

A Survey on Mobile Applications and Their Global Impact

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Abstract—The purpose of this article is to explore the implications and applications of mobile applications for social networks, corporations, and individuals. In the current information and communication era, mobile applications are a fascinating and rapidly expanding industry. As this article explains, individual mobile users make the use and popularity of the mobile application possible. We will be discussing the effects of mobile applications on the business here. Here, various statistical data regarding the historical and current state of mobile applications in different parts of the world are provided to illustrate their significance. Additionally, this article discusses the ethical implications of mobile applications on society.

Keywords: Social Effects, Trade Promotion, Ethical Viewpoint, Trade Implications, Economic Repercussions.

I. INTRODUCTION

In the modern era of information and communication, people are accustomed to using computers and computer programs. Mobile application development and use are still relatively new fields that are growing quickly. Mobile applications have a generally positive impact. Mobile applications are becoming more popular in developed countries, while in underdeveloped countries, individuals and communities are modernizing and establishing new types of IT infrastructure. The mobile apps are easy to use, accessible from anywhere, and can be operated on a tiny, portable mobile device. Mobile apps are now widely used by many individuals for various purposes, such as social media, file management, document creation and management, entertainment, and more. The mobile app can be utilized by users from any location. People are capable of participating in multiple activities, from their everyday lives to their careers. The mobile application is important for businesses in addition to having an impact on users. Businesses are utilizing mobile applications as a popular method of revenue generation. Mobile applications have a positive impact on society. Screen resolution, hardware constraints, higher data consumption, connectivity problems, and restricted

interaction. In the past few years, mobile device manufacturers have been working to develop devices that can provide improved connectivity, greater storage capacity, and higher screen quality to create a better environment. Then the modern mobile application.

II. LITERATURE REVIEW

Extensive research has been conducted on the multidimensional influence of mobile applications (apps) on global civilizations, economics, and cultures, as a result of their widespread dissemination. This review of the literature seeks to highlight the most important discoveries from previous research, illuminating the various ways that mobile applications have changed the contemporary world on a worldwide basis.

Transformations in Society: Studies conducted by Smith (2019) and Chen & Kim (2020) demonstrate how mobile applications are revolutionizing communication and social interactions on a global scale.

Economic Repercussions: Mobile applications have a substantial and wide-ranging economic impact. Research by Kumar & Gupta (2018) and Li & Wu (2022) highlight how m-commerce apps influence customer spending and company expansion.

Developments in Technology Technological developments in mobile have made it possible for apps to offer creative features and functionalities. Key technological developments including augmented reality (AR), artificial intelligence (AI), and Internet of Things (IoT) integration are covered in Smith's research from 2019, which has improved the capabilities of apps for smartphones.

Accessibility and Inclusion: These problems still exist even with the increasing use of mobile applications. It is imperative to make improvements in accessibility by including features like voice commands, screen readers, and tactile feedback to

guarantee that mobile technology stays fair and inclusive for all users, irrespective of their finances

To sum up, the literature study highlights the noteworthy worldwide influence of mobile applications in several sectors such as social, economic, and technological. To optimize the beneficial impacts of mobile apps on a worldwide scale, researchers, legislators, and industry stakeholders must place a high priority on accessibility, inclusivity, and responsible innovation in mobile technology development.

III. OVERVIEW OF MOBILE APPLICATION

A mobile application is a piece of software or a program set that operates on a mobile device and helps the user with specific activities. A relatively new and quickly expanding area of international information and communications technology is mobile applications. The mobile application is easy to use, affordable, downloadable, and compatible with a wide range of smartphones, including entry-level and low-end models. The mobile app can be used for a variety of tasks, including texting, calling, social media, online browsing, music, video, gaming, and more. Numerous mobile applications are available for download via the Internet and installed on your phone, with some coming pre-installed. Publishers, vendors, and developers of mobile apps service this enormous sector. In terms of technology Technically speaking, many mobile apps can operate on several management platforms, including Windows, Symbian, Android, iPhone, BlackBerry, and Symbian. Virtual machines, including Java/J2ME, BREW, Flash Light, and Silverlight, are also available. There are various categories of mobile applications, depending on the application field.

