

## **Emerging trends in mobile apps market and their potential impact on mobile users engagement in the global economy**

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### **Abstract**

In modern era, due to emergence of smart phones, more and more of our interaction online occurs on mobile devices. In order to grasp business opportunities, organizations are concentrating on developing mobile apps to acquire many customers and deliver highest quality engagement within a dynamic changing marketplace. The main aim of this chapter is to provide information about usage pattern of mobile apps and their impact on day to day activities of people. The data was collected from 150 respondents through a pre-tested and a well structured questionnaire. Besides that, perceptions of them towards mobile apps are also presented in order to understand the importance and selection of mobile apps in the canvas of the mind of people while using apps. In this regard statistical test using SPSS software was applied to explain the factor needed to identify and analyze the relationship between different mobile applications and user engagement. At the end of the chapter, researcher would be able to understand the use of mobile apps and their impact on day to day activities of an individual in a significant manner.

**Keywords:** Mobile apps, usage pattern, customer perception.

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## **Introduction**

Nowadays, carrying a mobile phone has become a status symbol for the young people and the use of mobile applications has helped them to almost anything possible. The main aim of research is to identify and analyze the perception of people towards mobile apps usage. The research subject is important in the context of analyzing the relationship between different mobile applications and user engagement. Relationship between these two terms will be identified in terms of the responses provided by respondents. Furthermore, the present chapter will assess the importance and selection of mobile apps in the mind of people in forms of speed, costs, installation, simplicity and integration criteria's.

## **Objectives of the research**

- To explore the latest trends related to mobile apps and their usage
- To recognize the leading factors needed to identify and analyze the relationship between different mobile applications and user engagement.
- To assess the importance and selection of mobile apps in the mind of people while using mobile apps

## **Background of Research**

### **Literature review**

#### **Concept of mobile application**

A mobile app is a software program developed for small handheld devices such as mobile phones, Smartphone's, PDAs and so on. It is generally used for the purpose of conducting different activities with higher flexibility within stipulated time. Mobile users can download and access apps directly using their smart phones (Jeanne and Jamie, 2012). The main aim of mobile application developer enterprises is to capture more people throughout the world. In addition, easier to maintain and deploy changes across various platforms and overall look and feel of apps are the main benefits associated with the use of mobile applications. However, platform integration, loss of flexibility, security and customer design of apps related challenges also attached with the use of mobile apps (Lee, 2012).

### **Latest trends related to use of mobile apps throughout the world**

As per one of Yahoo's report, the Indian mobile app market throws up interesting figures. It is predicted that by the end of 2016, the total number of Indians with Smartphone would be almost 400 million and it is expected to go beyond Rs. 2600 crores (Fakhruddin, 2015). In the context of overwhelmingly dominant mobile application development platform, Android is leading the market in India while Apple, the leading platform in the US. Maximum popularity among Indian's and world users are enjoying news applications and social media apps maximum (Aggarwal, 2015). Rather surprisingly, the apps downloads in India is likely to increase from 1.56 billion in 2012 to 9 billion by 2015. From the result of the joint-study which was done by Deloitte and the Associated Chambers of Commerce, it is clear that the majority of apps are downloaded by people belong to age-group 16 to 30 years. Mobile trends in India have indicated that the Smartphone craze among youth is increasing day by day with lot of features. In addition, their high engagement towards the different entertainment categories which include instant messaging apps, social media apps, music apps, mobile games, cricket, bollywood and many more also are also expected to rise (Phicomm, 2015).

As per the survey report of Sharma (2014), the India, South Korea, Germany & the United States at the top position for Google Play and Japan, the United Kingdom, USA and China lead market for the iOS in 2014. In Q3 2014, there is remarkable growth was shown in global App economy. Indian users spend over 3 hours and 18 minutes on an average each day on their devices and one-third of that time is spent on applications, Ericson report says that (Sharma, 2014). It has been noticed that India has comparatively higher Smartphone usage than the US. Apart from that, India is the only country in the world where Smartphone users showed higher engagement on multimedia over game.

