

Impact of Performance Marketing on the Business Growth of Mobile Telecom Industry: An Empirical Study

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The mobile telecom industry has witnessed tremendous growth with the improvement of its performance in various criterions after the gradual shift from regulated to deregulated policy framework in the country. However, the earlier research findings seem to be inadequate to exhibit the challenges and opportunities and their impact on the respective arena. So, this indicates to the research problem since there is a research gap. This is the reason which motivated to endeavor a primary survey during the month of October 15, 2016 to November 14, 2016 to examine the impact of performance marketing practice of the operators on their business growth. From the findings of this survey result, six major implications have been found namely i) technological, ii) legal, iii) ethical, iv) political & economic, v) social and vi) prevention of environmental pollution approaches for the concerned marketers to ensure stable business growth of this industry.

Field of Research: Marketing

Keywords: Performance Marketing, Business Growth, Mobile Telecom Industry

1. Introduction

With the commencement of its journey in a regulated as well as technological environment in the developing socio-economic situation of the country, the mobile telecom industry has gone through a long way with the improvement of its performance in various criterions. The study has found that there is fierce competition among the mobile operators because of the varied offers of mobile telephony, mobile banking, mobile commerce, mobile internet, etc., in the form of pre-paid and post-paid telecom services. All these have emphasized on the continuous improvement of their distinctive features, competitive advantages, innovative products and services. This has been manifested from the rising challenges and opportunities in the market. In the present competitive market, a firm can survive and succeed in the long run if it is able to grow its business through effective and efficient performance marketing through financial accountability and socially responsible marketing strategies. It is because performance marketing creates the positive outcome of business growth and vice versa. The remarkable business growth of the telecom industry even though unavoidable challenges has been acted as the principal reason or motivation to pursue the present study on the implications of the performance marketing practice of the mobile operators. From this perspective, the current study is justified as it furthers academic understanding by extending the knowledge of both performance marketing and mobile telecom theory and practice. Thus, the findings and implications of this research will contribute to the existing theories by empirically investigating the impact of the factors of performance marketing on the business growth of the mobile phone telecom industry of Bangladesh.

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Very few of the previous papers cited in the literature review focused on both qualitative and quantitative aspects of performance marketing. Some of those papers focused only on one or few of the dimensions of performance marketing. From that perspective, the current paper includes each of the dimensions of the subject matter with the PESTEL framework through both qualitative and quantitative analyses.

But this paper is not beyond limitations such as most of the secondary data of this study were not completely focusing on PESTEL framework. Again there was paucity of previous research findings on the business growth of the mobile telecom industry of Bangladesh.

There are also only a very few studies available on Bangladesh context. So, it is clearly evident that there is a research gap and to mitigate this gap a rigorous research is yet to be systematically attempted. To fill out such knowledge gap left out by the previous papers, the present study investigates the research question: "Can performance marketing ensure business growth of the mobile phone telecommunication industry of Bangladesh?" From this context of the current research question the following hypothesis has been developed to exhibit the appropriate answer:

H₀: Performance marketing cannot ensure business growth of the mobile phone telecommunication industry of Bangladesh.

H_a: Performance marketing can ensure business growth of the mobile phone telecommunication industry of Bangladesh.

From the light of the above hypothesis, the principal objective of this study is to examine the impact of performance marketing in the business growth of the mobile phone telecom industry of Bangladesh.

This paper is organized with the various sections. Section 1 deals with introduction, Section 2 focuses on the background of the study, Section 3 contains the theoretical framework of performance marketing and business growth; Section 4 portrays the literature review by including PESTEL framework, Section 5 defines the research problem, Section 6 proposes a research model, Section 7 goes with the methodology of the study, Section 8 exhibits the rationale of the study, Section 9 deals with the analysis and findings, and Section 10 draws a constructive conclusion including uniqueness of the study, new findings, significance and implications; and limitations.

2. Background of the Study

In recent years the telecom industry has evolved from manufacturing and providing basic fixed line telephony to an industry that offers mobile telecom services, and integrates IT and media into its services (Bourreau & Do an, 2001). Particularly the use of mobile phone telecom services has dramatically grown in the last decade. According to the International Telecommunication Union (ITU), (2008) the number of mobile subscribers per 100 inhabitants are respectively 59.74 and 27.90 in the world and in Bangladesh while the ratio of mobile cellular subscriptions to fixed telephone lines are respectively 3.2:1 and 33.2:1 in the world and in Bangladesh. While most developing countries lag behind developed countries in terms of ICT usage because the level of penetration of mobile telephony in some of the developing countries is at par with that of developed countries (Rashid, 2009; Heeks, 2008). Furthermore, mobile phones have been successful in reaching out to a large section of illiterate population, hitherto untouched by legacy communication

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technology (Townsend, 2000). Mobile telephony not only presents a probable solution to digital divide but it also has strong economic impact. Studies show that mobile telephony has direct, indirect and intangible economic impacts (Bhavnani et. al. 2008). Although a large number cases of exhibiting the economic benefit of mobiles have been reported (Rashid, 2009) very little thematic research has been carried out to identify the spheres where mobile telephony can have significant impact on economic development (Rashid, 2009). Bangladesh is also not an exception to this which is exhibited in the **Table 1**. The Table shows the growth of mobile telecom oriented services to around 135.982 million people as users out of total of around 170 million population.

