

**A STUDY ON THE EFFECT OF COMMERCIALIZATION OF THE
ANDROID TECHNOLOGY IN MOBILE INDUSTRY**

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A PROJECT REPORT

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of

MASTER OF BUSINESS ADMINISTRATION

IN

TECHNOLOGY MANAGEMENT



**CENTRE FOR DISTANCE EDUCATION
ANNA UNIVERSITY CHENNAI**

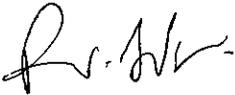
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BONAFIDE CERTIFICATE

Certified that the Project report titled “A study on the effect of commercialization of android technology in mobile industry“ is the bonafide work of Mr.R.Prasanna Karthikeyan who carried out the work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

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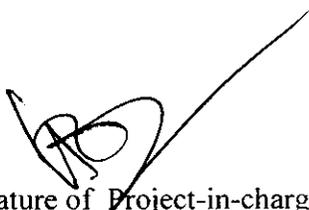
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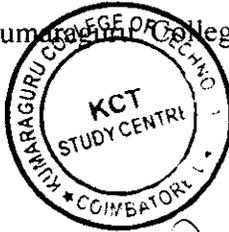
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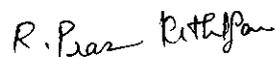
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R.PRASANNA KARTHIKEYAN

ABSTRACT

This study will focus on various factors that influence the commercialization of Android Technology across the mobile industry. It identifies the effect of advancement of new technology in mobile industry with new introduced technologies.

It also enable us to identify the various factors involved in it. This report enables us to find that actual and vital factors that plays a important role in mobilephone and smartphone preference based on technology available and its updates.

Primary data was collected from 200 respondents,through a structured questionnaire. The sampling is random sampling and and research is descriptive research. Statistical analysis, descriptive statistics were used to know the percentage of technology preference.

The results reveals people choice differs from person to person and from technology based on various factors. It shows the effect of people choice of Android Technology over other technology and the its effect in mobile phone industry.

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Chapter 1

Introduction

1.1 RESEARCH BACKGROUND

If you look back at the evolution of mobile services in growth market, the first revolution was marked by hyper-expansion of voice services to mass population. As we are ushering into the second wave of mobile revolution, i.e. going past voice services and exploiting data services, I have witnessed in recent years the phenomenal increase in smartphone adoption complimented with mobile data service usage.

With the price of smart phones dropping to such low levels, consumers are opting for a smart phone rather than buying a traditional mobile phone. With a smart phone, consumers do not only enjoy the basic phone services, such as voice calls and texting, they are allowed to take notes, play games and connect with family on social networking sites, etc.

Given that we have a stable mobile data network, our appetite for rich online mobile application is also on a rise. It's common to see passengers watch their favourite sitcom on their smartphone using live streaming from some of the service providers while waiting to board a plane. With the stable mobile network, there has been enough consumer demand.

The industry appears to have taken a step further in making such technology a reality one. One of the greatest features for touch-free technology will be the elimination of multiple windows to run several applications since, with a gesture, users can move seamlessly from one application to another. Another niche area is games, as gesture recognition would bring a whole new level to games on mobile devices, which in itself is a growing industry.

ANDROID(OPERATING SYSTEM)

Android is a Linux-based operating system designed primarily for touchscreen mobile devices such as smartphones and tablet computers. Initially developed by Android, Inc., which Google backed financially and later bought in 2005, Android was unveiled in 2007 along with the founding of the Open Handset Alliance: a consortium of hardware, software, and telecommunication companies devoted to advancing open standards for mobile devices. The first Android-powered phone was sold in October 2008.

Android is open source and Google releases the code under the Apache License. This open source code and permissive licensing allows the software to be freely modified and distributed by device manufacturers, wireless carriers and enthusiast developers. Additionally, Android has a large community of developers writing applications ("apps") that extend the functionality of devices, written primarily in a customized version of the Java programming language. In October 2012, there were approximately 700,000 apps available for Android, and the estimated number of applications downloaded from Google Play, Android's primary app store, was 25 billion. A developer survey conducted in April–May 2013 found that Android is the most popular platform for developers, used by 71% of the mobile developer population.

These factors have contributed towards making Android the world's most widely used smartphone platform, overtaking Symbian in the fourth quarter of 2010, and the software of choice for technology companies who require a low-cost, customizable, lightweight operating system for high tech devices without developing one from scratch. As a result, despite being primarily designed for phones and tablets, it has seen additional applications on televisions, games consoles, digital cameras and other electronics. Android's open nature has further encouraged a large community of developers and enthusiasts to use the open source code as a foundation for community-driven projects, which add new features for advanced users or bring Android to devices which were officially released running other operating systems.

Android's share of the global smartphone market, led by Samsung products, was 64% in March 2013. In July 2013 there were 11,868 different Android devices, scores of screen sizes and eight OS versions simultaneously in use. The operating system's success has made it a target for patent litigation as part of the so-called "smartphone wars" between technology companies. As of May 2013, a total of 900 million Android devices have been activated and 48 billion apps have been installed from the Google Play store.

Android powers hundreds of millions of mobile devices in more than 190 countries around the world. It's the largest installed base of any mobile platform and growing fast—every day another million users power up their Android devices for the first time and start looking for apps, games, and other digital content. Android gives you a world-class platform for creating apps and games for Android users everywhere, as well as an open marketplace for distributing to them instantly.

Android's openness has made it a favorite for consumers and developers alike, driving strong growth in app consumption. Android users download more than 1.5 billion apps and games from Google Play each month. With its partners, Android is continuously pushing the boundaries of hardware and software forward to bring new capabilities to users and developers. For developers, Android innovation lets you build powerful, differentiated applications that use the latest mobile technologies.

Android gives you everything you need to build best-in-class app experiences. It gives you a single application model that lets you deploy your apps broadly to hundreds of millions of users across a wide range of devices—from phones to tablets and beyond.

Android also gives you tools for creating apps that look great and take advantage of the hardware capabilities available on each device. It automatically adapts your UI to look its best on each device, while giving you as much control as you want over your UI on different device types.