1. **Communication:** emailing, instant messaging, and web browsing Online communities.
2. **Games:** Action/Adventure, Card/Casino, and Puzzle/Strategy
3. **Multimedia:** Viewers for graphics and images, presentations, videos, and audio
4. **Productivity:** Spreadsheet, Calculator, Agenda, Pad for notes, memos, and word processor
5. **Travel:** GPS/Maps, Directions/Schedule, Weather, Currency Converter, and Translator
6. **Widgets:** File Manager, Tasks Manager, Profile Manager, Screen Saver/Standby, Address Book, and Call Manager.

3.1. The Mobile App's History

The mobile app first claimed to be the simplest method for using our original cell phone, alarm clock,

calculator, etc. Those days, the only things people did with the mobile application were make and receive calls, perform calculations, etc. However, "Why simple?" This is what mobile application developers always prioritize. However, they are aware that everyone will utilize mobile applications in the future as they experiment with extensive features. Development of mobile applications discussed Internet-based mobile applications in 2000. Because of their daily significance, users can connect them to the internet using this smartphone application. The mobile sector is trailing behind in several parts of the world, like the EUA. Mobile networks are not as common in this region of the world as they evolved. It's funny, therefore, that this site has high expectations for the mobile app. However, if we consider Europe, the major mobile firms in the world, such as Ericsson, Nokia, and others, set their headquarters there, and here is where mobile innovation originated. The primary issue is that these businesses are both developing mobile applications and producing cell phones for the mobile carrier. However, they may be making things slower. Developers and customers now stand apart as a result of these. Whichever they developed, when it would arrive, or if it would never arrive, the frustrated developers. Six years ago, a business in the United States stated that it was going to release a mobile phone that would revolutionize the market model. The operator's list of requests is of no interest to them. To enter the market, they needed to develop a mobile phone and a mobile application, which they eventually accomplished. Following its release, the iPhone rose to the top of the market for products in recent years. Additionally, other mobile phone providers are still attempting to imitate it. This phone's primary advantage is its superb platform, which enables the operation of extremely dynamic Internet-based applications. Units were offered with a range of uses in mind. Nokia introduced the App Store as well. For instance, Nokia features a sizable app store named "Ovi Store" and runs the Symbian operating system. A multitude of uses are available where a wide range of applications for our everyday requirements are available. Additionally, coders will love it here. Android Market and the Android OS are also available for Sony Ericsson devices. The majority of the apps have fantastic functionality and are web-based. After that, there was a notable spike in the amount of mobile internet usage. These smartphone apps are made to make our lives easier. They enable us to use the Internet, engage with the outside world, obtain information from a distance, connect to social media platforms like Facebook and Twitter, find our position, and much more. Come back home so you can use your phone to switch on the air conditioner before you get there. Moreover, you can get

house or vehicle alarms on your mobile device. For the first time in 2008, Compared to fixed broadband subscribers, there were more mobile broadband users [4][5]. However, usability and interoperability issues with mobile web access persist today. Fig 1: Mobile broadband subscriptions overtook fixed broadband in 2022-2027