Table 1: Mobile Phone Industry in Bangladesh

Rank /Sequence	Operators	Mobile Phone Subscribers in Bangladesh (Market Size)			
		January 2015	January 2016	September 2016	June 2017
01	GP	51.549	56.204	55.015	61.579
02	Banglalink	31.145	32.368	29.471	31.572
03	Robi	26.283	27.795	23.834	39.570
04	Airtel	7.716	10.510	7.778	Merged with Robi
05	Citycell	1.276	0.867	0.000	0.000
06	Teletalk	3.890	4.211	2.989	3.260
Total		121.860	131.956	119.087	135.982

Source: BTRC Web Site

* Market size indicates subscribers in millions

** Market share represents % of subscribers

3. Theoretical Framework

3.1 Performance Marketing

In order to ensure effective marketing performance, a market-driven organization, apart from its regular marketing activities and programs, also needs to address broader concerns and their legal, ethical, social, and environmental effects. Therefore, marketers must carefully consider their role in broader terms, and the ethical, environmental, legal, and social context of their activities (Rajendra Sisodia et al., 2007). In a number of research studies, it has been found that dynamic companies like mobile telecom view philanthropy-related expenses as no different from budget allocations for advertising, human resources, raw materials and other traditional expenditures (McAlister and Ferrell, 2002) and most of them are emphasizing societal issues in their values, marketing strategies, structures and functions (Karna et al. 2003).

3.2 Business Growth

Mateev and Anastasov (2010) found that growth of an enterprise is related to size as well as other specific characteristics like financial structure and productivity. They further added that the total assets which is one of the measure of the enterprise size has direct impact on the sales revenue, but the number of employees, investment in R&D, and other intangible assets do not have much influence on the enterprise's growth prospects. Lorunka et al. (2011) further highlighted that apart from human capital resources, the

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growth of a business can be predicted on the basis of commitment of the person starting a new enterprise. Some countries use turnover of the business to determine the size of an enterprise, whereas some use fixed investment or the number of employees (Lokhande, 2011).

4. Literature Review

Business growth through performance marketing usually refers to the long-term maintenance of systems according to environmental, economic and social considerations (Crane and Matten, 2004). Therefore, marketers must carefully consider their role in broader terms, and the ethical, environmental, legal, and social context of their activities (Rajendra Sisodia, et al. 2007). In this section, an attempt has been endeavored to identify the various factors of performance marketing which have profound impact on the mobile telecom industry.

4.1 Political (P)

The governments of many countries have opened the mobile market for competition and made investment in mobile projects. As a result, the availability of mobile phones to different sections of the society has increased dramatically with consequent decreases in price. European governments, for instance, experienced a financial windfall by auctioning off 3G mobile licenses. The experience of developing countries that have opened their mobile markets, such as *Korea and Sri Lanka*, indicates that competition among operators leads to lower prices (UNDP, 2001). Developing country like Bangladesh also has learned from such experiences and opened the market for competition to balance the power of state run monopolies.

4.1.1 Digital Gap Minimization

Kshetri and Dholakia (2001) found that political factors are playing an important role in the diffusion of digital signatures in Asian countries. With over 4 billion mobile cellular subscriptions worldwide, mobile network has the ability to immediately offer mobile banking to 61% of the world population (Sultana, 2009).

4.2 Economic (E)

Saunders, et al. (1994) found a positive relationship between telecommunications and economic growth. Intensive review based on the works of Yilmaz et al. (2001); Datta and Agarwal (2004) and Lam and Shiu (2010) showed positive and significant causal link between telecommunications infrastructure and economic growth.

4.2.1 Investment on Technology

The study of Tella et al. (2007) on telecommunications infrastructure in Nigeria shows that main landline and cell phone penetration had significant effects on economic growth, after controlling for the effects of capital and labor.

4.2.2 Taxes and Duties

Hassett and Hubbard (2002) found the tax policy (in general) and tax incentives (in particular) as effective in promoting investment.

4.3 Socio-Cultural (S)

It is now a necessity for an entity of service industry to go beyond corporate image to effectively sustain a competitive position, which is also applicable to positioning involving social issues (Ellson, 2004). In this regard, corporate social responsibility (CSR) helps to build sustainable growth for business in a responsible manner (Moir, 2001). CSR is said to improve the company's profitability and financial performance (Van der Laan et al., 2008; Ruff et al., 2001), create customer loyalty (Mandhachitara and Poolthong, 2011) and enhance firm reputation (Chen and Wang, 2011) and contribute to the continuing health and growth of business (CCPA, 2000). In a review of literature on the impact of cultural factors on mobile technology adoption, Kshetri and Cheung (2001) found that cultural factors influence how fast a potential adopter moves from one stage to the next, the usage pattern of the product, discontinuance after trial, and delay in the adoption process. Thus, people in different societies are likely to have varying levels of preference for mobile phones and are likely to use them for different purposes.

4.3.1 Age and Gender-Wise Packages and Facilities

Mobile telecom service providers wishing to connect with the youth market and tap this market need to understand that the youth culture is far from homogeneous; hence, marketers need to try new approaches or risk losing the attention and money of this fickle audience (Reuters, 2005). An important aspect of selling to this market segment is that customers will carry brand loyalties through into adulthood (Cant et al., 2004) which enables acquisition and retention of customers in their youth as crucial to maximizing customer lifetime value. In order to support the goals of enabling women's access to mobile products and drive the creation of service offerings that could change the lives of millions of women in low and middle income markets, the GSMA has developed the GSMA mWomen Program. The program aims to highlight underserved women as a market segment in which the industry should invest through knowledge sharing, seminars and research on the needs of women in emerging markets. It is a good example of how by working together mobile operators, non-governmental organizations, governments and other industries can deliver improvements that could improve the lives and future prospects of millions (GSMA, January 2013).