Google Play is the premier marketplace for selling and distributing Android apps. When you publish an app on Google Play, you reach the huge installed base of Android. As an open marketplace, Google Play puts you in control of how you sell your products. You can publish whenever you want, as often as you want, and to the customers you want.

Market share and rate of adoption:

Research company Canalys estimated in the second quarter of 2009 that Android had a 2.8% share of worldwide smartphone shipments. By the fourth quarter of 2010 this had grown to 33% of the market, becoming the top-selling smartphone platform. By the third quarter of 2011 Gartner estimated that more than half (52.5%) of the smartphone market belongs to Android. By the third quarter of 2012 Android had a 75% share of the global smartphone market according to the research firm IDC.

In July 2011, Google said that 550,000 new Android devices were being activated every day, up from 400,000 per day in May, and more than 100 million devices had been activated with 4.4% growth per week. In September 2012, 500 million devices had been activated with 1.3 million activations per day. In May 2013, at Google I/O, Sundar Pichai announced that 900 million Android devices had been activated.

Android market share varies by location. In July 2012, Android's market share in the United States was 52%, and rose to 90% in China. During the third quarter of 2012, Android's worldwide smartphone market share was 75%, with 750 million devices activated in total and 1.5 million activations per day.

As of March 2013, Android's share of the global smartphone market, led by Samsung products, was 64%. The Kantar market research company reported that Google's platform accounted for over 70% of all smartphone device sales in China during this period and that Samsung's loyalty rate in Britain (59%) is second to that of Apple (79%).

You can distribute broadly to all markets and devices or focus on specific segments, devices, or ranges of hardware capabilities. You can monetize in the way that works best for your business—priced or free, with in-app products or subscriptions for highest engagement and revenues. You also have complete control of the pricing for your apps and in-app products and can set or change prices in any supported currency at any time.

The Android operating system saw triple-digit growth in the number of mobile phones shipped in the last year, while iOS--which runs on Apple's iPhone--also experienced significant increases in shipments. Nearly half a billion Android smart phones shipped in 2012, as iOS devices hit about 136 million.

"The two horse race between Android and iOS has collectively accounted for more than 50 percent share of the smartphone OS market over the past two years," according to market research firm IDC, which released its latest Worldwide Quarterly Mobile Phone Tracker Thursday. "At the same time both BlackBerry and Microsoft have been working on competing platforms that have recently launched and are poised for competition.

Microsoft launched Windows Phone 8 in 4Q12, and BlackBerry more recently released BB10 in January, marking the first time two new platforms have been introduced to the smartphone space in the past several years."

According to IDC's report, for the full year, 497.1 million Android smart phones shipped worldwide, up about 104.1 percent from 2011's figure of 243.5 million. For the year, Android increased its market share from 49.2 percent to 68.8 percent.

"Samsung was the biggest contributor to Android's success, amassing 42.0 percent of all Android smartphone shipments during the year," IDC reported. "Following Samsung was a long list of vendors with single digit market share, and an even longer list of vendors with market share less than one percent.

The intra-Android competition has not stifled companies from keeping Android as the cornerstone of their respective smartphone strategies, but has upped the ante to innovate proprietary experiences."Apple increased its unit shipments by 46 percent in 2012, reaching 135.9 million units. Its market share remained constant at 18.8 percent, according to IDC.

"iOS posted yet another quarter and year of double-digit growth with strong demand for the iPhone," according to IDC. "But what also stands out is how iOS's year-over-year growth has slowed compared to the overall market. The smaller volumes during 2Q12 and to a smaller extent 3Q12 underscore the possibility for a mid-year iPhone release in order to maintain market-beating growth.

Speculation about the release of possible larger-screen and inexpensive models during the middle of 2013 continues to follow Apple, which would help sustain growth. But until any model is formally announced, speculation remains simply that."

1.2 IDENTIFIED PROBLEM:

This study will focus on the variables that affects the commercialization of Android Technology over other technology in the mobile phone industry. The factors influencing the commercialization of Android Technology are evaluated based on the feedback from the random sampling respondents which helps us to know the vitals factors involved in it.

1.3 NEED FOR THE STUDY :

To undergo justification of the study.

1.4 PRIMARY OBJECTIVE:

To study the effect of Android Mobile OS Technology in Indian Mobile Industry.

1.5 SECONDARY OBJECTIVES:

To study the reasons for preferring Android Mobile OS over the Other competitive OS.

CHAPTER – 2

LITERATURE SURVEY

2.1 REVIEW OF LITERATURE

- 62% of Indian mobile phone users prefer Android based smart phones over other mobile operating systems according to a survey. Android is followed by Symbian as the next most preferred OS with 21% of the customers vouching for it, while other mobile operating system like Windows, Blackberry and iOS registered only a single digit adoption, indicating very low consumer preference for these devices in the Indian market.
- In late 2009, Ajit Pillai was waiting for Taiwanese phone manufacturer HTC to push the updated version of the Android operating system for his Tattoo phone. The way the Android ecosystem works Google releases updates, and manufacturers such as HTC make some modifications to them, users often don't get the latest software as soon as it is released. Mostly, they are at the mercy of the companies. Pillai's case was no different.
- After waiting for months, I began looking for unofficial ways to get the updated OS on my phone. In my search for a solution, I reached the XDA web site," says Pillai.
- Android users have surpassed iPhone users by the end of 2010, according to statistics collected by Google's Admob ad network, said Admob Team Manager Brendon Kraham. Leaving aside the two platforms' comparative strengths and weaknesses, Android had won primarily because of the variety of devices it offers.