### **Growing usage of Smartphone among youth**

According to Nielsen report (2014), people are finding all about apps in all kinds of instances Apps. Over the past half-decade, they are now become an integral part of day to day life of people and they are spending an average of 30 hours per month to carry out different activities. The trend in mobile device usage and proliferation of mobile devices has transformed society into an app-driven society. As per the research of Nielsen (2014),

Android and iPhone users belong to age group 18 were spent their more 65% of times in using apps each month in the year 2011. It was tremendously increased to 26.5 during the period of 2012. As per the result of survey, 18-24 age people was spent the most time on apps which was 37 hours, 6 minutes per month (Nielsen, 2014). However, Tiongson (2015) found that people download apps every day, but many of them are never used. From the figure of mobile apps rating, increasing number of installations and number of viewers, it is clear that the amount of time they are spending on those apps will also increase in future (Tiongson, 2012). Beniwal and Sharma (2013) determined that the use of mobile phones has affected the youth to a large extent and therefore, dependency on mobile phones is increasing day by day. Further, they were described about the educational opportunities accessible to rural children by effective use of smart phones (Beniwal and Sharma, 2013).

### **Popular apps category**

Internet surveys have shown that people spent most of their time on Whatsapp and mobile Facebook mobile applications in order to share music, video and text messaging. Statistics indicated that Google Play quarterly downloads were nearly 60% higher than iOS App Store in emerging internet market (Phicomm, 2015). From the research, it has observed that in the Asia-Pacific smart phones shipments between 2013's Q1 & 2014's Q1, India has been the fastest growing app market in term Google Play downloads. In terms of potential profitability and opportunity for growth, India comes in the top 5 mobile app markets in the world. Fakhruddin (2015) also describes some factors such as linguistic barriers, plenty of non-English speaking people in developing countries, price, convenience, secure payments and the GPRS data packages offered by the different mobile service providers which can affect growth of mobile applications. Google and Apple app store dominated the entire mobile application market and their higher contribution can be understood in terms of generating more than 50 per cent of mobile Internet traffic and paid content revenues from Smartphone's (Fakhruddin, 2015).

### **The importance of user of experience for mobile apps**

In the contemporary era, mobile application development technology is evolving at very high speed. In the context, the research of Johnson (2015) has examined that the mobile app market is termed as such market where quality and performance of mobile app is considered as a most important factor in comparison of brand loyalty. Furthermore, the success of mobile app development project is greatly influenced by offering fluid user experience. Author further argued that user experience is becoming the most crucial feature of different elements that are working on the digital landscape (Johnson, 2015). Therefore, it is essential for adoption of user centric approach during development of mobile application.

Beniwal and Sharma (2013) has evaluated that an individual experiences several negative elements such as lots of bugs and errors, complexity in function along with unexpected behaviours as a result of poorly designed mobile app. These factors create negative image of mobile app and reduce customer loyalty. It hampers the relationship between mobile app developer and user of apps (Beniwal and Sharma, 2013). In the contrary, the investigation of Fling (2009) has found that good user experience is considered as a great tool to win the loyalty of consumers and also increasing engagement. Furthermore, it has been examined that a well design app is able to save time and money of developer. This is because it reduces supporting cost for handling different aspect of mobile application development project and other maintenance expenditures related to help desk, call centre support etc (Fling, 2009).

Johnson (2015) evaluated that a well-designed app has found very effective for increasing the traffic, transactions, and conversations through different user. These elements have played important for keeping more clients along with their positive feedback. By providing a great experience to user of mobile application, developer of mobile app is able to establish relationship with users that help in promotion of the positive word of mouth and increasing sales of mobile app (Johnson, 2015). Author further describes that this approach leads to increased customer satisfaction and loyalty. In this context, Gerber (2016) has argued that Push notifications are playing important role for engaging different users and keeping them active. It provides significant assistance to developer for transmission of information to different users about different events, locations, updates, scores along with new features.

Notifications also influence to user to click on the app and use it as per their requirement. If users download apps and forget them, developer is able to notify about the app through different notification. By sending different notifications in order to assess feedback, the user engagement can be enhanced for handling functioning and user experience (Gerber, 2016).

### **Assess the importance and selection of mobile apps in the mind of people**

An individual selects wide range of mobile applications for different objectives. In this context, the study Neil (2014) has found that an individual always wants to download an easy-to-navigate app which is able to deliver a certain set of key functionalities along with wide range of mobile services with the help of an intuitive, entertaining user interface. They expect an app to consist right set of options and functionality that compatible with the different smart devices and Smartphone based on Android, iOS etc (*Mobile Apps: What Consumers Really Need and Want*, 2016). In the modern era, people want proactive and relevant information as well as services as per their interest. In this regard, an application must offer personalized content as per the distinct interests along with the ability to share several offers, news and product recommendations on different social networks. In this context, Fling (2009) argued that the bad experiences are also going to be shared during promotion of mobile application. Therefore, it is essential that apps must be performed with a best possible manner.