4.3.2 Socio-Cultural Service Packages

Research has shown that compatibility is a significant antecedent in determining consumers' attitude towards internet banking adoption in Malaysia (Ndubisi & Sinti, 2006). Compatibility has further been found influential in the adoption of virtual store (Chen et al., 2004), m-payment (Chen, 2008), and mobile banking (Koenig-Lewis, 2010; Lin, 2011). Al-Gahtani (2003) found that compatibility had significant correlation with mobile adoption and use in Saudi Arabia. Thus, it is also likely that the relation between compatibility and adoption will be held in the context of mobile banking. The consumers of both rural and urban areas, from college - going students to mature elders, of almost all income groups have started using mobile telecom services (The World Factbook, 2008). Consumers are now looking into the compatibility of the new services to their self-image and life style (Saaksjarvi, 2003).

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4.3.3 Societal Welfare

Robi has been working with the Bangladesh Ministry of Education to promote English language at secondary schools. Robi's 'English in Schools' program has been implemented in 1000 schools in Bangladesh (Axiata Sustainability Report, 2012). With its interactive facilities, it is Axiata's hope that the lounges would allow the children in the village to learn new things that will help them realize their dreams (Axiata Sustainability Report, 2012).

4.4 Technological (T)

4.4.1 Latest Technologies

The latest developments in mobile technologies can be listed as customized infotainment, multimedia message service mobile intranet/extranet access, mobile internet access, location-based services, simple voice and rich voice services (UMTS, 2000). These advances have substantially increased the number of people using mobile services (Tang, 2008).

4.4.2 Customers' Information Security

According to Vrechopoukis et al. (2002), the security issue of customers' information influences the adoption of M-commerce among customers. Kreyer et al. (2003) discussed information security as one among many factors in the adoption of mobile commerce, mobile payment or mobile transactions. In this regard, a variety of technological measures have been invented, such as message encryption, digital certificates and the authentication of transaction devices.

4.4.3 Transaction Updates

Mobile transactions such as remittances and payments are also delivered via mobile networks and are performed on a mobile phone through SMS (Dr Lennart, Soderberg, 2008).

4.4.4 Faster Communication

The new generation state-of-the-art technologies have become more widespread around the globe owing to the various applications it brings to the mobile phones. Such technology offers faster communication service through higher bandwidth, packet-based transmission of text, voice, video, and multimedia needed to support data-intensive applications (Lim and Siau, 2003).

4.5 Environment (E)

4.5.1 Recycling Program

The Australian mobile industry has undertaken a transparent, viable and sustainable mobile phone recycling campaign with the objective of preventing used mobile phones, accessories and batteries end up in landfill and as a result minimize environmental burden (AMTA, 2006). Axiata Sustainability Report (2012) exhibits that under the M-Waste Recycling Program implemented in Sri Lanka by Dialog (i.e., the mobile telecom company

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of the Axiata Group in Sri Lanka), unused mobile phones batteries and battery chargers, as well as industrial base station batteries, are brought to the company's 125 collection points. The collection is then sent to China for recycling. Over 3000 units of M-Waste were collected in 2012. Approximately 2.1 tonnes of M-Waste has already been exported to China for recycling by Dialog. Dialog has also planned to take this initiative one step further by increasing public awareness on effective waste management practices. Through this awareness campaign, Dialog hopes to encourage more people to dispose of their mobile phones and batteries in an environmentally friendly manner. Dialog targets to have 350 collection points by 2014.

4.5.2 Environment Friendly Services

Green technology programs are aimed at exploring technologies, products and solutions that brings greater efficiencies and at the same time, help reduce the environmental impact of its business (Axiata Sustainability Report, 2012).

4.5.3 Publicity on Environment Friendly Telecom Infrastructure

Seitz et al. (2005) conclude in their studies on mobile phone radiation and health-related quality of life. Cell phone users had an increased risk of malignant gliomas, acoustic neuromas, tumors, etc. (Hardell et al., 2007). A review concluded that current mobile phones are not safe for long-term exposure (Hardell, et al. 2009). From the Sustainability Report (2012) of the Axiata Group it has been found that Robi strives to conduct its operations in a manner that is safe for the environment and conserves natural resources. Robi always requests for information from its suppliers about specific environmental and energy efficiency features of products/services with detailed specifications. Robi also checks to ensure that its suppliers' policies and procedures are compliant with international environmental standards.

4.5.4 Publicity on Harmful Effects

Axiata and its operating countries are doing their part in creating awareness of climate change within their organizations and communities in order to limit environmental damage. Green Committees have been established at Axiata and its operating countries. These committees are tasked with raising awareness among the employees on better utilization of energy, water and paper resources (Axiata Sustainability Report, 2012).

4.6 Legal & Ethical (L)

4.6.1 Fair Acquisition of License

EIRIS (2005) evaluated the telecommunication sector as one of most distressed industries with incidents of bribery. In India the second most corrupt sector is telecommunications (based on survey carried by KPMG, 2011).

