Cyprus International University Faculty of Engineering.

FACULTY OF ENGINEERING

DEPARTMENT OF INFORMATION SYSTEMS ENGINEERING (ISE100)

Group semester project:

Prepared by:

Haruna Abubakar Bello 21708878

Baraka Mamiro 21708430

Talanga Perkins Tse 21708311

MOBILE BROADBAND TECHNOLOGY

AND

DIGITAL MARKETING.

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Introduction

Broadband refers to high band width internet access which is simply the fastest and easiest way to send and download information or data from the internet by means of a cable modem known as Digital Subscriber Line (DSL).

It provides efficient services more than 256 kbps to more than 1 mbps.

In the world today, there are many different which include wireless (WIFI) and wired connections (USBDSL). This internet technology has become the fastest internet technology in the human history. The broadband vary generations from second generation (2G), third generation (3G), fourth generation (4G) and fifth generation (5G). Upon research according to mobile broadcast technology, two third of the planet earth still remains unconnected. In 70 countries over 50% of their population use the mobile broadband technology. This system was first introduced in United Kingdom on March 3 1991 by Pipex. Through the rise of mobile broadband technology a type of market emerged due to hıgh ınternet speed and technological innovation digital market gained more strength, now a days due to good connectıvıty of mobile broadband technology people tend to use most of their tıme online giving advantage to digital market. Digital marketing is an organizational function and the process of managing customer relationships with the process and organization and its beneficiaries to provide pricing, communication and supply to customers.

Mobile broadband technology

Mobile broadband technology, are devices which provide high speed wireless internet access which was much faster than a dial-up connection. It is classified into generations from second generation (2G), third generation (3G), fourth generation (4G) and fifth generation (5G). Broadband includes several high-speed transmission technologies such as digital Subscriber Line (DSL), cable Modem, fibre, Wireless, Satellite, Broadband over Power lines (BPL).

**Digital subscriber line**,

It is a transmission technology that transmit over telephone lines, the transmission speed vary with distance from user and closet telephone company facility.

**Cable modem,**

Cable operators provide broadband through the same cables that provide TV stations in TV.

**Fibre**,

It’s an optic technology that converts electrical signals carrying data to light and sends the light through transparent glass fibres. Fibre transmits data at speeds far exceeding current DSL or cable modem speeds, typically by tens or even hundreds of Mbps.

**Wireless**

Wireless broadband connects using a radio link between the user’s location and the service provider’s facility or device.

**Satellite**

Satellite broadband is another form of wireless broadband, which is very useful in remote areas. User must have a satellite dish and coordinates to get this service,

**Broadband over power line**

Is the delivery of broadband over electrical distribution network, can be done over low and medium voltage electrical power network.

EVOLUTION OF MOBILE BROADBAND

Mobile broadband technology improved through each generations as follows,

**1G (First Generation)**

This was the first generation of mobile phone technology which was only able to perform phone calls only, it was a major success in communication industry marked the beginning of the end of telephone land lines,

Telephone land lines were replaced by mobile transmission towers which transmit high radio frequencies covering a wide radius, the first generation was great but it had its setbacks such as Requires large gap of spectrum between users to avoid interference and Support for only 1 user per channel.

**2G (Second Generation)**

The second generation mobile of mobile broadband technology added more features such as simple mobile messaging (SMS). At its early stages

* TDMA (Time division multiple access)

Is a method of network access which allows various users to share the same frequency channel, this technology was used in digital cellular telephones where by it divided each cellular channel into three time slots so as to increase the amount of data transfer.

Advantages

• Can carry up to 120 MPs of data rates

• There is no interference from simultaneous transmission

• Enable services such as fax, voice mail, multimedia and video conferencing

• Uses less energy thus extends battery life for cellular phones

Disadvantages

• It is time limited due to multipath distortion

• User might be disconnected due to full cell time slot

* D-AMPS (Digital Advanced mobile phone service)

It is an improved version of (AMPS), it uses TDMA to split analogue channels into three digital channels.

* + GSM (Global system for mobile communication)

It is a digital cellular technology that used to transmit mobile data and voice services, data transfer speeds of up to 9.6 kbps together with SMS (Short message service).

* + CDPD (Cellular Digital Packet Data)

It is a wireless data service which was used to access the internet and other packet switched systems in a cellular network.

* + GPRS (General packet radio service)

Is a packet based communication service that has data rate of up to 114kbps and provides continuous connection to the internet for users , it was one of the first technology that enabled a cell network to connect with internet protocol (IP)

* + EDGE (Enhanced data rate for GSM Evolution)

It is an enhancement of GSM, it is almost three times fast than the GPRS.

**3G (Third generation)**

The third generation of mobile broadband technology delivers more speed and good quality with the following standards,

* + CDMA2000 (Code Division Multiple Access)

It is a 3G standard that provided high quality voice and broadband data service.it is an improvement of CDMA technology it introduces enhancement such as end to end quality of service, new antenna techniques such as Multiple Inputs Multiple Outputs (MIMO), signalling mechanisms and beam forming to increase data throughput rates

* + EV-DO (Evolution Data Optimized)

It is an improvement of CDMA2000 standard which supports high data rates up to 800 kbps.

