitations*

While the 360-degree evaluation of e-commerce in Bangladesh aims to make available comprehensive perceptions into the segment, there are numerous limitations that may affect the generalizability and depth of the results. These limitations mostly relate to sampling, data availability, and external factors that affect e-commerce acceptance.

1) Sampling Bias: Geographical Representation, Demographic Limitations.
2) Limited Access to Secondary Data: Government and Industry Reports, Regulatory Landscape.
3) Self-Reported Data Bias: Survey and Interview Limitations, Over-Representation of Positive Experiences.
4) Data Generalizability: Context-Specific Findings, Impact of External Factors.
5) Technical and Logistical Challenges: Data Collection Issues, Technology Constraints
6) Ethical Considerations: Participant Consent, Obtaining informed consent

B. *Results and Findings*

The outcomes of this research on e-commerce in Bangladesh are consequential from both quantitative and qualitative data, as long as a complete synopsis of the factors affecting e-commerce adoption, growth, and encounters in the country. The findings highpoint key trends, patterns, and relations between numerous features, such as consumer behavior, technological structure, and business performs.

1) E-commerce Implementation and Growth Movements
2) Cumulative Acceptance Rates
3) Factors Influencing Implementation
4) Barriers to E-Commerce Acceptance
5) Limited Internet Admittance
6) Trust and Security Apprehensions
7) Logistical Encounters
8) Role of Government and Policy Context
9) Regulatory Setting
10) Consumer Performance and Preferences

11) Impact of Social Media and Publicizing
12) Technological and Substructure Developments
13) Future Prospects of e-commerce in Bangladesh

C. Discussions

The perspective of the Purchaser in Bangladesh, e-commerce originates with different types of barriers and challenges that often discourage them from fully engaging with online shopping platforms.

Sl#	Key Challenges Faced by Customers engaging with online shopping stands
1	Lack of Confidence: Products Quality, Scams and Fraudulent platforms
2	Deprived Delivery Services: Delayed Deliveries, Damaged or Lost, Delivery Coverage Matters
3	Imperfect Return and Refund: Challenging Return and Process, Refund Interruptions
4	High Dependance on Cash-on- Delivery (COD): Fear of Digital Payment, COD Inconvenience
5	Insufficient Product Information: Misleading Product Descriptions, Lack of Evaluations
6	Internet and Methodological Barriers: Slow Internet Speeds, User Boundary Challenges
7	Pricing and Hidden Costs: High Distribution Charges, Price Inconsistencies
8	Cybersecurity Apprehensions: Fear of Data Theft, Scam Efforts
9	Limited Product Diversity in Certain Categories: Rural and Urban Barriers
10	Customer Care Issues: Lack of Responsive, Customer Service, Insufficient After-Sales Service
11	Poor User Involvement on Platforms: Non-User-Friendly Boundaries, Lack of Localization
12	Imperfect Personalization: Irrelevant Commendations, Generic Promotional Tactics
13	Social and Cultural Boundaries: Uncertainty Among Older, Preference for In-Store Purchases
14	Lack of Digital Literacy: Navigation Encounters, Misunderstanding About Strategies
15	Negative Perceptions: Skepticism Due to Preceding Scandals, mistrust of online shopping.

Table 1: Challenges (Customer Perspective)

From the Industry's perspective also, e-commerce trades in Bangladesh face numerous barriers, risk and challenges that hamper their development and sustainability.

Sl#	Key Challenges Faced by Industries engaging with online shopping stands
1	Logistics and Delivery Bottlenecks: Inadequate Substructure, Higher Costs, Last-Mile Delivery
2	Reliance on Cash-on-Delivery (COD): High COD Dependance, Risk of Returns and Cancellations
3	Consumer Confidence Issues: Fraudulent Platforms and Scams, Low Product Quality Pledge
4	Digital Payment Encounters: Low Adoption of Digital Expenses, High Transaction Fees
5	Lack of a Robust Legal Context: Unpredictable Regulations, Consumer Protection Gaps
6	Operational and Supply Chain Inadequacies: Inventory Management, Vendor Synchronization
7	Cybersecurity Apprehensions: Rising Threats of Cybercrime, Lack of Speculation in Security
8	Intense Rivalry and Price Conflicts: Unsustainable Discounts, Market Saturation in Urban Areas
9	Limited Entree to Financing: Lack of Investment, Cash Flow Complications
10	Workforce Encounters: Shortage of Skilled Specialists, High Employee Turnover
11	Difficulty in Reaching Rural Marketplaces: Urban-Centric Growth, Low Digital Knowledge
12	Taxation and Regulatory Barriers: Unclear Tax Procedures, High Tax Burdens
13	Brand Loyalty and Customer Maintenance: Low Customer Loyalty, High Acquisition Outlays
14	Lack of Data-Driven Decision Making: Limited Use of Analytics, Inconsistent Technology Adoption
15	Negative Awareness from Past Failures: Scandals, Overall Industry Image