- As of Q1 '10, Nielsen data shows that 23% of mobile consumers now have a smartphone, up from just 16% in Q2 '09. Vying for their share of the smartphone market are two of the tech industry's fiercest competitors: Apple, with its iconic iPhone, and Google, with its fast-growing Android operating system.
- Between Q4 '09 and Q1 '10, Android and iPhone's share of the smartphone market grew by 2% each. At the same time, smartphone leader Blackberry lost 2% share to fall to 35% of all smartphones while Microsoft's Windows Mobile OS also lost 2% to fall to 19%.
- Although Android and iPhone users both skew male (Android users show a 54/46 gender split compared to iPhone's 55/45), there are some striking differences. Android users tend to be slightly younger than their iPhone peers- 55% of Android users are under the age of 34 -- while just 47% of
- iPhone users fall within the same demographic. As is usually the case, age is also a prime determinant of income and education, with Android users slightly less wealthy and less educated.
- Google's \$12.5 billion buyout of mobile handset maker Motorola Mobility signals the growing dominance of Android— Google's mobile operating system even as it increasingly poses a threat to Apple's iPhone in the smartphone category.
- Google's Android has emerged as the most popular operating system (OS) among online customers in India during first six months of 2011, said a survey by NM Incite, a Nielsen McKinsey company.
- About 45% online consumers discussed the Android OS compared to 32% a year ago while all other systems, including Blackberry, showed a decline in share of buzz. Apple's iOS occupied the second spot, dropping from 31% to 27%.

- The survey, findings of which were exclusively shared with TOI, said Samsung was the most popular handset maker on the Android platform followed by HTC, Motorola, LG and Sony Ericsson. Just 5% of consumers talked about Nokia's Symbian OS, probably reflecting the troubled handset maker's depleting dominance in the market.
- Google's Android is dominating conversations on social media sites in India. Our online review shows a shift towards Android-based phones in India over the last year. This trend of is likely to continue," said Farshad Family, MD, Nielsen Media.
- Since 2010 we have been preparing for a strong roadmap for smartphones and have experienced high market acceptance of our Android phones particularly," said Vishal Chopra, business head, LG India. LG's share went up from 15% to 17% on the most-discussed brands which use the Android system.
- 2011 has been an important year for Android. With devices like Samsung Galaxy S II, Motorola XOOM and Kindle Fire turning heads in the market, atop the release of what is arguably the best iteration of the mobile OS (Ice Cream Sandwich) yet, it was only a matter of time before the head honchos of mobile app development began hopping onto the Android bandwagon. Not only has the year seen many big names debut on the Android Market, but many novice developers make big names for themselves, and to top it all off, the Market is now home to over 400,000 apps.
- There is no denying the fact that it is still way behind the iTunes App Store in both quantity and quality (especially where the visual appeal of UI, in general, is concerned), but the degree of improvement that the platform and its apps have undergone the previous year surely exceeds the expectations of most of its fans.

- Now, With your new Android device in hand, you're ready to take on the mobile world. But with over 700,000 apps to choose from, finding which will work best for you can be a daunting task.
- Barra added that the company was not slowing down. "We are not slowing down. One million new android devices are activated every day," he said.
At the event Barra showed a heat map depicting Android activations. Countries like India and Brazil were depicted in yellow colour, indicating high number of Android activations.
- At the IO event, Google made one more India-Specific announcement. The company said that in Jelly Bean, the latest version of Android that was also announced at the event, would come with support for Hindi inbuilt in the operating software. Google also claimed that the number of apps in its Play store had crossed 600,000.
- In May, IDC, a market research firm, said that Android had a share of 59% in the smartphone market in Q1, 2012. Apple's iOS was second on the list with a market share of 23%. It was followed by Symbian with a market share of 6.8% and BlackBerry OS at 6.4%.
- In India Android has grown at a fast pace because it powers a number of devices priced between Rs 5,000 to Rs 40,000. In comparison those wishing to buy an Apple phone have to get iPhone 3GS, iPhone 4 or iPhone 4S. While 3GS costs around Rs 20,000, iPhone 4 and iPhone 4S are priced around Rs 37,000 and around Rs 44,000, respectively.
- BlackBerry phones and Symbian devices have failed to match Android and iOS in terms of features and user experience. Among phone makers, Samsung leads in Indian smartphone market with a market share of around 45%. Ranjit Yadav, Samsung's India head for mobile and IT business, recently told TOI that the company hopes to increase this number to 60% by the end of this year.

- There are 27 million Smart phone users in Urban India, according to a survey conducted by Nielsen Informat Mobile Insights. This constitutes 9 percent of all mobile users in urban India. Smartphone incidence is higher in the large metros of 4 million plus population with one in ten smartphone users, and it is 6 percent in cities with a population of 100,000 to 1 million.
- These are the findings according to a survey “Smartphone Incidence in Urban India” conducted by Nielsen Informat Mobile Insights, amongst over 10,000 respondents in towns with 100,000 plus population.

CHAPTER – 3

METHODOLOGY

3.1 TYPE OF PROJECT :

Research methodology generally refers to the systematic procedure carried out in any project or research study. Methodology gives a clear picture of suitable classification for the study. Research simply means a search for facts, answer to questions and solution to problems. The quality of the project work depends upon the methodology we adopt for our study. Methodology in turn depends upon the nature of the project work.

The main strength of our report comes from collecting, synthesizing and analyzing information.

3.1.1 RESEARCH DESIGN

Research design is considered to be a blue print of the research being under taken that is, Research design is purely and simply the frame or plan for the study that guides and collection and analysis of data.

Descriptive research method is used here to do the analysis. Descriptive research, also known as statistical research, describes data and characteristics about the population or phenomenon being studied. Descriptive research answers the questions who, what, where, when and how.

Although the data description is factual, accurate and systematic, the research cannot describe what caused a situation. Thus, descriptive research cannot be used to create a causal relationship, where one variable affects another. In other words, descriptive research can be said to have a low requirement for internal validity.

3.2 TARGET RESPONDENTS

The target respondents are mobile phone users from across the various technology users.

3.3 LIMITATIONS

- The time bound is the major limitation in research projects
- All the findings and the conclusions obtained are based on the survey to be done within the time limit.

3.4 SAMPLING METHOD

3.4.1 Sampling Technique:

All the items under consideration in any field of inquiry constitute a “universe” or “population”. The items so selected constitute what is technically called a “sample”. Sample design is a definite plan for any data are actually collected for obtaining a sample from the given population. Samples can either probability samples or non-probability samples.