Cerejo (2012) has evaluated that content provided on apps is also influencing the decision of an individual regarding selection of mobile apps. It also affects the perception of an individual as well as popularity of mobile apps. In this context, it has been found that information architecture is termed as a most important element of mobile apps that determines a systematic arrangement of functionality and content that helps users in order to find appropriate information. It consists several factors such as navigation, search and labelling of data that are playing important role in the process of information search on certain mobile apps (Cerejo, 2012). For example: Mobile Design Pattern Gallery is term as an important tool used for primary and secondary navigation patterns which are mainly used for mobile, many of these navigation pattern are vertical rather horizontal as on desktop websites

that plays important role in order to attract an individual towards particular mobile apps (Charland and Leroux, 2011).

Albert and Tullis (2013) described that design of app is identified as most crucial segment mobile application development process that must be based on as per the certain interest and requirement of consumers. The design of mobile application is a combination of various sub elements such as visual presentation and interactive experience of mobile which is associated with the graphic design, branding as well as layout of mobile application. Therefore, it is necessary for maintaining the visual consistency with various other touchpoints and experiences by using different colors, typography as well as personality that plays important role for enhancing the experience of the users (Albert and Tullis, 2013). It supports mobile developer for managing communication with target users with the help of non-verbal medium of messaging.

The research of Truste and Harris (2011) has determined that the interactive, privacy and security of information have been addressed as most common concerns which are addressed among Smartphone users. This factor is greatly influenced decisions of users of mobile application regarding selection of best applications to meet different requirements. In this context, author further analyzed that if a mobile app provides appropriate features to users for managing their personal information that could be shared in a mobile app by asking before collecting their location data, it increases trustworthiness of users on mobile app (Truste and Harris, 2011).

### **Issues associated with the use of mobile apps**

As per the view of Fu, Faloutsos, Hong and Sadeh (2013), while using mobile application, the customers are facing issues regarding security and privacy. It has been spotted that the mobile application is vitally different from other tools like laptop and desktops and hackers can easily access the cached information which is a subject to a security breach. This kind of issue impacts the perception of customer in negative manner thereby affecting business opportunities in a diverse manner (Fu, Faloutsos, Hong and Sadeh, 2013). Cummings, Borycki and Roehrer, (2013) had asserted that customers also face issues in using mobile phone applications as they does not find app simple and clear. In order to design application

attractive the business organizations uses various layers and categories in mobile application which creates issues for users. It is essential for organizations to focus on user friendly application development so that customers can easily access the application (Cummings, Borycki and Roehrer (2013). According to Barr-Anderson and Tate (2013), besides complex design of application the users also face issues in context to performance and battery life. It has been identified that the most of attractive applications are not useful for customers as its performance productivity is not suitable. Some of applications performance is productive but they impacts negatively on battery life. In the support of this, it can be stated that most of time customers does not uses mobile applications as it demands high ratio of internet uses that reduces the battery life of mobile (Barr-Anderson and Tate, 2013). In this regard, it is essential for mobile application developers to ensure that bugs and other issues are properly monitored and resolved by experts in order to meet the satisfaction level of users. Developers can also concentrate on testing of beta version to avoid any performance trouble in the final version and meet the expectations of customers (Kangas and Kinnunen, 2005). Khuntia and Parthasarathy (2015) critically explained that improper management of data in mobile application is also one of critical issue that impacts the experience of customers in negative way. Most of times customers get annoyed or confused during the use of mobile application as proper categories are designed by the developers (Khuntia and Parthasarathy, 2015). Few times improper management of notifications also creates negative influence on the user's perception so developers also need to focus on it in appropriate manner.

As per the above statements it can be concluded that the use of mobile application among public has become significant aspect of lifestyle. It has been spotted that the priority of youngster's are now a day's attracted towards optimistic use of mobile applications as it facilitates in meeting diverse needs (König-Ries, 2009). Youngsters prefer a mobile application that provides proper engagement towards various entertainment and lifestyle categories such as travel booking apps, music, videos, etc. It has also been witnessed that one-third of mobile usage time is on applications so business organizations and other authorities can use mobile application to create better awareness among customers.