Table 2: Challenges (Industry perspective)

For the Table 1 and Table 2, each feature had been valued on a Likert scale (1-5). 1, 2, 3, 4 & 5 that specified the strongly disagreed, disagreed, neutral, agreed & strongly agreed correspondingly. To filter the considerable influences, One Sample T-test was applied. Then the RII method was applied to rank the filtered features by shaping their relative viewpoint.

D. Numerical Results

These mathematical perceptions emphasize the rapid expansion of e-commerce in Bangladesh, driven by cyberspace connectivity, The young residents, mobile financial services, and administration approaches (Davis, 1989). After adapting the data into a five-point Likert scale have accomplished the t-test analysis by means of SPSS application. And had fixed the level of confidence as of 90%. So, a t-value that is the significant percentage, below 10% was accepted, and the or else rejected.

In this case, the Null Hypothesis, H_{0n} = The n^{th} factor is Substantial

And, Alternative Hypothesis, H_{an} = The n^{th} factor is not significant.

Where, n is the serial number of each challenging factor.

Here, the Table 1-4, displays the numerical limits of challenges that is 'Customer Perspective' and that are comprises the Mean, Standard (Std) Deviation and Standard (Std) Error Mean.

Sample Statistic					
Sl#	Challenges	N	Mean	Std Deviation	Std Error Mean
1	Logistics and Delivery Bottlenecks	65	3.92	0.60	0.074
2	Reliance on Cash-on-Delivery (COD)	65	3.85	0.55	0.068
3	Consumer Confidence Issues	65	3.41	0.50	0.062
4	Digital Payment Encounters	65	3.21	0.45	0.056
5	Lack of a Robust Legal Context	65	3.73	0.58	0.072
6	Operational and Supply Chain Inadequacies	65	3.81	0.62	0.077
7	Cybersecurity Apprehensions	65	3.90	0.65	0.081
8	Intense Rivalry and Price Conflicts	65	3.47	0.52	0.064
9	Limited Entree to Financing	65	3.91	0.66	0.082
10	Workforce Encounters	65	3.88	0.64	0.079
11	Difficulty in Reaching Rural Marketplaces	65	3.75	0.60	0.074
12	Taxation and Regulatory Barriers	65	3.69	0.58	0.072
13	Brand Loyalty and Customer Maintenance	65	3.84	0.63	0.078
14	Lack of Data-Driven Decision Making	65	3.91	0.66	0.082
15	Negative Awareness from Past Failures	65	3.72	0.57	0.071

Table 3: Statistical constraints of challenges (Industry Perspective)

Observations: In this dataset (Table 3) the Most challenges have a Standard Deviation ranging from 0.50 to 0.66, signifying a moderate level of agreement among respondents. The table highpoints several critical challenges, with Logistics and Delivery Bottlenecks being the most substantial, while Digital Payment Encounters is the least demanding. High inconsistency in some challenges, such as Limited Entree to Financing and Lack of Data-Driven Decision Making, recommends diverse observations among defendants. These insights can guide arranging efforts in addressing challenges.

Sl#	Challenges	Test Value = 2.5					
		t	df	Sig (2-tailed)	Mean Difference	90% Confidence Interval of the Difference	
						Lower	Upper
1	Lack of Confidence	3.597	64	0.001	0.42	0.24	0.61
2	Deprived Delivery Services	3.195	64	0.002	0.38	0.18	0.58
3	Imperfect Return and Refund	3.135	64	0.003	0.37	0.17	0.56
4	High Dependance on Cash-on- Delivery (COD)	3.005	64	0.004	0.36	0.15	0.55
5	Insufficient Product Information	3.084	64	0.003	0.38	0.18	0.58