4.6.2 Information Transparency

Improvements in transparency are on-going and the mobile telecom industry endeavors to ensure consumers are informed about telecom services and prices. For instance, GSMA (2012) announced in the launch of an initiative that will provide consumers greater visibility of their roaming charges and usage of mobile data services when travelling abroad. This

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initiative signals the commitment being made by operators to promoting and ensuring transparency of roaming services to consumers. Regulators from around the world have expressed concern about the transparency of international roaming prices, bill-shock, and high prices. It is important to understand the factors that might influence roaming prices as it indicates where to start looking for an explanation (ibid)

4.6.3 Registered SIM Users

Registration of SIM cards is helpful in some successful police investigations and electronic money transfers, the settling of bills and other monetary transactions of customers (Smillie, 2012). The International Telecommunication Union in 2007 recommended SIM registration to improve statistical accuracy on the mobile market as well as to reduce access to grey market phones (Telegeography, 2013).

4.6.4 Support in Legal Proceedings

Due to terrorism and terrorist use of mobile technology the British House of Commons Home Affairs conducted an inquiry on the use of evidence from mobile phone devices, prompting leading mobile telephone forensic specialists to identify forensic techniques available in this area (The Committee Office, 2011). By tracking the whereabouts of the SIM card and correlating other mobile phones that had been registered, police were able to locate the terrorists (Nokia-n98.org, 2011).

4.6.5 Privacy of Customer Information

The findings of Hsu and Hsu (2008), Vlachos and Vrechopoulos (2008), and Parasuraman, Zeithaml, and Malhotra (2005) studies reveal that the privacy factor is an important dimension of service quality in the context of the electronic service environment (e.g. mobile internet services). Parasuraman et al. (2005) suggest that privacy deals with a sense of feeling safe when a customer's personal information is shared with their service provider. In addition, Milne and Rohm (2000) note that marketers continue to build extensive databases and use this information to target and profile consumers, often trading and renting consumer lists to other organizations. Customers tend to be dissatisfied when their privacy is violated (Riel, Liljander and Jurriens, 2001).

4.6.6 Customer Permitted Campaign

It is obvious that privacy concerns of the consumer is crucial and must be taken into account (Taylor et al., 2008). Permission for personal information can be gathered but in some situations this information may be gathered without consumers' will (Wei et al., 2010). In some countries sending SMS advertising without the receiver's permission is considered as an illegal work (Easton, 2002). Consumers' attitude toward mobile advertising is found out to be negative, however, it turns to be positive if permission is obtained (Tsang et al., 2004). As Bamba and Barnes (2006) argue that "the consumer is not always asked for his or her permission before receiving SMS advertisements. By relying on the permission of the consumers it will help reduce the irritation; thus, permission has a positive effect on consumers' attitude toward SMS advertising, and the attitude is positively related to consumer's intention to receive SMS advertising (Tsang et al., 2004).

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Table 2 exhibits the business growth as dependent variable while **Table 3** exhibits the factors of performance marketing that affect business growth as independent variables.

Table 2: Business Growth

Code	Items	Sources
dv1	Business Growth	Mateev and Anastasov (2010); Lokhande (2011); Lorunka et al. (2011)

In the **Table 3**, the findings from the literature review were confined to focus on the generalized view of the impact of performance marketing on the business growth other than mobile telecom industry. So, the reviewed findings do not exactly answer to the main research question of the current study to know whether performance marketing can ensure business growth of the mobile phone telecommunication industry of Bangladesh or not. For valid answer to this question, the development of research hypothesis such as 'Performance marketing can ensure business growth of the mobile phone telecommunication industry of Bangladesh' has been necessitated. Now, this has to be statistically proved on the basis of the primary data.

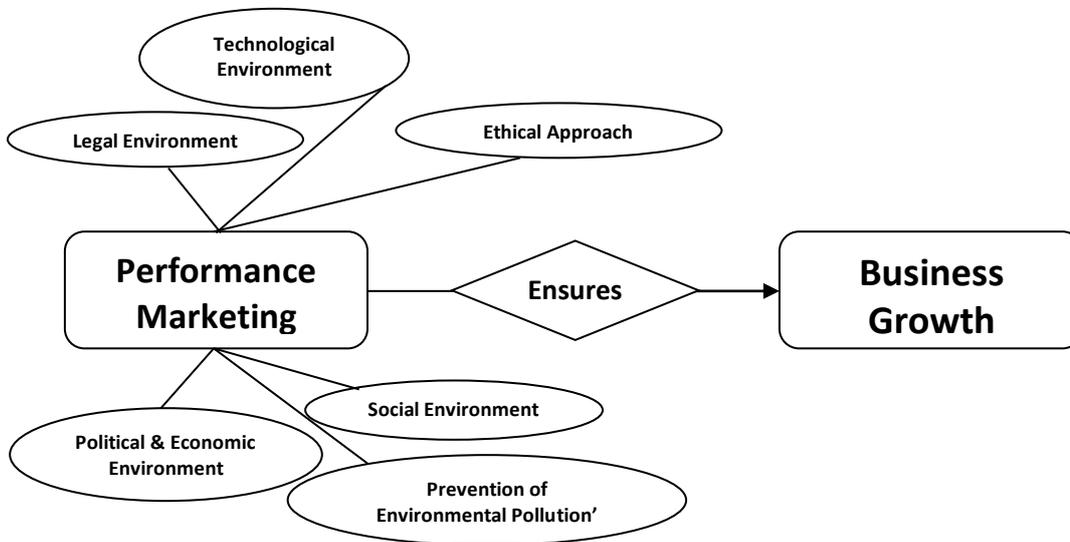
Table 3: Performance Marketing Factors that Affect Business Growth