Probability samples are those based on simple random sampling, systematic sampling, stratified sampling, cluster/area sampling where as non-probability sampling are those based on convenience sampling, judgment sampling and quota sampling. The sample design used here is random sampling.

A simple random sample is a subset of individuals (a sample) chosen from a larger set (a population). Each individual is chosen randomly and entirely by chance, such that each individual has the same probability of being chosen at any stage during the sampling process, and each subset of k individuals has the same probability of being chosen for the sample as any other subset of k individuals.

This process and technique is known as simple random sampling, and should not be confused with systematic random sampling. A simple random sample is an unbiased surveying technique. An unbiased random selection of individuals is important so that if a large number of samples were drawn, the average sample would accurately represent the population.

However, this does not guarantee that a particular sample is a perfect representation of the population. Simple random sampling merely allows one to draw externally valid conclusions about the entire population based on the sample.

Conceptually, simple random sampling is the simplest of the probability sampling techniques. It requires a complete sampling frame, which may not be available or feasible to construct for large populations. Even if a complete frame is available, more efficient approaches may be possible if other useful information is available about the units in the population.

3.4.2. Sampling frame:

A sampling frame is the source material or device from which a sample is drawn.[1] It is a list of all those within a population who can be sampled, and may include individuals, households or institutions.

In many practical situations the frame is a matter of choice to the survey planner, and sometimes a critical one.

3.4.3 Sample size:

- Due to time and resources constraint available the sample size is taken as 200 employees in consultation with the project guide.

3.6 TOOLS FOR ANALYSIS:

- Percentage analysis .
- Weighted average method.

3.5.1. DATA COLLECTION METHOD:

- The data collection begins after defining the problem and the type of research to be used are decided. In this study, data's we have collected from the general mobile users using questionnaire consisting of multiple choice questions.

3.7 DATA COLLECTED:

3.7.1 PRIMARY DATA :

To know about effect of mobile technology a Well-structured questionnaire has been prepared and used to collect responses from mobile users and same has been used as a primary data .

3.7.2 SECONDARY DATA :

Secondary data has been collected from the company record, various magazines, journal and various web sites.

CHAPTER – 4

DATA ANALYSIS AND INTERPRETATION

Analysis is the process of placing the data in the ordered form, combining them with the existing information and extracting the meaning from them. The data have been represented graphically using “Line charts” to facilitate clarity and ease of understanding.

Interpretation is the process of relating various bits of information to other existing information. Interpretation attempts to answer “what relationship exists between the findings to the research objectives and hypothesis framed for the study in the beginning”.

PERCENTAGE ANALYSIS

Table No.4.1 CUSTOMER'S CHOICE BASED ON USER INTERFACE

S.No	Technology preferred	No of respondents	Percentage
1.	Android	148	74
2.	Symbian	30	15
3.	Apple(ios)	18	9
4.	Windows	4	2

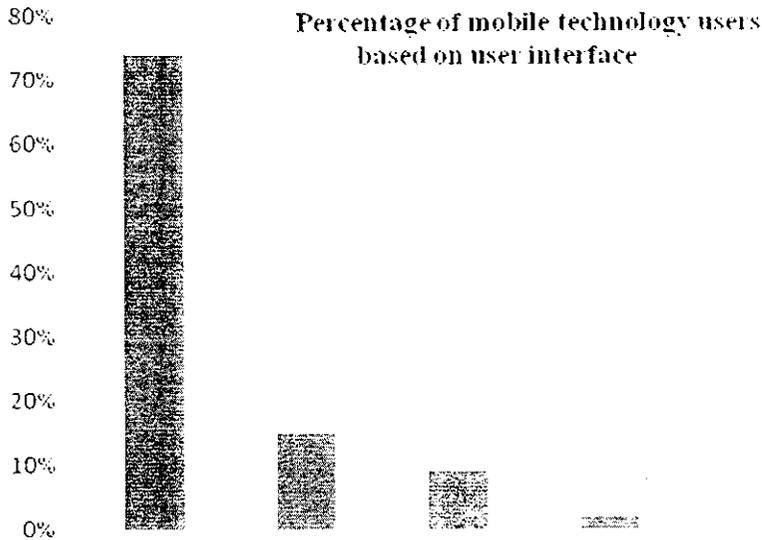


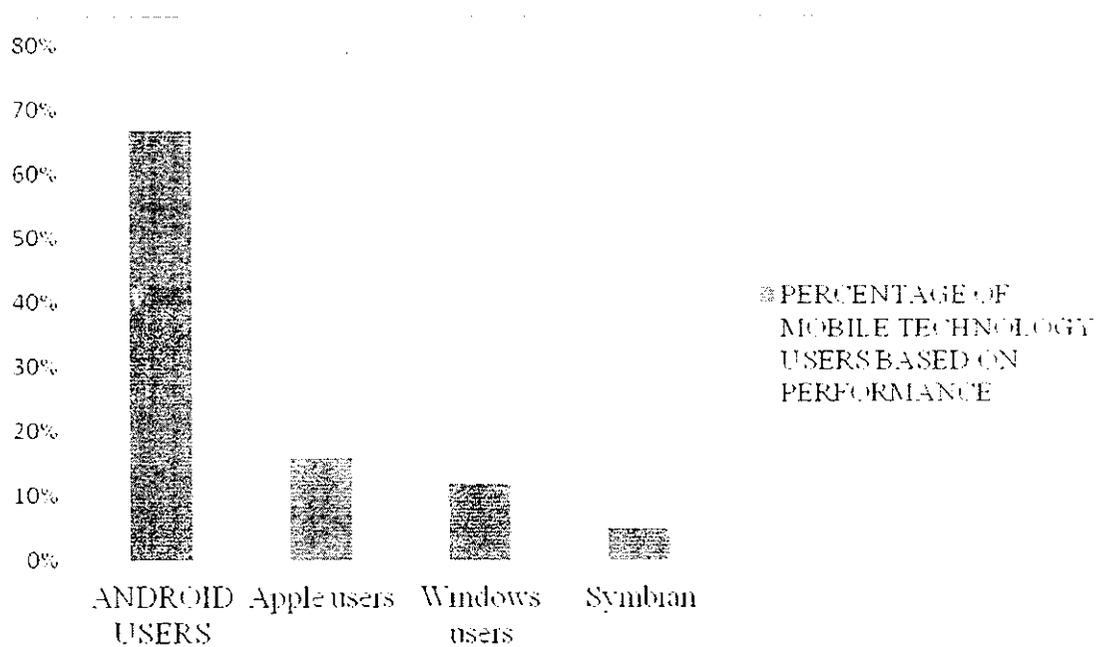
Chart No4.1. Percentage of various mobile technology users based on user interface.