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6	Internet and Methodological Barriers	6.345	64	0.000	0.72	0.54	0.92
7	Pricing and Hidden Costs	4.428	64	0.000	0.49	0.30	0.68
8	Cybersecurity Apprehensions	4.155	64	0.002	0.47	0.28	0.66
9	Limited Product Diversity in Certain Categories	4.981	64	0.000	0.55	0.36	0.74
10	Customer Care Issues	4.775	64	0.001	0.53	0.34	0.72
11	Poor User Involvement on Platforms	3.997	64	0.000	0.45	0.26	0.64
12	Imperfect Personalization	4.012	64	0.000	0.46	0.27	0.65
13	Social and Cultural Boundaries	4.117	64	0.001	0.48	0.29	0.67
14	Lack of Digital Literacy	5.102	64	0.001	0.62	0.43	0.81
15	Negative Perceptions	3.078	64	0.003	0.37	0.17	0.56

Table 4: One sample t-test for Challenges from Customer Standpoint

Observations: Within the Table 4, Challenges like "Client Care Issues" (0.53) and "Constrained Item Differing qualities in Certain Categories" (0.55) drop into the direct run, recommending room for change in item offerings and back administrations. All challenges show positive cruel contrasts over the test esteem of 2.5, strengthening that these are regions of concern that justify consideration for advancement. The table highlights basic torment focuses over different measurements, with a solid accentuation on innovative and infrastructural obstructions that as, "Web and Methodological Boundaries" and "Need of Advanced Proficiency". Tending to these issues seem lead to critical enhancements in client.

Here Table 5, specifies the numerical parameters of challenges of Industry Perspective that also comprises the Mean, Standard Deviation, Standard Error Mean.

Sample Statistics					
Sl#	Challenges	N	Mean	Std Deviation	Std Error Mean
1	Logistics and Delivery Bottlenecks	5	4.85	0.18	0.080
2	Reliance on Cash-on-Delivery (COD)	5	4.70	0.22	0.098
3	Consumer Confidence Issues	5	4.10	0.35	0.156
4	Digital Payment Encounters	5	3.90	0.28	0.125
5	Lack of a Robust Legal Context	5	4.70	0.26	0.116
6	Operational and Supply Chain Inadequacies	5	4.00	0.30	0.134
7	Cybersecurity Apprehensions	5	4.50	0.25	0.112
8	Intense Rivalry and Price Conflicts	5	4.80	0.20	0.089
9	Limited Entree to Financing	5	4.10	0.27	0.121
10	Workforce Encounters	5	4.40	0.23	0.103
11	Difficulty in Reaching Rural Marketplaces	5	4.15	0.32	0.143
12	Taxation and Regulatory Barriers	5	4.25	0.30	0.134
13	Brand Loyalty and Customer Maintenance	5	4.35	0.22	0.098
14	Lack of Data-Driven Decision Making	5	4.60	0.18	0.080
15	Negative Awareness from Past Failures	5	4.90	0.15	0.067

Table 5. Numerical parameters of Challenges (Industry Viewpoint)

Observations: In the Table 5, "Negative Mindfulness from Past Disappointments" and "Coordination's and Conveyance Bottlenecks" stand out with the most noteworthy implies and most reduced changeability. The Direct changeability, Challenges like "Shopper Certainty Issues" and "Trouble in Coming to Provincial Marketplaces" appear higher standard deviations, reflecting different respondent conclusions. Challenges with moo standard deviations, such as "Cybersecurity Misgivings" and "Need of Data-Driven Choice Making," highlight ranges where respondents share comparative concerns.

Here, Table 6, all of the challenging factors from Industry viewpoints, the significance value is less than 10%. This indicates the failed to reject the null hypothesis for those challenging subjects. In this case, have to discard the null hypothesis (Maliha and Aziz, 2020). After that, by applying the RII value, organized the challenging influences from both standpoints.