Code	Items	Sources
v1	Digital Gap Minimization	Kshetri and Dholakia (2001), Sultana (2009)
v2	Investment on Technology	Tella et al. (2007)
v3	Taxes and Duties	Hassett and Hubbard (2002)
v4	Age & Gender-wise Services	Cant et al. (2004), GSMA (2013), Reuters (2005)
v5	Socio-Cultural Service Packages	Al-Gahtani (2003), Chen (2008), Chen et al. (2004), Koenig-Lewis (2010), Lin (2011), Ndubisi & Sinti (2006), Saaksjarvi (2003), The World Factbook (2008)
v6	Societal Welfare	Axiata Sustainability Report (2012)
v7	Latest Technologies	Lim and Siau (2003), Tang (2008), UMTS (2000)
v8	Customers' Information Security	Kreyer et al. (2003), Vrechopoukis et al. (2002)
v9	Transaction Updates	Lennart and Soderberg (2008)
v10	Faster Communication	Lim and Siau (2003)
v11	Recycling Program	AMTA (2006), Axiata Sustainability Report, 2012
v12	Environment Friendly Services	Axiata Sustainability Report, 2012
v13	Publicity on Environment Friendly Infrastructure	Axiata Sustainability Report, 2012; Hardell et al. (2007, 2009); Seitz et al. (2005)
v14	Publicity on Harmful Effects	Axiata Sustainability Report, 2012
v15	Fair Acquisition of License	EIRIS (2005)
v16	Information Transparency	GSMA (2012)
v17	Registered SIM Users	Smillie (2012), Telegeography (2013), The Register (2003), Wood (2010)
v18	Support in Legal Proceedings	Nokia-n98.org (2011), The Committee Office (2011)
v19	Privacy of Customer Information	Hsu and Hsu (2008), Milne and Rohm (2000), Neetling et al. (1996), Parasuraman, Zeithaml, and Malhotra (2005), Riel, Liljander, and Jurriëns (2001), Vlachos and Vrechopoulos (2008)
v20	Customer Permitted Campaign	Bamba and Barnes (2006), Easton (2002), Taylor et al. (2008), Tasng et al. (2004), Wei et al. (2010)

5. Analytical Model of the Present Study

From the light of the extensive literature review the following **Figure 1** has been developed for the present study to exhibit the analytical (i.e., graphical) model of the business growth through performance marketing.

Figure 1: Research Model for Business Growth through Performance Marketing



6. Methodology of the Study

The current study is the combination of both primary and secondary data collection and their analyses in which, the primary data have been collected during the month of October 15, 2016 to November 14, 2016 from the sample size of 150 respondents including 100 customers and 50 employees of the six mobile operators using convenience sampling method through a structured and self-administered questionnaire based extensive survey comprising of open-ended and non-forced, balanced and odd numbered non-comparative itemized questions using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The Principal Component Analysis (PCA) with orthogonal varimax rotation method has been adopted to identify the factors of performance marketing which influence the business growth of the mobile phone telecommunication industry of Bangladesh.

7. Analysis and Findings

Based on the survey data, the following section exhibits the analysis and findings of this study.

7.1 Reliability Analysis

In the **Table 4**, the Cronbach's Alpha value of all the 21 items together is **.832** which is greater than 0.7, indicating an overall higher reliability factors. Thus, it can safely be concluded by looking at **Table 4** that the reliability of this study is substantial in every

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perspective because the sample size and the data collected are reliable and also the reliability is shown to be good using all the 21 items.

Table 4: Reliability Statistics

Cronbach's Alpha	No. of Items
.832	21

Source: Field Survey Data

7.2 Sampling Adequacy

Table 5 exhibits that the value of Kaiser-Meyer-Olkin (KMO) Measure is .761 which is 'meritorious' suggesting the adequacy of the sample size for the factor analysis.

Table 5: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.761
Bartlett's Test of Sphericity	Approx. Chi-Square	1497.728
	df	190
	Sig.	.000

7.3 Validity

From the results of the Bartlett's Test of Sphericity in Table 5 it is seen that the approximate chi-square statistics is 1497.728 with 190 degrees of freedom, which is greater than the table value. This means that the null hypothesis that the population correlation matrix is an identity matrix is rejected by Bartlett's test of sphericity. So, the result of Bartlett's test of sphericity is significant suggesting that the population was not an identity matrix. Therefore, the Bartlett's Test of Sphericity is significant.

7.4 Factor Analysis

To Formulate the Problem

i) Objective: The objective of the factors analysis in this study is to determine how "Performance Marketing can ensure business growth of the Mobile Phone Telecommunication Industry of Bangladesh".

ii) Identification of Variables

Based on the review of literature discussed earlier, **Table 6** exhibits 20 (twenty) independent variables which have been identified to conduct the factor analysis.

iii) Sample size: The number of valid samples for this set of variables is 250. With 250 samples and 20 variables, the ratio of cases to variables is 12.5 to 1, which exceeds the requirement of 4:1 (Malhotra and Dhas, 2011) for the ratio of cases to variables.