INTERPRETATION:

The above column charts shows that based on user interface out of 200 people ,74% of people use Android Technology,15% of people use Symbian Technology,9% people use Apple OS(IOS),2% of people use Windows Technology.

Table No.4.2 CUSTOMER'S CHOICE BASED ON PERFORMANCE

S.No	Technology preferred	No of respondents	Percentage
1.	Android	134	67
2.	Apple(IOS)	32	16
3.	Windows	24	12
4.	Symbian	10	5

**Chart No 4.2 Percentage of various mobile technology users based on performance.****INTERPRETATION:**

The above column charts shows that based on performance out of 200 people, 67% of people use Android Technology, 16% people use Apple OS(IOS), 12% of people use Windows Technology, 5% of people use Symbian Technology.

Table No.4.3 CUSTOMER'S CHOICE BASED ON APPLICATIONS

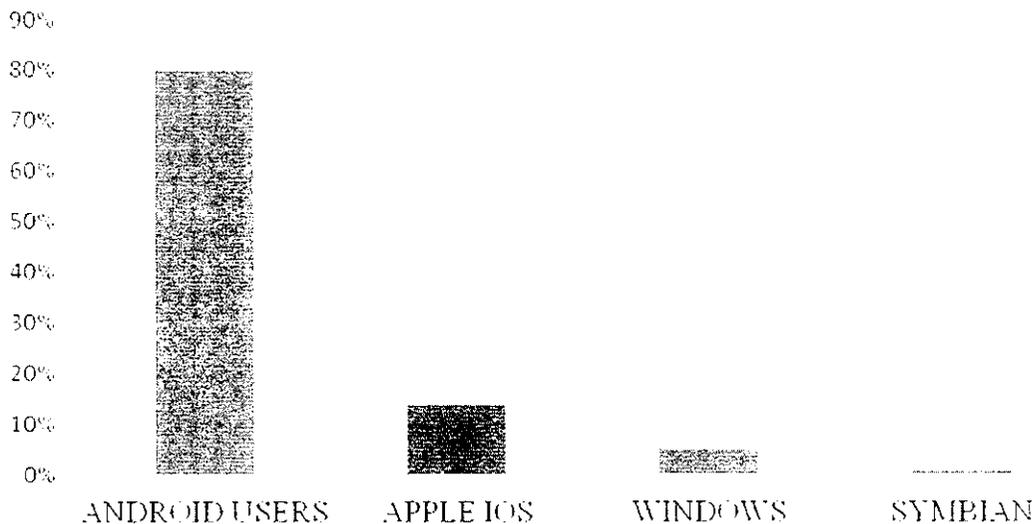
S.No	Technology preferred	No of respondents	Percentage
1.	Apple(IOS)	142	71
2.	Android	34	17
3.	Symbian	20	10
4.	Windows	4	2

PERCENTAGE USERS BASED ON APPLICATIONS.**Chart No4.3. Percentage of various mobile technology users based on applications.****INTERPRETATION:**

The above column charts shows that based on application out of 200 people,71% of people use Apple Technology,17% people use Android,11% of people use Windows Technology,2% of people use Symbian Technology.

Table No.4.4 CUSTOMER'S CHOICE BASED ON UPDATES

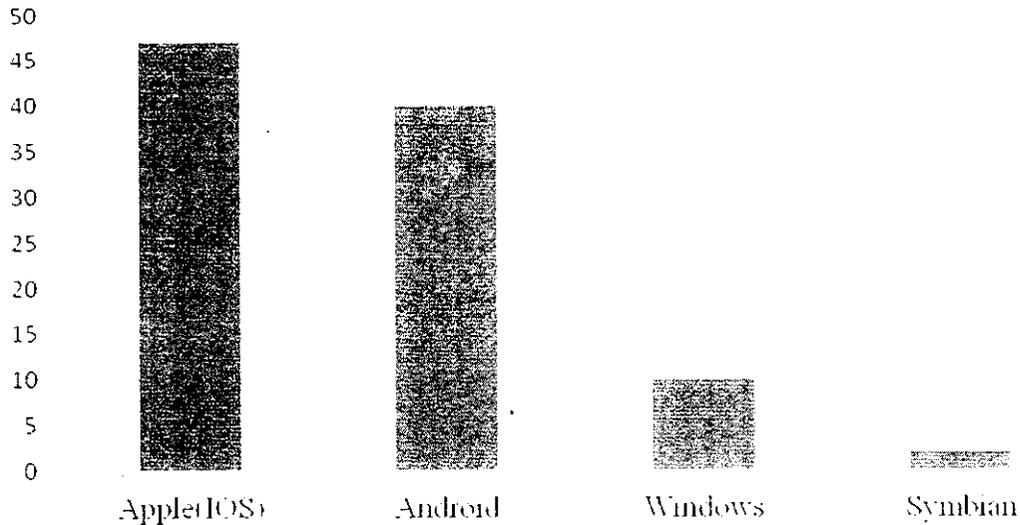
S.No	Technology preferred	No of respondents	Percentage
1.	Android	160	80
2.	Apple(IOS)	28	14
3.	Windows	10	5
4.	Symbian	2	1

PERCENTAGE OF USER PREFERENCE BASED ON UPDATION.**Chart No 4.4. Percentage of various mobile technology users based on updations.****INTERPRETATION:**

The above column charts shows that based on updation, out of 200 people 80% of people use Android Technology, 14% people use Apple, 5% of people use Windows Technology, 1% of people use Symbian Technology.