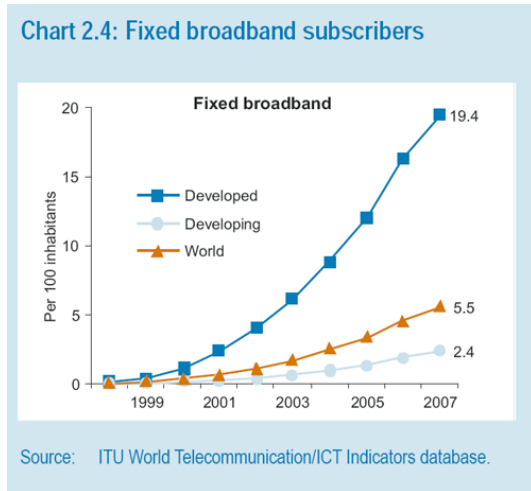


Fig 1: Mobile broadband subscriptions overtook fixed broadband

3.2. Uses of the Mobile App Right Now

All mobile firms have released feature phones and smartphones in the last several years. Additionally, as these mobile phones' computational power increases, so do smart mobile applications. The majority of individuals in industrialized nations, particularly those in America and Europe, find it impossible to conceive living without a cell phone. The use of mobile applications has increased quickly in both developed and developing nations. Usage of mobile apps across nations and geographical areas. We'll go over a few of the primary channels that Think of Communication uses, like voice conversation, Facebook, Twitter, and the internet. Nowadays, Facebook has an app on every common mobile device. Users can share with friends and family while traveling by automobile or train, for example, from anywhere. Messenger is a conversation tool that anybody can utilize. Using VoIP technology and Internet applications, we may make inexpensive phone calls to any location in the globe. We can discuss the GPS after that. The most popular GPS applications are route locators, vehicle tracking, current location, map locations, and more. Google Maps makes it easy to locate any place. We can browse, choose, and purchase things using mobile commerce. In marketplaces and restaurants, customers occasionally utilize the mobile application Mobile Wallet to make payments. Anyone can use the mobile application to do business. An additional feature of the mobile application is eTickets and mobile banking. On occasion, we can operate a

household appliance remotely by using a mobile app that allows Internet access. Entrepreneurs conduct business from their offices. With the help of the smartphone app, users may watch movies and videos directly from YouTube. They have audio and video players. Youngsters can utilize mobile applications, such as games, on their devices. Between April 2019 and April 2020, there was a 28 percent growth in the number of mobile app users in the US, according to MobiLens study [12]. A graph showing the growth rate of each sort of application up until April 2020 can be found below where x-axis items denote the usage in the fields and the y-axis denotes the growth rate

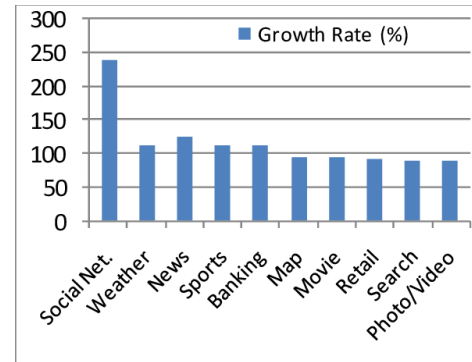


Fig 2: Growth rate of all application categories

IV. BUSINESS IMPLICATIONS OF MOBILE APPS

Smartphones and mobile apps have grown at an extremely rapid rate in recent years. Mobile devices and software, therefore, also greatly benefit enterprises. Mobile applications have a significant impact on a wide range of business sectors. We have attempted to cover a few topics about the business consequences of mobile applications in the paragraphs that follow.

4.1. Mobile Internet/Broadband

Businesses A sophisticated environment and a vast selection of mobile applications are features shared by all smartphones and feature phones. Most apps use the Internet or mobile devices to link users to the rest of the world. Internet. As an illustration, consider Google Maps, email, gaming, entertainment, and online shopping. As a result, mobile consumers all around the world access the Internet through their phones, mobile operators, and other third-party businesses that deal with offering quick Internet services. Height. Globally, mobile broadband adoption has grown dramatically in the last few years, though not everywhere. As per the report [5], the regions with the biggest number of mobile broadband subscribers are Asia, Pacific, and Europe.

4.2. The Business of Mobile Application Development

Given that so many smartphones were sold in a single year, one of the industries with the quickest rates of growth is mobile application development. Smartphones, feature-rich phones, and wearable

technology allow for simple customization and configuration changes. Apps are available for iPhone, Android, Blackberry, and other devices. Certain specialized development organizations produce models or user-friendly software that customers can alter for themselves by following these steps: sharing it with peers, for example. These programs can also be used for any other type of entertainment, such as video games. The software developer charges for their product. The more people who utilize their program, the more others who will recommend it, and the more money the business will generate. Business models (stores) can be broadly classified into two categories: native, on deck, and third-party, or off the deck. Among the queries was Global Mobile