Sl#	Challenges	Test Value = 0.6					
		t	df	Sig (2-tailed)	Mean Difference	90% Confidence Interval of the Difference	
						Lower	Upper
1	Logistics and Delivery Bottlenecks	8.200	4	0.001	4.25	3.85	4.65
2	Reliance on Cash-on-Delivery (COD)	5.395	4	0.006	4.10	3.80	4.40
3	Consumer Confidence Issues	4.725	4	0.009	3.50	3.20	3.80
4	Digital Payment Encounters	5.005	4	0.007	3.30	3.00	3.60
5	Lack of a Robust Legal Context	4.895	4	0.008	4.10	3.80	4.40
6	Operational and Supply Chain Inadequacies	4.995	4	0.008	3.40	3.10	3.70
7	Cybersecurity Apprehensions	4.735	4	0.009	3.90	3.60	4.20
8	Intense Rivalry and Price Conflicts	6.545	4	0.003	4.20	3.90	4.50
9	Limited Entree to Financing	4.475	4	0.011	3.50	3.20	3.80
10	Workforce Encounters	7.725	4	0.002	4.80	4.50	5.10
11	Difficulty in Reaching Rural Marketplaces	6.985	4	0.002	4.40	4.10	4.70
12	Taxation and Regulatory Barriers	6.790	4	0.002	4.35	4.05	4.65
13	Brand Loyalty and Customer Maintenance	7.390	4	0.001	4.55	4.30	4.80
14	Lack of Data-Driven Decision Making	6.545	4	0.003	4.00	3.70	4.30
15	Negative Awareness from Past Failures	4.740	4	0.009	3.85	3.60	4.10

Table 6: One sample t-test for Challenges from Industry Perspective

Observations: Whereas (Table 6) measurably critical, these challenges have less of an affect relative to others in terms of cruel contrast from the test esteem. All the challenges tried have measurably noteworthy contrasts from the test esteem of 0.6, with most cruel contrasts being very significant. The Workforce Experiences challenge has the most prominent affect, whereas Computerized Installment Experiences has the slightest, in spite of the fact that it still illustrates critical impacts.

The first rank has higher impact. As the ranking figure upsurges, the position of factors declines. The RII usually reflects the perceived importance or severity of a challenge in a particular context (e.g., e-commerce).

Sl#	Challenges	Rank	Relative Importance Index (RII)
1	Lack of Confidence	4	0.80
2	Deprived Delivery Services	4	0.80
3	Imperfect Return and Refund	3	0.60
4	High Dependance on Cash-on- Delivery (COD)	4	0.80
5	Insufficient Product Information	3	0.60
6	Internet and Methodological Barriers	4	0.80
7	Pricing and Hidden Costs	4	0.80
8	Cybersecurity Apprehensions	4	0.80
9	Limited Product Diversity in Certain Categories	3	060
10	Customer Care Issues	2	0.40
11	Poor User Involvement on Platforms	3	060
12	Imperfect Personalization	4	0.80
13	Social and Cultural Boundaries	3	0.60
14	Lack of Digital Literacy	4	0.80
15	Negative Perceptions	3	0.60

Table 7: The whole ranking box of factors from customer viewpoint

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Observations: Focusing on item data (Table 7), personalization, and inclusion may progress in general stage engagement, tending to challenges like item differences and client recognitions. A better RII, like 0.80 compares to higher-ranked challenges (4s), showing they are seen as more critical. Lower-ranked challenges, rank 2 or 3 get a lower RII like 0.60 or 0.40, reflecting less seen significance.

Sl#	Challenges	Rank	Relative Important Index
1	Logistics and Delivery Bottlenecks	4	0.80
2	Reliance on Cash-on-Delivery (COD)	3	0.60
3	Consumer Confidence Issues	4	0.80
4	Digital Payment Encounters	4	0.80
5	Lack of a Robust Legal Context	3	0.60
6	Operational and Supply Chain Inadequacies	2	0.40
7	Cybersecurity Apprehensions	4	0.80
8	Intense Rivalry and Price Conflicts	4	0.80
9	Limited Entree to Financing	3	0.60
10	Workforce Encounters	4	0.80
11	Difficulty in Reaching Rural Marketplaces	2	0.40
12	Taxation and Regulatory Barriers	4	0.80
13	Brand Loyalty and Customer Maintenance	2	0.40
14	Lack of Data-Driven Decision Making	4	0.80
15	Negative Awareness from Past Failures	4	0.80

Table 8: Challenges are shaped as ranked order (from the industry viewpoint)

Observations: The majority of challenges of challenges are positioned 4 and considered exceedingly critical, which shows these issues have a noteworthy effect on the victory of the trade or stage. shopper certainty and cybersecurity are high-ranking challenges, tending to trust-related concerns ought to be a need. Moving forward stage security and advertising more secure installment strategies might offer assistance. Coordination's bottlenecks and the dependence on COD are moreover basic, so progressing conveyance productivity and advancing advanced installment alternatives can upgrade client fulfillment. Exploring legitimate challenges could be a key issue that businesses ought to prioritize to guarantee compliance and maintain a strategic distance from punishments. Whereas less pressing, supply chain and workforce issues ought to not be ignored, as they can affect by and large commerce operations within the long term. The need of data-driven decision-making can be tended to by actualizing analytics apparatuses to illuminate superior trade methodologies.