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Table 6: Identification of Variables (Performance Marketing and Business Growth)

Code	Variables	Code	Variables
v1	Digital Gap Minimization	v11	Recycling Program
v2	Investment on Technology	v12	Environment Friendly Services
v3	Tax and Duties	v13	Publicity on Environment Friendly Infrastructure
v4	Age & Gender-wise Services	v14	Publicity on Harmful Effects
v5	Socio-Cultural Service Packages	v15	Fair Acquisition of License
v6	Societal Welfare	v16	Information Transparency
v7	Latest Technologies	v17	Registered SIM Users
v8	Customers' Information Security	v18	Support in Legal Proceedings
v9	Transaction Updates	v19	Privacy of Customer Information
v10	Faster Communication	v20	Customer Permitted Campaign

Source: Literature Review

Communalities of Performance Marketing for Business Growth: The “Initial” column of the **Table 7** exhibits that the communality for each variable, v1 to v20, is 1.0 as unites. Moreover, the **Table 7** exhibits that the average communality of the variables after extraction is above 0.50 except the variables v6, v19 and v20 which are respectively .481, .414 and .451.

Table 7: Communalities

	Initial	Extraction
v1	1.000	.616
v2	1.000	.752
v3	1.000	.626
v4	1.000	.566
v5	1.000	.641
v6	1.000	.481
v7	1.000	.585
v8	1.000	.702
v9	1.000	.694
v10	1.000	.708
v11	1.000	.833
v12	1.000	.796
v13	1.000	.592
v14	1.000	.588
v15	1.000	.537
v16	1.000	.561
v17	1.000	.687
v18	1.000	.618
v19	1.000	.414
v20	1.000	.451

Extraction Method: Principal Component Analysis.

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Total Variance: In the **Table 8**, “Initial Eigenvalues” in column B exhibits the eigenvalues in its sub column entitled “Total”. The eigenvalues for the components are exhibited in decreasing order of magnitude from component 1 to component 20. The eigenvalue for a component indicates the total variance attributed to that component. The total variance accounted for by all twenty (20) components is 20.00, which is equal to the number of variables (i.e., 20). Each of the 20 variables has a sample variance in column entitled “% of Variance”, the sum of which equals the total variance in column entitled “Cumulative %”. According to the eigenvalues criterion, the exact number of components is 20 which is exhibited in **Table 8**.

Table 8: Total Variance Explained

A Compon ent	B			C			D		
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulati ve %	Total	% of Varianc e	Cumulati ve %	Total	% of Varian ce	Cumulati ve %
1	4.613	23.065	23.065	4.613	23.065	23.065	2.663	13.316	13.316
2	2.248	11.239	34.304	2.248	11.239	34.304	2.228	11.138	24.454
3	1.851	9.257	43.561	1.851	9.257	43.561	2.105	10.526	34.980
4	1.399	6.993	50.554	1.399	6.993	50.554	1.983	9.914	44.894
5	1.200	6.002	56.556	1.200	6.002	56.556	1.807	9.036	53.930
6	1.137	5.683	62.239	1.137	5.683	62.239	1.662	8.308	62.239
7	.927	4.633	66.872						
8	.833	4.165	71.036						
9	.764	3.821	74.857						
10	.707	3.535	78.392						
11	.650	3.251	81.642						
12	.578	2.888	84.530						
13	.549	2.747	87.278						
14	.501	2.503	89.781						
15	.419	2.094	91.875						
16	.418	2.088	93.963						
17	.391	1.953	95.916						
18	.326	1.628	97.544						
19	.297	1.483	99.026						
20	.195	.974	100.000						

Extraction Method: Principal Component Analysis.

To Determine the Number of Factors

In the **Table 8**, Initial Eigenvalues (Column B) exhibits that: i) the eigenvalue greater than 1.0 (default option) results in 6 (six) components being extracted, ii) from the cumulative percentage of variance accounted for, it is seen that the first 6 (six) components account for 62.239% of the variance, and that the gain achieved in going to seven (7) components is marginal. Thus, the 6 (six) factors appear to be reasonable in this situation.

As demonstrated in In the **Table 8**: the total variance explained by each component extracted is as follows: The first principal component (component 1) accounted for 23.065% of the total variance, the second principal (component 2) component, accounted for 11.239%, the third principal (component 3) component, accounted for 9.257%, the fourth principal (component 4) component, accounted for 6.993%, the fifth principal (component 5) component, accounted for 6.002% while the sixth principal (component 6)

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component, accounted for 5.683% The cumulative proportion of variance criterion, which says that the extracted components should together explain at least 62% of the variation, shows that the 6 extracted components cumulatively accounted for 62.239% of the variation in the data set. Scores are numbers that express the influence of an eigenvector on a specific sample.

Table 8: Extraction Sums of Squared Loadings (Column C) exhibits the variances associated with the factors that are retained. So, the other 14 variables have been dropped and the variances associated with them are also not explained here.

The percentage variance accounted for by a factor is determined by dividing the associated eigenvalue with the total number of factors (variables) and multiplying by 100 (Malhotra and Dhas, 2011: 596). Thus, the 'Component 1' accounts for a variance of 4.613, which is $(4.613/20) \times 100$ or 23.065% of the total variance. Likewise, 'Component 2' accounts for $(2.248/20) \times 100$ or, 11.239% of the total variance. Similarly, 'Component 3' accounts for $(1.851/20) \times 100$ or, 9.257% of the total variance. In the same way, 'Component 4' accounts for $(1.399/20) \times 100$ or, 6.993% of the total variance, 'Component 5' accounts for $(1.200/20) \times 100$ or, 6.002% of the total variance and 'Component 6' accounts for $(1.137/20) \times 100$ or, 5.683% of the total variance. Thus, the first 6 (six) components combined (i.e., cumulative) account for 62.239% of the total variance.