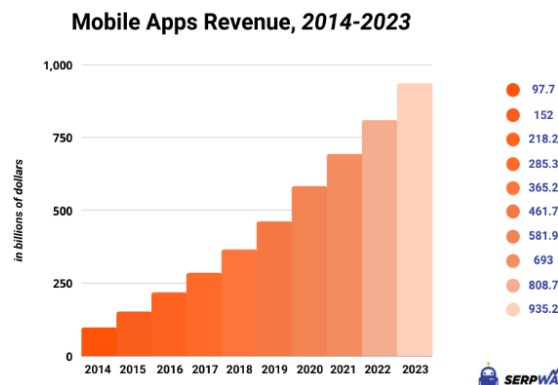


Fig 3: Mobile Application sales revenue

Responses were obtained for the IBM Technology Trends Survey 2010 [10], which involved 2,000 developers and IT professionals across 87 nations. The survey indicates that by 2015, 55% of IT professionals anticipate going beyond producing applications on all other traditional computing platforms to develop mobile software applications for gadgets like the iPhone and Android, as well as tablets like the iPad and PlayBook.

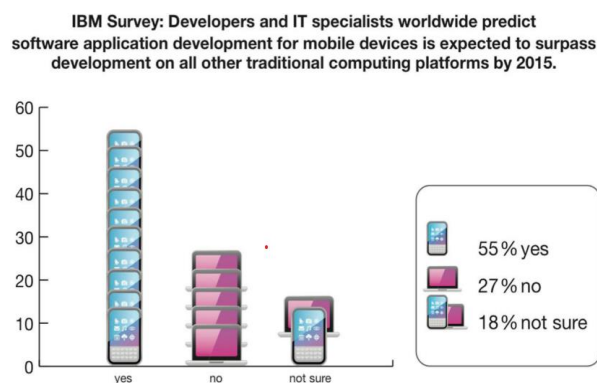


Fig 4: IBM India Survey of mobile software application development

However, if we examine things from the standpoint of the developer or programmer, we can see that they can

make a sizable income from creating mobile applications. Mobile applications create an open market for development. IT workers can acquire the requisite knowledge and abilities to create mobile applications. After that, they can make money by developing mobile apps.

V. Effectiveness of Mobile Applications in Society from an Ethical Perspective

Mobile applications have a significant impact not only on individuals and businesses but also on society. With the help of mobile applications, the entire society becomes more convenient. Social impact figures are listed below.

- 1. Fast Communication:** Some mobile applications such as Facebook, Twitter, Messenger, Skype, Google Talk, etc. Help people in society to communicate with each other. You can still stay in touch even when physical distance is not an issue. This improves and strengthens social relationships. And it's good for family, friends, and society.
- 2. Saving time and increasing productivity:** In societies and developed countries, people perform daily tasks such as checking emails and contacting business partners at any time by car, bus, train, automobile, or on foot. Can do. So you don't have to wait in your room or office.
- 3. Improving IT Infrastructure in Developing Countries:** In developing countries, the use of mobile applications increases people's knowledge. Because many people access the Internet from anywhere. As a result, IT infrastructure is improving in all developing countries.
- 4. Jobs on the rise:** Mobile application development and the mobile application industry are creating more jobs in society. Many people can find work in this area. It is also good for society and the country.
- 5. Reduce computer usage and power consumption:** Most people use mobile applications for simple daily tasks, and using mobile application features reduces computer usage and consumes less power. Big Savings: The Mobile VoIP app helps you make international calls from your mobile phone. This reduced monthly expenses.
- 6. Entertainment:** mobile applications allow people to have fun socially. There are many other morally positive effects on society. On the other hand, mobile applications also have some negative effects that are not good for society from an ethical perspective. These issues are:
 - Teenagers waste time on Facebook, Skype, YouTube, and other Internet-based mobile applications when there are too many of them. When using harmful applications or online

games, the younger generation runs the risk of becoming hurt.

- The majority of people use their phones everywhere—in offices, buses, trains, colleges, and universities—in addition to using mobile applications. Somebody was concerned about them.
- Frequent use of mobile phones is bad for your health.