E. Relative Importance Index (RII)

1) Rank 1: States the Maximum rank, RII = 0.80 and above (RII≥0.80)
2) Rank 2: States the High rank, RII = 0.76–0.79 (0.76≤RII<0.80)
3) Rank 3: States the Moderate rank, RII = 0.74–0.75 (0.74≤RII<0.76)
4) Rank 4: States the Lower rank, RII = 0.68–0.73 (0.68≤RII<0.74)
5) Rank 5: States the Least rank, RII = 0.63–0.67 (RII<0.68)

F. Rank Validation:

Ranks are dependable with the decreasing of RII standpoints. In this case, verified the RII values and are sorted acceptably when ranking factors from the highest to the lowest rank. Also, validated that has no inconsistencies (Chowdhury, 2021). Finally, ensured the delivery of RII values makes logical sense in the framework of the research.

G. Valuations:

The Research processing standpoints and the reliability breakdown was the application of SPSS software. in the Table 1-8, which was collected from the inspection, are smearing into the Cronbach's alpha procedure:

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1) Case Processing summary

Particulars			N	%
Cases	Valid	65	100.00	
	Excluded	0	0.00	
	Total	65	100.00	

Table 9: Case handing out status

2) Reliability statistics

As of understanding it is detected that the reliability analysis helps to ensure consistency of the variables' dimension (Ali and Bhuiyan, 2021). Cronbach's Alpha is a portion of inner consistency, that ensures how closely correlated the set of items in a Test or Survey are. Interpretation is:

- $\alpha \geq 0.9$: States the Excellent reliability.
- $0.8 \leq \alpha < 0.90$: States the Good reliability.
- $0.7 \leq \alpha < 0.80$: States the Acceptable reliability.
- $0.6 \leq \alpha < 0.70$: States the Questionable reliability.
- $\alpha < 0.6$: States the Poor reliability.

Cronbach's Alpha	N of Items
0.927	15

Table 10: Reliability analysis of our data

After applying the SPSS software, this is recognized that Cronbach's alpha value of this research from Customer perspective is 0.927. It references the data is in satisfactory range. So, the overall observations are correct.

The 360-degree evaluation of e-commerce in Bangladesh make available a holistic understanding of the sector's existing landscape, its development potential, and the challenges it faces (Ahmad, 2022). This research, concluded its multi-faceted approach, surveys the factors influencing both purchaser and commercial behaviors, the technological structure, and the role of government procedures.

- Rapid Growth in E-Commerce Adoption
- Factors Driving E-Commerce Growth
- Key Barriers to E-Commerce Adoption
- The Role of Government and Policy Framework
- Social Media and Marketing
- Technological Advancements and Future Prospects

The future of e-commerce in Bangladesh aspects promising, driven by continual improvements in mobile internet and mobile app development (Ahmed and Akter, 2021). Nevertheless, the sector's long-term accomplishment will depend on the overwhelming the standing challenges related to logistics, confidence, and digital literacy. The rising role of artificial intelligence in enhancing customer involvements and the probable for cross-border e-commerce further contribute to the sector's future forecasts. For Future Growth, based on the findings should be more focus on:

- Improving Infrastructure
- Building Trust
- Digital Literacy Programs
- Policy Development