Moreover, increased number of bugs, errors and complexity aspects in mobile application functionality is impacting behavioural aspects of mobile app user. It has also been identified that customers faces issues in use of mobile applications as they does not find app simple and clear (Holzer and Ondrus,2011). In order to overcome such kinds of negative impacts on perception of users the developers must focus on proper design and alignment during mobile application development. Mobile app market is also providing great exposure to various elements that boosts the lifestyle of individual. Now days IOS and Android operating systems are most proffered categories to use mobile applications.

### **Research Gap**

After having an extensive review of literature, there are many considerations that included into account like the trend in mobile device, time spent by users, percentage of consumers using smart phones, device preference throughout the day, and mobile apps usage by age-group which affects the perception of consumers towards mobile applications. But the understanding of use mobile apps and their impact on day to day activities of customers were missing and it can play a crucial role in the context of analyzing the relationship between different mobile applications and user engagement. Additionally, the current research also measured the importance and selection of mobile apps in the mind of customers in forms of speed, costs, installation, simplicity, integration and many more criteria's which were not done by other researchers.

### **Research Methodology**

Secondary data has been collected from various authentic sources to investigate the latest trends related to mobile apps. On the other side, primary information is collected from customers to know their perceptions about mobile usage in their daily life for different purposes such as entertainment, communication, news & information, search, commerce & shopping, photography and many more (Tracy,2012). The data was collected from 150 mobile users through a pre-tested and a well structured questionnaire. Purposive or judgemental sampling has been applied. The survey was created online and link sent to the respondents in India. The conceptual framework was developed using the variables identified

during literature review. By responses on a five-point Likert scale in agreement/ relevance with statements, all items were measured. Primary data was collected from people belong to different age group on the basis of their availability and interest. Descriptive statistics was applied to explore the relationship between different mobile applications and user engagement.

## Solutions and Recommendations

Table 1: Demographic profile of respondents

		Frequency	Percent
Age	<20	13	8.7
	21-30	63	42.0
	31-50	55	36.7
	>50	19	12.7
Gender	Male	106	70.7
	Female	44	29.3
Education	Below graduate [Diploma and certification course]	10	6.7
	Graduate	77	51.3
	Post-Graduate	42	28.0
	PHD and above	20	13.3
Occupation	Student	12	8.0
	Service class	63	42.0
	Professional and business class	57	38.0
Monthly income	Home maker	18	12.0
	Below 20000	11	7.3
	20001-30000	61	40.7
	30001-50000	43	28.7

	Above 50000	24	16.0
	None	11	7.3

**Interpretation:** From the above table, it is clear that most of the respondents who have participated in the survey were male (70.7%) and belong to age group 21-30 years (42%). Most of the respondents were graduate (51.3) and they lie in service class (42.0%). On the other side, statistics indicate that participants whose monthly income between 20001-30000 (40.7%) and 30001-50000 (28.7%) were the major uses of mobile phone applications in their day to day life.

### **Thematic analysis**

#### **Theme 1:** Use of mobile applications by different users

As per the above statics, it can be interpreted that the users of mobile applications focuses on different segments. It has been identified that the out of 150 respondents the majority of users are more attracted towards use of mobile applications in order to attain information regarding social networking. In other aspects, it can be said that 60 respondents are using social networking mobile applications to get connect with friends, family and community. Above statics also indicates that the least number of respondents has said that they prefer use of mobile applications in context with travel and utility applications as it fulfils their basic needs. Moreover, 25 respondent's percept that use of mobile applications is beneficial for optimistic experience of entertainment and music. With an assistance of mobile applications they can easily access to various movies and music sources in order to attain better satisfaction level. Rest of 35 respondents uses mobile application tools to access the information regarding health and fitness, news and banking. It clearly indicates that the mobile users are more attracted towards use of social networking mobile applications in order to meet their expectations and needs.

#### **Theme 2:** Frequent of purchased Apps and users experience about using the mobile application services

**Interpretation:** On the basis above table, it can be interpreted that maximum 113 out of 150 respondents have accepted that they use different kind of mobile apps occasionally for

different objective. In this context, 20 participants have selected the option “Not at All” that means they are not using any kind of mobile app. Furthermore, remaining 17 respondents have accepted that they are regularly using wide range of mobile applications as per their requirement. Therefore, it can be stated that most of participants have found that mobile apps provide wide range of benefits for handling different tasks and activities related to personal and professional requirement.