VI. RESTRICTIONS FOR USING MOBILE APPS

The capability and constraints of the platform present a significant difficulty for mobile applications. Mobile applications reveal platform problems in addition to their fascinating usability. More intriguing restrictions and appearance. Below, we try to talk about the limitations.

- i **Tiny screen size:** Text and graphics that would be easy to see on a desktop screen are difficult, if not impossible, to display on mobile platforms.
- ii **Lack of windows:** We can observe that the desktop has multiple windows open at once. On the mobile platform, however, it is challenging.
- iii **Navigation:** Due to the lack of a mouse-style cursor, the majority of mobile devices offer restricted navigational options.
- iv **Page types that are accessible:** Not all file formats are supported by the mobile platform.
- v **Speed:** The mobile platform's processing and connection speeds are still sluggish.
- vi **The Character limit for emails or messages:** A lot of devices only allow a certain amount of characters in emails or messages.
- vii **Cost:** High rates for internet bandwidth, mobile apps, and phones.

VII. Future of Mobile Apps

We can observe that the pace at which mobile apps are being used is dramatically rising based on earlier studies on the subject. Before discussing mobile applications, it is important to note that the number of people using smartphones is steadily rising. As per the Wireless Expertise Ltd. Market Report [14], there were 140 million smartphones sold globally in 2008. It is projected that 422.96 million smartphones will be sold annually. According to Wireless Expertise, smartphones will account for between 28 and 30 percent of the global mobile phone market by 2013. The global smartphone market reached 323.2 million units in the fourth

Global smartphone sales forecast by region

2019 - 2028F (F means forecast for the year)

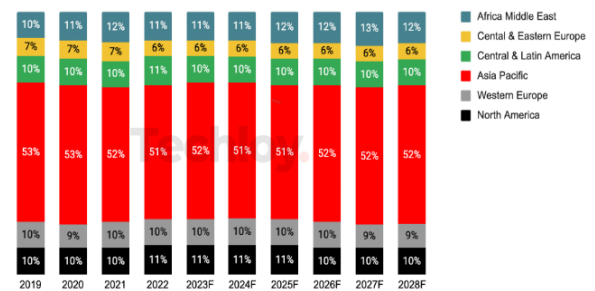


Fig 5: Global Smartphone sale

These smartphone users are all utilizing the intelligent mobile app. Many cell phones today have access to WLAN/WiFi networks. Users can connect to the Internet or local network quickly and easily because of that. It is evident from the data-using mobile apps of the past that social media, mapping, search, and entertainment were the most popular categories. However, mobile application providers will develop business applications in the future due to improved connectivity. We might soon have office software for financial management, office automation, business management, and other purposes.

VIII. CONCLUSION

Despite all of the drawbacks of the mobile environment and apps, the use and acceptance of mobile applications are growing daily. To complete activities more quickly and easily, most individuals try to use mobile devices and applications rather than desktop computers. The use of mobile apps grew proportionately to that of desktop apps throughout time. The capabilities, features, and capacity of mobile phones are being improved by all mobile phone manufacturing and application development organizations. As a result, contemporary mobile applications continue to improve. More user-friendly and practical. Additionally, mobile apps are becoming more and more influential worldwide. Using some statistics from the current market, we have attempted to explain several topics related to mobile applications and business in this post. We feel that others will find this material useful in carrying out their research on mobile applications. The uses and acceptance of mobile applications are growing daily despite their limitations in the mobile environment and market. For simple tasks, the majority of individuals are attempting to use mobile devices and applications rather than desktop computers. The use of desktop apps is gradually declining as the use of mobile applications rises. Capacity, quality, and functionality are all being increased by mobile application development organizations as well as mobile manufacturing

companies. Thus, the user can use more sophisticated and user-friendly mobile applications nowadays. Additionally, mobile applications are having a growing worldwide impact. We have attempted to clarify the information about mobile applications and businesses using some current market statistics. Additionally, we believe that this paper will aid in future research in the field of mobile applications.

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