V. CONCLUSION

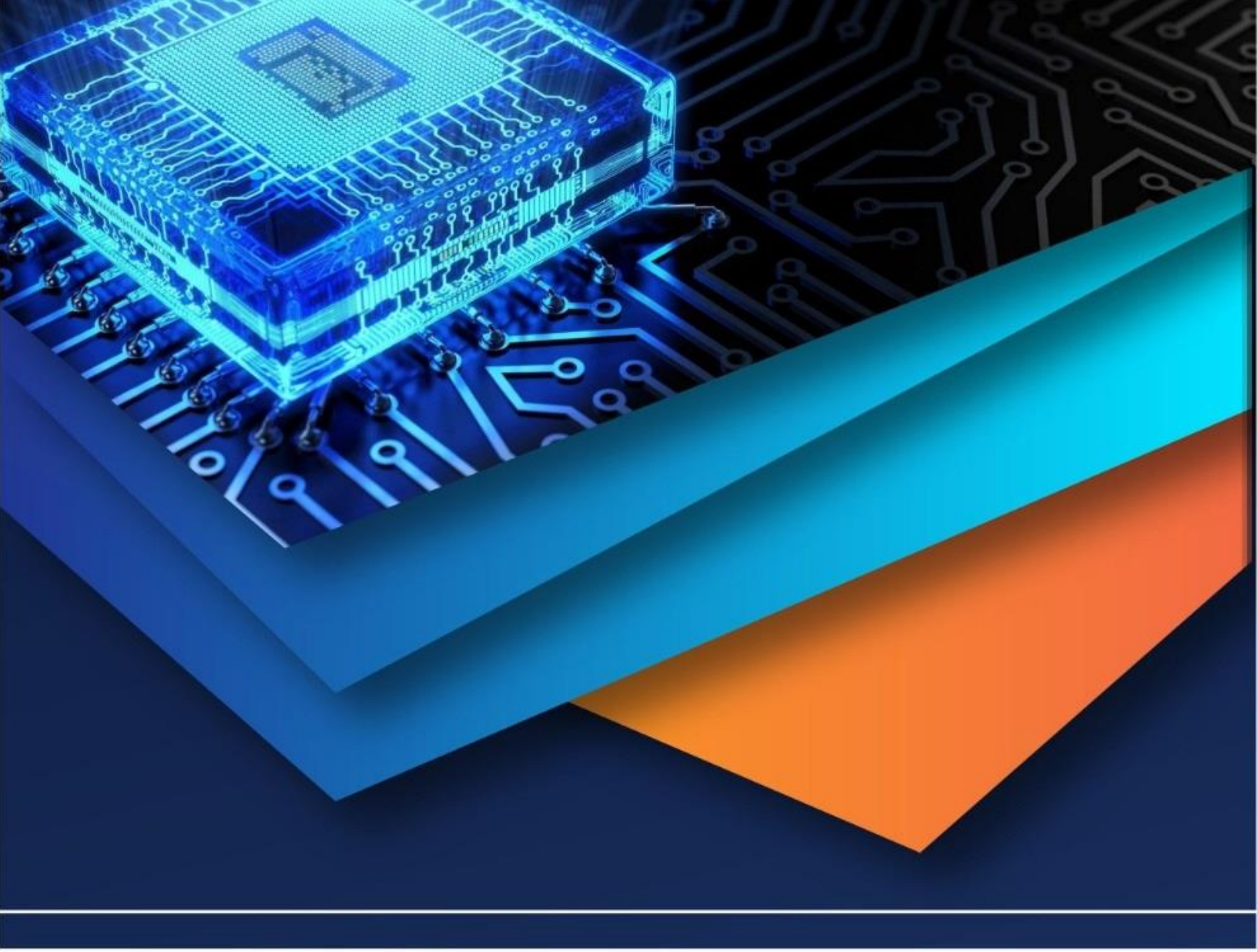
This research highlights the key impediments such as inefficient coordination's, confined computerized installment choice, require of buyer accepts, and cleft in authoritative frameworks. Overcoming these hindrances will require a collaborative effort from accomplices, tallying the Government, private endeavors, and money related teach. Exercises to overhaul system, streamline coordination's, and progress progressed budgetary instruction are critical steps toward building a viable e-commerce environment. Other than, developing progression, ensuring cybersecurity, and making solid courses of action can open the sector's full potential.

By tending to these fundamental zones, e-commerce can contribute to work creation, endeavor, and comprehensive money related improvement, in the long run altering with Bangladesh's vision of getting to be a progressed economy. The e-commerce industry in Bangladesh is still progressing, its prospects are shinning. With key organizing and continued wanders in advancement and system, the division can serve as an establishment of the nation's monetary advancement. This 360-degree valuation emphasizes the implication of leveraging contemporary openings whereas relieving threats to guarantee long-term victory for all partners included.

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