Component Matrix:

Table 9: Component Matrix^a

	Component					
	1	2	3	4	5	6
v1	.303	.426	-.462	.259	.073	-.240
v2	.290	.375	-.594	.326	-.026	-.260
v3	.434	.355	-.474	.274	-.098	.051
v4	.310	.024	.339	.585	-.108	.003
v5	.186	.038	.403	.511	.199	.376
v6	.414	.223	.347	.335	.159	.040
v7	.536	-.336	-.127	.168	.085	.365
v8	.614	-.361	-.338	-.059	.247	.125
v9	.581	-.486	-.243	.038	.132	.205
v10	.557	-.521	-.312	-.171	-.003	-.010
v11	.548	-.513	.172	.097	-.321	-.357
v12	.522	-.437	.275	.117	-.341	-.357
v13	.513	.130	.154	-.149	.394	-.333
v14	.490	.164	.154	-.199	.430	-.270
v15	.503	.382	.232	-.160	-.150	-.191
v16	.572	.288	.192	-.249	-.202	.100
v17	.494	.394	.053	-.108	-.439	.283
v18	.528	.225	-.117	-.319	-.327	.257
v19	.490	.148	.328	-.119	.172	.006
v20	.464	.205	.086	-.269	.265	.210

Extraction Method: Principal Component Analysis.

a. 6 components extracted.

In **Table 9 "Component Matrix"**, Component 1 is correlated with all the variables except v1 and v2 with an absolute value of factor loading greater than 0.3. Likewise, Component

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2 is correlated with v1, v2, v3, v15 and v17 of the 20 variables of which v2, v3, v15 and v17 are commonly loaded on both the components 1 and 2. Similarly, Component 3 is correlated with v4, v5, v6, and v19 of the 20 variables of which v19 is commonly loaded on the component 1 but no component was found commonly loaded on the component 2. Component 4 is correlated with v2 is commonly loaded on both the components 1 and 2; v4 and v6 are commonly loaded on both the components 1 and 3 and v5 is commonly loaded on component 5. Component 5 is correlated with v13 and v14 of the Component 1. Component 6 is correlated with variable v5 of components 3 and 4 and v7 is correlated with Component 1. So, it is seen that the highlighted area (i.e., variables) in the various columns or components of the “Component Matrix” in the **Table 9** are overlapping and so this matrix is not an ideal option to properly interpret the components. Instead, it is difficult to interpret or seldom results in components that can be interpreted.

Now, by comparing the **Table 10 Rotated Component Matrix** with the **Table 10: Initial or Unrotated Matrix (titled “Component Matrix”)**, it is seen that how rotation achieves simplicity and enhances interpretability. From the comparison, it is seen that only variables v7 to v10 are correlated highly with Component 1 having more than .5 cut off point. Likewise, the variables v15 to v18 correlate highly with Component 2. So, no variable commonly correlates highly with both the factors namely component 1 and 2. In the next phase, the only variable v13, v14, v19 and v20 correlate highly with Component 3 which are also not correlated with either of the component 1 and 2. In component 4, the variables v1 to v3 are highly correlated none of which are correlated with either of the component 1, 2 and 3. Again, component 5, the variables v11 to v12 are highly correlated none of which are correlated with either of the component 1, 2, 3 and 4. Similarly, the variables v4 to v6 are highly correlated with component 6 none of which are correlated with either of the component 1, 2, 3 and 4. This can be clearly seen in the “**Table 10**”.

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Rotated Component Matrix

Table 10: Rotated Component Matrix^a

	Component					
	1	2	3	4	5	6
v1	.010	.055	.162	.765	-.043	.013
v2	.054	.036	.029	.864	.015	-.031
v3	.200	.285	-.017	.698	-.059	.116
v4	-.016	.046	.002	.121	.320	.668
v5	.097	-.003	.037	-.102	-.103	.780
v6	-.002	.139	.331	.109	.075	.578
v7	.695	.137	-.003	.032	.060	.280
v8	.785	.046	.229	.154	.075	-.039
v9	.807	.045	.079	.045	.166	.071
v10	.734	.080	.103	.048	.320	-.218
v11	.323	.077	.097	-.042	.841	.066
v12	.219	.111	.115	-.074	.836	.132
v13	.106	.036	.739	.121	.134	.037
v14	.107	.060	.750	.089	.047	.024
v15	-.149	.500	.431	.149	.225	.074
v16	.061	.661	.316	.026	.116	.083
v17	.023	.799	.002	.157	.042	.145
v18	.229	.732	.072	.117	.012	-.103
v19	.093	.287	.510	-.077	.072	.228
v20	.242	.353	.465	-.026	-.213	.076

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

To Interpret Factors: The rotated factor/component matrix forms the basis for interpretation of the components.

Component Loadings: Now by combining the Column C of the Table 8 and Table 10, six components are exhibited in **Table 11** which affect the business growth of the mobile telecom industry through performance marketing approach with the eigen values greater than 1.0 using the factor loading of 0.50 as the cut-off point and cumulative proportion of 62.239% variance.

From the findings of this study through **Table 11**, it is evident that the business growth of the mobile telecom industry through performance marketing approach is ensured for six reasons namely 'Component 1: Technological Environment', 'Component 2: Legal Environment', 'Component 3: Ethical Approach', 'Component 4: Political & Economic Environment', 'Component 5: Prevention of Environmental Pollution' and 'Component 6: Social Environment'.