Table No4.5. CUSTOMER'S CHOICE BASED ON USER FRIENDLY FEATURES.

S.No	Technology preferred	No of respondents	Percentage
1.	Apple(IOS)	94	47
2.	Android	80	40
3.	Windows	21	10
4.	Symbian	5	2

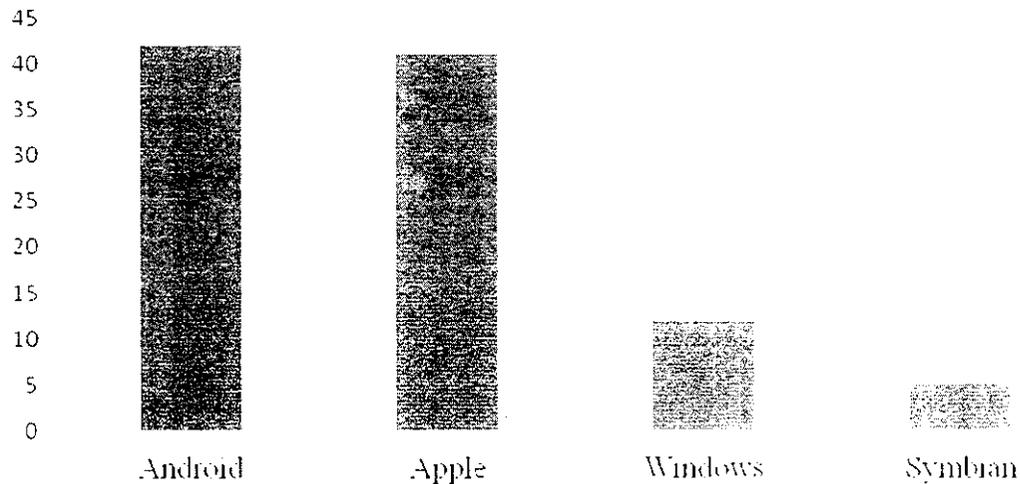
PERCENTAGE OF USER PREFERENCE BASED ON USER FRIENDLY**Chart No 4.5. Percentage of various mobile technology users based on User Friendly.****INTERPRETATION:**

The above column charts shows that based on user friendly features, out of 200 people 47% of people use Apple Technology, 40% people use Android, 10% of people use Windows Technology, 2% of people use Symbian Technology.

Table No.4.6 CUSTOMER'S CHOICE BASED ON CONVENIENCE.

S.No	Technology preferred	No of respondents	Percentage
1.	Android	84	42
2.	Apple(IOS)	82	41
3.	Windows	24	12
4.	Symbian	10	5

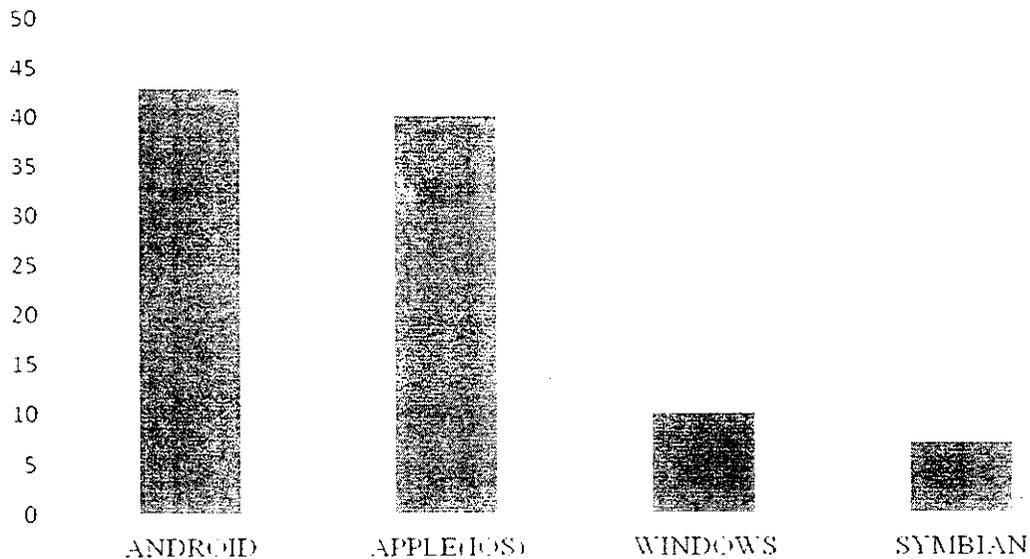
PERCENTAGE OF USER BASED ON CONVENIENCE.

**Chart No 4.6. Percentage of various mobile technology users based on convenience.****INTERPRETATION:**

The above column charts shows that based on convenience, out of 200 people 42% of people use Apple Technology, 41% people use Android, 12% of people use Windows Technology, 5% of people use Symbian Technology.

Table No.4.7 CUSTOMER'S CHOICE BASED ON 3G APPLICATIONS.

S.No	Technology preferred	No of respondents	Percentage
1.	Android	86	43
2.	Apple(IOS)	80	40
3.	Windows	20	10
4.	Symbian	14	7

PERCENTAGE OF USERS BASED ON 3G APPLICATIONS.**Chart No 4.7. Percentage of various mobile technology users based on 3G applications.****INTERPRETATION:**

The above column charts shows that based on 3G Applications, out of 200 people 43% of people use Android Technology, 40% people use Apple, 10% of people use Windows Technology, 7% of people use Symbian Technology.

Table No.4.8 CUSTOMER'S CHOICE BASED ON FEATURES.

S.NO	FEATURES	NUMBER OF RESPONDENTS (X)	WEIGHTAGE (W)	WX
1	APPLE(IOS)	88	5	440
2	ANDROID	80	10	800
3	WINDOWS	20	15	300
4	SYMBIAN	12	20	240
		$\sum X = 200$		$\sum WX = 1780$

$$\begin{aligned} \text{Weighted Average Method} &= \frac{\sum WX}{\sum X} \\ &= 1780/200 \\ &= 8.9 \end{aligned}$$

INTERPRETATION:

The above table charts shows that based on features ,the weighted value shows that the most preferred technology is Android by majority of mobile users followed by Apple,Windows, Symbian technologies.