Apart from that when respondents were asked about their experience from different mobile apps, it has been mixed responses was addressed from participants. In this context, it has explored that maximum 73 out of 150 participants have accepted that they are very satisfied with user experience that has been provided by different mobile apps. In addition to that 73 respondents have selected the option “Somewhat satisfied” and the option of “Highly satisfied” has been considered by only 20 participants. Therefore, it can be stated that most of users of mobile apps have believed that different kinds of mobile apps have fulfilled their expectations and providing good experience.

On the other hand, the negative responses have been addressed. In this regard, 6 participants have determined that they have neither satisfied nor dissatisfied with services of mobile apps. In addition to that 3 participants have preferred the option “Somewhat dissatisfied” and remaining options “Very dissatisfied” and “Extremely dissatisfied” have been selected by respectively 6 and 5 participants. The reason behind negative views of people was that these users have faced several issues while using different kinds of mobile apps such as poor design of apps, highly complex, various bugs and errors, threats related to distortion of personal information, improper content etc. As per the above assessment, it can be stated that a developer of mobile apps required paying extra attention on quality of content, user interface and various other technical elements of mobile apps to assess positive views from users.

### ***One Way ANOVA***

***H<sub>01</sub>***: There is no significance difference between mobile apps appearance factors and mobile phone user’s engagement.

$H_{a1}$ : There is a significance difference between mobile apps appearance factors and mobile phone user's engagement.

**Table 2: One Way ANOVA**

		Sum of Squares	df	Mean Square	F	Sig.
Usability	Between Groups	1.779	3	.593	2.689	.049
	Within Groups	32.194	146	.221		
	Total	33.973	149			
Modernity	Between Groups	3.644	3	1.215	6.195	.001
	Within Groups	28.629	146	.196		
	Total	32.273	149			
Simplicity	Between Groups	3.926	3	1.309	5.701	.001
	Within Groups	33.514	146	.230		
	Total	37.440	149			
Contrast	Between Groups	3.644	3	1.215	6.195	.001
	Within Groups	28.629	146	.196		
	Total	32.273	149			
Offer a much better experience	Between Groups	1.914	3	.638	3.910	.010
	Within Groups	23.826	146	.163		
	Total	25.740	149			
Functionality	Between Groups	2.140	3	.713	5.209	.002
	Within Groups	20.000	146	.137		
	Total	22.140	149			

Visualise and content	Between Groups	1.145	3	.382	1.750	.159
	Within Groups	31.848	146	.218		
	Total	32.993	149			
Design and outward appearance	Between Groups	2.574	3	.858	3.688	.013
	Within Groups	33.966	146	.233		
	Total	36.540	149			

**Interpretation:** On the basis of calculated values of mobile apps appearance factors, it can be explored that in most of the cases significance values of variables are less than alpha level or p value (0.05). It means that null hypothesis is accepted in usability; offer a much better experience and visualise and content cases. On the other side, null hypothesis is rejected and alternative hypothesis is accepted in the cases of modernity, simplicity, contrast, functionality and design & outward appearances cases. Hence, it can be said that there is a significance difference between mobile apps appearance factors and mobile phone user's engagement. From the result, it is clear that mobile apps appearance factors highly influences the involvement of smart-phone users in uses of different mobile applications in their day to day life.

**H<sub>02</sub>:** There is no significance difference between Price and other factors and mobile phone user's engagement.

**H<sub>a2</sub>:** There is a significance difference between Price and other factors and mobile phone user's engagement.

**Table 3: One Way ANOVA**

		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Price of application	Between Groups	1.657	3	.552	3.077	.030
	Within Groups	26.216	146	.180		
	Total	27.873	149			
Responsiveness	Between Groups	2.158	3	.719	5.095	.002
	Within Groups	20.615	146	.141		
	Total	22.773	149			
Perceived enjoyment	Between Groups	.057	3	.019	.722	.540
	Within Groups	3.836	146	.026		
	Total	3.893	149			
Battery and memory consumption	Between Groups	2.402	3	.801	3.525	.017
	Within Groups	33.171	146	.227		
	Total	35.573	149			
Easy availability (play stores)	Between Groups	1.325	3	.442	2.384	.072
	Within Groups	27.048	146	.185		
	Total	28.373	149			
Customer rating	Between Groups	2.574	3	.858	3.688	.013
	Within Groups	33.966	146	.233		
	Total	36.540	149			
Platform driven feature	Between Groups	1.960	3	.653	3.484	.018
	Within Groups	27.374	146	.187		
	Total	29.333	149			
Checking out with just a tap of a finger	Between Groups	.057	3	.019	.722	.540
	Within Groups	3.836	146	.026		
	Total	3.893	149			
Real time stock	Between Groups	2.216	3	.739	3.072	.030