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Table 11: Component Loadings

Name of Components	Variables	Component Loading*	Eigen value*	Component Interpretation (% of Variance Explained)**
Component 1: Technological Environment	v7: Latest Technologies	.695	4.613	23.065
	v8: Customers' Information Security	.785		
	v9: Transaction Updates	.807		
	v10: Faster Communication	.734		
Component 2: Legal Environment	v15: Fair Acquisition of License	.500	2.248	11.239
	v16: Information Transparency	.661		
	v17: Registered SIM Users	.799		
	v18: Support in Legal Proceedings	.732		
Component 3: Ethical Approach	v13: Publicity on Environment Friendly Infrastructure	.739	1.851	9.257
	v14: Publicity on Harmful Effects	.750		
	v19: Privacy of Customer Information	.510		
	v20: Customer Permitted Campaign	.465		
Component 4: Political & Economic Environment	v1: Digital Gap Minimization	.765	1.399	6.993
	v2: Investment on Technology	.864		
	v3: Tax and Duties	.698		
Component 5: Prevention of Environmental Pollution	v11: Recycling Program	.841	1.200	6.002
	v12: Environment Friendly Services	.836		
Component 6: Social Environment	v4: Age & Gender wise Services	.668	1.137	5.683
	v5: Socio-Cultural Service Packages	.780		
	v6: Societal Welfare	.578		
		Total Variance		62.239

Source: * Table 8, Table 10

The following is a brief discussion of each component in the order of its contribution to the total variance.

i) Component 1 has high coefficients for variables: v7 (Latest Technologies), v8 (Customers' Information Security), v9 (Transaction Updates) and v10 (Faster Communication). Therefore, this component may be labeled or named as 'Technological Environment' Component. Thus, performance marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh by technological support.

ii) Component 2 is highly related with variables: v15 (Fair Acquisition of License), v16 (Information Transparency), v17 (Registered SIM Users) and v18 (Support in Legal Proceedings). Therefore, this component may be labeled or named as 'Legal Environment' Component. Thus, performance marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh through legal support.

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iii) Component 3 has high coefficients for variables: v13 (Publicity on Environment Friendly Infrastructure), v14 (Publicity on Harmful Effects), v19 (Privacy of Customer Information) and v20 (Customer Permitted Campaign). Therefore, this component may be labeled or named as 'Ethical Approach' Component. Thus, performance marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh through ethical approach.

iv) Component 4 has high coefficients for variables: v1 (Digital Gap Minimization), v2 (Investment on Technology) and v3 (Tax and Duties). Therefore, this component may be labeled or named as 'Political & Economic Environment' Component. Thus, performance marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh through ethical approach.

v) Component 5 has high coefficients for variables: v11 (Recycling Program) and v12 (Environment Friendly Services). Therefore, this component may be labeled or named as 'Prevention of Environmental Pollution' Component. Thus, performance marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh through prevention of environmental pollution.

vi) Component 6 is highly related with variables: v4 (Age & Gender-wise Services), v5 (Socio-Cultural Service Packages) and v6 (Societal Welfare). Therefore, this component may be labeled or named as 'Social Environment' Component. Thus, performance marketing can ensure sustainable development of the mobile phone telecom industry of Bangladesh through socio-cultural support.

From the above factor analysis and findings of this study, it is evident that business growth of the mobile phone telecom industry of Bangladesh is ensured through performance marketing for six reasons namely 'Technological Environment', 'Legal Environment', 'Ethical Approach', 'Political & Economic Environment', 'Prevention of Environmental Pollution' and 'Social Environment'. Components loading of the variables and percentage (%) of variance of the components as exhibited in **Table 11** rejects the null hypothesis (H_0): Performance marketing cannot ensure business growth of the mobile phone telecommunication industry of Bangladesh and proved the alternative hypothesis (H_a): Performance marketing can ensure business growth of the mobile phone telecommunication industry of Bangladesh. Thus, the model proposed in the earlier section is validated.

8. Conclusion

On the basis of statistical evidence, it is clear that there is a causal effect of effective performance marketing and business growth. Hence, the proven model can be further used and developed for similar other researches. The current paper is unique because in this study the PESTEL framework has been adopted through intensive qualitative review of literature and extensive quantitative analysis through the Principal Component Analysis (PCA) on the identified variables from the secondary data. This study proved the PESTEL factors through statistical analysis and exhibited that they are core aspects of performance marketing and have direct relations with business growth. The present paper is also unique for its compliance with the reliability and validity test criterion.

The new findings of this paper are that 6 (six) components namely i) Technological Environment, ii) Legal Environment, iii) Ethical Approach, iv) Political & Economic

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Environment, v) Prevention of Environmental Pollution and vi) Social Environment can ensure business growth of the mobile phone telecommunication industry of Bangladesh.

The higher reliability and validity scores of the present study have exhibited that the hypothesis set earlier is proved. So, the study is very much significant. In practice if the macro environmental factors can be utilized to ensure a viable balance among the political, economic, social, technological, legal & ethical and natural environmental aspects the performance of the mobile phone telecommunication industry of Bangladesh can be ensured and thus business growth can be accelerated.

It is a matter of limitation of this study that none of the study on the impact of performance marketing was found directly related to the business growth of the mobile telecom industry of Bangladesh. Moreover, the studies which were conducted relating to this arena are mostly of developed and developing countries and there are very few studies available for Bangladesh. Again they focused on the variables of performance marketing partially. For example, the variables like v2, v3, v6, v10, v12, v14, v16, etc., in the Table 2 exhibit the paucity of research findings of the previous studies. This means that there is still necessity of more relevant research findings on some of the identified factors. So, if more researches in future are undertaken in this arena, the respective outcome will surely help in ensuring business growth through effective performance marketing.

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