Table No.4.9 CUSTOMER'S CHOICE BASED ON GPS FACILITY.

S.NO	FACILITY	NUMBER OF RESPONDENTS (X)	WEIGHTAGE (W)	WX
1	ANDROID	102	3	306
2	APPLE(IOS)	80	6	480
3	WINDOWS	10	9	90
4	SYMBIAN	8	12	96
		$\sum X = 200$		$\sum WX = 972$

$$\begin{aligned} \text{Weighted Average Method} &= \frac{\sum WX}{\sum X} \\ &= \frac{972}{200} \\ &= 4.86 \end{aligned}$$

INTERPRETATION:

The above table charts shows that based on GPS Facility ,the weighted value shows that the most preferred technology is Android by majority of mobile users followed by Apple, Windows, Symbian technologies.

Table No.4.10 CUSTOMER'S CHOICE BASED ON HARDWARE CHOICE

S.NO	HARDWARE CHOICE	NUMBER OF RESPONDENTS (X)	WEIGHTAGE (W)	WX
1	ANDROID	154	10	1540
2	APPLE IOS	24	8	192
3	WINDOWS	20	4	80
4	SYMBIAN	2	2	4
		$\sum X = 200$		$\sum WX = 1816$

$$\begin{aligned} \text{Weighted Average Method} &= \frac{\sum WX}{\sum X} \\ &= 1816/200 \\ &= 9.8 \end{aligned}$$

INTERPRETATION:

The above table charts shows that based on hardware choice ,the weighted value shows that the most preferred technology is Android by majority of mobile users followed by Apple, Windows, Symbian technologies.

Table No.4.11 CUSTOMER'S CHOICE BASED ON BRAND NAME.

S.NO	BRAND NAME	NO. OF RESPONDENTS (X)	WEIGHTAGE (W)	WX
1	ANDROID	70	16	1120
2	APPLE IOS	13	18	234
3	SYMBIAN	10	12	120
4	WINDOWS	7	10	70
		$\sum X=100$		$\sum WX=1544$

$$\begin{aligned} \text{Weighted Average Method} &= \frac{\sum WX}{\sum X} \\ &= 1544/100 \\ &= 15.44. \end{aligned}$$

INTERPRETATION:

The above table charts shows that based on brand value ,the weighted value shows that the most preferred technology is Android by majority of mobile users followed by Apple, Windows. Symbian technologies.

Table No.4.12 CUSTOMER'S CHOICE BASED ON MULTITASKING OPTION .

S.NO	MULTITASKING OPTION	NO. OF RESPONDENTS (X)	WEIGHTAGE(W)	WX
1	ANDROID	75	20	150
2	APPLE IOS	15	30	450
3	WINDOWS	9	40	360
4	SYMBIAN	1	50	50
		$\sum X = 100$		$\sum WX = 1010$

$$\begin{aligned} \text{Weighted Average Method} &= \frac{\sum WX}{\sum X} \\ &= \frac{1010}{100} \\ &= 10.10. \end{aligned}$$

INTERPRETATION:

- The above table charts shows that based on multitasking ,the weighted value shows that the most preferred technology is Android by majority of mobile users followed by Apple, Windows, Symbian technologies..

Table No.4.13 CUSTOMER'S CHOICE BASED ON BEST VALUE.

S.NO.	BEST VALUE	NO. OF RESPONDENTS (X)	WEIGHTAGE(W)	WX
1	ANDROID	60	33	1980
2	APPLE IOS	9	11	99
3	WINDOWS	1	15	15
4	SYMBIAN	20	20	400
		$\sum X=90$		$\sum WX =2494$

$$\begin{aligned} \text{Weighted Average Method} &= \frac{\sum WX}{\sum X} \\ &= \frac{2494}{90} \\ &= 27.7. \end{aligned}$$

INTERPRETATION:

The above table charts shows that based on best value ,the weighted value shows that the most preferred technology is Android by majority of mobile users followed by Apple,Windows, Symbian technologies..

Table No.4.14 CUSTOMER'S CHOICE BASED ON PRODUCTS RANGE.

S.NO.	VARIOUS PRODUCTS	NO. OF RESPONDENTS (X)	WEIGHTAGE(W)	WX
1	ANDROID	67	55	3685
2	APPLE IOS	21	44	924
3	SYMBIAN	7	33	231
4	WINDOWS	5	66	330
		$\sum X=100$		$\sum WX=5170$

$$\begin{aligned} \text{Weighted Average Method} &= \frac{\sum WX}{\sum X} \\ &= \frac{5170}{100} \\ &= 51.7 \end{aligned}$$

INTERPRETATION:

The above table charts shows that based on various products ,the weighted value shows that the most preferred technology is Android by majority of mobile users followed by Apple, Windows, Symbian technologies..

CHAPTER-5

CONCLUSIONS

After the analysis and interpretation based on this the conclusion is drawn from the study.

SUMMARY OF FINDINGS

- It is found that based on User Interface 74% of people use Android Technology, 15% of people use Symbian Technology, 9% people use Apple OS(IOS), 2% of people use Windows Technology.
- It is found that based on Performance 67% of people use Android Technology, 16% people use Apple OS(IOS), 12% of people use Windows Technology, 5% of people use Symbian Technology.
- It is found that based on Application 71% of people use Apple Technology, 17% people use Android, 11% of people use Windows Technology, 2% of people use Symbian Technology.
- It is found that based on Updation 80% of people use Android Technology, 14% people use Apple, 5% of people use Windows Technology, 1% of people use Symbian Technology.
- It is found that based on User Friendly features 47% of people use Apple Technology, 40% people use Android, 10% of people use Windows Technology, 2% of people use Symbian Technology.
- It is found that based on Convenience 42% of people use Apple Technology, 41% people use Android, 12% of people use Windows Technology, 5% of people use Symbian Technology.
- It is found that based on 3G applications 43% of people use Android Technology, 40% people use Apple, 10% of people use Windows Technology, 7% of people use Symbian Technology.