checks	Within Groups	35.117	146	.241		
	Total	37.333	149			
Seamless integration between web and app	Between Groups	.863	3	.288	1.555	.203
	Within Groups	27.010	146	.185		
	Total	27.873	149			
Link with social media to attract people	Between Groups	1.914	3	.638	3.910	.010
	Within Groups	23.826	146	.163		
	Total	25.740	149			

**Interpretation:** The above table explores that in the most of the cases including price of application, responsiveness, battery and memory consumption, customer rating, platform driven feature, real time stock checks and link with social media, significance value of variables are less than 0.05. It means that null hypothesis is accepted and alternative is rejected. It indicates that there is no significance difference between price and other factors and mobile phone user's engagement. On the other side, alternative hypothesis accepted shows that perceived enjoyment, easy availability, checking out with just a tap of a finger and seamless integration between web and app are the major factors which are highly affect use and motivate to download and use mobile applications in their day to day life. Hence, it can be said that these factors play an important role in the context of selection of mobile apps in the mind of people.

### Future Research Directions

In order to have detailed understanding about mobile application, the future research can be carried out for investing the various key elements that relates with the mobile application development. Evaluating the role of Mobile applications in digital revolution is also one of critical subject that can provide better learning regarding concept of mobile application. Moreover, the research to examine the mobile application features that helps business firms to retain existing as well as plays key role in attracting new potential customers. With an assistance of this research, researcher can easily identify the optimistic features of mobile application that provides long term sustainability to the business. On the basis of the present

study, it is found that simplicity, functionality, design and outward appearance, easy availability and customer rating were the leading factors needed to identify and analyze the relationship between different mobile applications and user engagement in the digital arena. Apart from this, on the other side, platform driven feature, link with social media to attract people and seamless integration between web and app are the main features that can be beneficial for companies in assessing the importance and selection of mobile apps. The study could also facilitate business firms to determine various advantages of mobile applications in order to meet the needs and expectations of customers in a significant manner. The research work can also assist organizations to have continuous up-gradations in mobile application as per emerging trends present in the market. This research will provide significant benefits to different organizations which are developing wide range of mobile apps as per the distinct needs of an individual user. In this context, findings of present study will help mobile developers to examine different demographic of smart phone users along with their perception about different mobile apps.

### **Conclusion & Management Implications**

The present research has been carried to assess the emerging trends in mobile apps market and their potential impact on mobile users' engagement in the global economy. It is found that increase in number of smart phone users has significantly enhanced importance of different mobile apps through an individual is fulfilled several personal objectives such as social media, shopping, tourism etc. The analysis of primary data was being carried out through thematic analysis and one way ANOVA statistical test. From the evaluation, it is observed that majority of mobile apps users consider different mobile applications mainly for social media, music, banking and mobile gaming related activities.

In addition to that most of participants are also satisfied with different services and features of different mobile apps. Apart from the findings of different scholars and researcher own perspective, it can be interpreted that the appearance of Smartphone and increase use of mobile applications plays an important role to enhance user engagement towards the mobile apps. Therefore, it can be stated that design, quality of context, graphics, user interface etc. have also played an important role to influence an individual mobile phone users towards

mobile apps. In similar way, evaluation of secondary data has addressed that the design of mobile app is termed as most important section of mobile application development process that must be based on as per the certain interest and requirement of consumers. It is necessary for mobile application developers to maintain the visual consistency in applications by considering several features such as colours, typography and content that influences engagement of a user within mobile app etc.

As per the outcomes of present investigation, mobile app developer organization should have pay extra attention on quality of content, design & user interface, graphics, security and several other factors related to functionality of apps so as companies will be able to generate good returns from mobile apps by increasing engagement with target consumers. This investigation will support management of different companies for avoiding negative elements such as poor content quality, complex design, bugs and errors, etc. while developing mobile apps that would create adverse impact on its performance. This is because if a Smartphone app will not meet expectation of clients or target users then overall brand value of organization would be hampered. Hence, it is recommended that Smartphone application developers should emphasize on increasing security and privacy during online transactions.

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