- It is found that based on Features that the most preferred technology is Android by majority of mobile users.
- It is found that based on GPS Facility ,the most preferred technology is Android by majority of mobile users.
- It is found that based on hardware choice ,the most preferred technology is Android by majority of mobile users.
- It is found that based on brand value , most preferred technology is Android by majority of mobile users.
- It is found that based on multitasking, most preferred technology is Android by majority of mobile users.
- It is found that based on best value, most preferred technology is Android by majority of mobile users.
- It is found that based on products range, most preferred technology is Android by majority of mobile users.

CONCLUSION:

It is evident from the analysis that, there are many factors that influence the effect of Android technology. The major reasons why people are influenced towards Android technology are Performance and Updated technology and updated features.

Today world's everyone is influenced with updated technology, People are very eager in utilizing latest technology and its updated services. Apart from that performance plays a vital role in people's choice of Android Technology.

Performance of product decides a product utilization at highest efficiency. So accordingly Android smartphones and tablets have proved that it is able to provide its better efficient products and keep on increasing its performance over a period of time.

As the technology is updated the various applications have been increasingly over the technology updations. There arise conflict in market place between Android and Apple (IOS) applications. Apple (IOS) have about 2 lakhs applications but Android have few number less than Apple(IOS). Even though Android backs other competitors across the market.

Another important factor that plays a vital role for preferring android technology over other technology is its hardware choice and brand value. The Android Technology is developed and introduced by Google and Apple introduced IOS Technology. Both the Companies faces a tough competition in the choice of hardware and brand value among the users.

Apple plays a tough competition against the Android Technology based on various factors such as technology updates, hardware choice ,performance, brand value, multitasking, features etc.

From the above study it is clear that primary factors that influence the preference of Android Technology over other technologies are Performance, Hardware choice, Updation ,User Friendly Interface, Brand Value, Multitasking followed by product range,gps facility,3g application,attractive features which acts as secondary factors for the influence of Android technology.

APPENDIX 1

INDIVIDUAL DATA:

1. **Age Group** : () 20 -25 yrs () 26-30 yrs () 31-35 yrs () 36-40 yrs () above 41 yrs
2. **Gender** : () Male () Female
3. **Educational Qualification** : () ITI () Diploma () UG () PG

PLEASE RATE THE FOLLOWING STATEMENT:

1. **Which smartphone technology has best userinterface? ()**
A.Android. B.Ios . C.Symbian D.Windows.
2. **Which Smartphone technology has best user friendly system? ()**
A.Android. B.Ios . C.Symbian D.Windows.
3. **Which Smartphone technology has best performance? ()**
A.Android. B.Ios . C.Symbian D.Windows.
4. **Which Smartphone technology has numerous applications? ()**
A.Android. B.Ios . C.Symbian D.Windows.
5. **Which Smartphone technology has best updations? ()**
A.Android. B.Ios . C.Symbian D.Windows.

6. **Which Smartphone technology has best convenience? ()**
A.Android. B.Ios . C.Symbian D.Windows.

- 7. Which Smartphone technology has best multitasking? ()**
A. Android. B. Ios . C. Symbian D. Windows.
- 8. Which Smartphone technology has best homescreen customization? ()**
A. Android. B. Ios . C. Symbian D. Windows.
- 9. Which Smartphone technology has best keyboard customization? ()**
A. Android. B. Ios . C. Symbian D. Windows.
- 10. Which Smartphone technology has best interactive widgets ? ()**
A. Android. B. Ios . C. Symbian D. Windows.
- 11. Which Smartphone technology has best and easy access to live applications? ()**
A. Android. B. Ios . C. Symbian D. Windows.
- 12. Which Smartphone technology has best applications selection to use? ()**
A. Android. B. Ios . C. Symbian D. Windows.
- 13. Which Smartphone technology has best phone customization? ()**
A. Android. B. Ios . C. Symbian D. Windows.
- 13. Which Smartphone technology has best hardware choice? ()**
A. Android. B. Ios . C. Symbian D. Windows.
- 14. Which Smartphone technology has best manufacturer's aspects? ()**
A. Android. B. Ios . C. Symbian D. Windows.

15. Which Smartphone technology has best versions products? ()

A. Android. B. ios . C. Symbian D. Windows.

16. Which Smartphone technology has best 3g applications? ()

A. Android. B. ios . C. Symbian D. Windows.

17. Which Smartphone technology you feel the you to need to stay with? ()

A. Android. B. ios . C. Symbian D. Windows.

18. Which Smartphone technology has better trusted brand? ()

A. Android. B. ios . C. Symbian D. Windows.

19. Which Smartphone technology you choose better homescreen? ()

A. Android. B. ios . C. Symbian D. Windows.

20. Which Smartphone technology you choose for better integration purpose? ()

A. Android. B. ios . C. Symbian D. Windows.

21. Which Smartphone technology would you choose for latest and greatest features? ()

A. Android. B. ios . C. Symbian D. Windows.

22. Which Smartphone technology would you choose for better gps navigation? ()

A. Android. B. ios . C. Symbian D. Windows.

23. Which Smartphone technology would you choose for latest technology? ()

A.Android. B.Ios . C.Symbian D.Windows.

24. Which Smartphone technology would you choose for best expandable memory? ()

A.Android. B.Ios . C.Symbian D.Windows.

25. Which Smartphone technology would you choose for best clocking? ()

A.Android. B.Ios . C.Symbian D.Windows.

26. Which Smartphone technology would you choose best social networking? ()

A.Android. B.Ios . C.Symbian D.Windows.

27. Which Smartphone technology would you choose for best online services? ()

A.Android. B.Ios . C.Symbian D.Windows.

28. Which Smartphone technology would you choose for best value? ()

A.Android. B.Ios . C.Symbian D.Windows.

29. Which Smartphone technology would you choose for variety of products? ()

A.Android. B.Ios . C.Symbian D.Windows.

30. Which Smartphone technology would you choose for best support? ()

A.Android. B.Ios . C.Symbian D.Windows.

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