* + WCDMA(Wideband code division multiple access)

It is an air interface of 3G communication systems which supports conventional voice, text and MMS services also it enables network operators to provide music on demand, TV video streaming and internet access.

* + HSPA (High speed packet Access)

It is a 3G communication standard which is a combination of two protocols: High Speed Downlink Packet Access (HSDPA) and High Speed Uplink Packet Access (HSUPA) which means its download and upload speeds build on the original 3G speeds for a peak data rate of 14 Mbps down and 5.8 Mbps up.

In 2008 HSPA+ was introduced, this improved version provided speed peak range of 10mbps.

* + TD-SCDMA (Time Division Synchronous Code Division Multiple Access)

It is a 3G format of choice for the national standard of 3G mobile telecommunication in China.it combines support for both circuit-switched data, such as speech or video, and also packet-switched data from the Internet.

**4G (Fourth Generation)**

The fourth generation of mobile broadband delivering more speed capable of video streaming and much more with the following standards,

* + WiMAX (Worldwide Interoperability for Microwave Access)

IT is a technology standard for long-range wireless networking, for both mobile and fixed connections, it is more efficient for long range transmission than WIFI

* + LTE (Long Term Evolution)

It is a mobile network technology that is being deployed by mobile operators on both the GSM and the CDMA technology paths. It can deliver very fast data speeds of up to 100Mbps in the downlink and 50Mbps in the uplink.

Advantage of latest mobile broadband technology

• It is more secure

Mobile broadband has four levels of encryption on GSM/UMTS/HSPA networks, the encryption used is 128 bit making it unbreakable

• High speed connection

The latest generation offer a theoretical high speed of 100mb but in reality as of 2015 report done by Ofcom it was found to have the average speed of 14.7mbps

• Phone line can be used simultaneously for calls and data connection

The latest technology is able to differentiate between calls and data frequency thus eliminates any interference.

• Connection is always available making it easy to access the internet

Mobile broad band has no need of manual connection between user and operator as in dial up connections, its connection is automatic and always available

• Less interference between users

Due to CDMA/TDMA standards users do not experience any interference, CDMA changes users language making it go to the intended receiver thus eradicating interference and TDMA send user signals in different time just like how people do a normal conversation

APPLICATION OF MOBILE BROADBAND

• Personal services

Such as High speed internet access Multimedia

• Government public services

Such as Tele medicine,E education,E governance

• Commercial services

Such as E commerce,Corporate internet ,Video conferencing

• Video and entertainment services

Such as Broadcast TV video on demand,Interactive gaming,Music on demand and

Online radio

What is the Digital Marketing?

The advanced unrest has shaken advertising to its centre. It has to do wıth onlıne buyıng and sellıng of goods and servıces through Google, emaılıng, and socıal medıas. This intuitive cultivating similitude is reliable with the computerized transformation as explained by Nicolas Negroponte in his book Being Digital. Also, once in the past 'mass' media advances into a customized two

Route road of correspondence. The majorıty of the ıntellect population spend most of theır tıme onlıne, reason been why thıs system of marketıng has proven to be the best nowadays as compared to the offlıne buyıng and sellıng system. No business, paying little respect to its land area, is in this way invulnerable from the effect of the web upheaval and the need to rethink its major ideas, plans of action and method of operations. Among the most critical changes in the business scene are the rise of 'digital shoppers' and the digital business-to business world, the changing reality of an inexorably unpredictable, dynamic and riotous world, and the floods of enterprise and development and their related new plans of action. Technology changes people. Digital technology is changing the way consumers relate to products and markets. It is not just our computers that are being reprogrammed; it is customers themselves. The cyber consumer, as portrayed in

Exhibit one, clearly illustrates the need for new marketing approaches to meet their changing needs.

These cyber consumers expect to be able to customize everything - from the products and services they buy, the information they seek, to the price they are willing to pay. They want to be able to engage the producer in the kind of tussle that used to characterize the street bazaar. Consumers can now sort products based on any desired attribute, price, nutritional value, functionality, etc., or combination of attributes such as price value. They can easily obtain third party endorsements and evaluations including tapping the experience of other users. Empowered by digital technology, customers are unforgiving. Pity the poor company that fails to see this or refuses to play by their rules. Cyber consumers, though, are not homogeneous. They vary greatly with respect to the degree to which they rely on the Internet. The reliance on the Internet varies by domain (financial services vs. food shopping vs. automobiles, etc.) and the characteristic of the consumers, especially their 'natural comfort' with the Internet.

HISTORY OF DIGITAL MARKETING.

Marketing has been an essential activity to the development of mankind and can be traced back to the beginning of time when Religious, cultural and secular histories are being discussed. So, it can be concluded that the exact time marketing started is unknown and can be impossible to find out.

DIGITAL MARKETING started to be put in practice since mid-1980s when the soft Ad company (now the channel net TV) started to publish advert to automobile companies.

In 1990s, the term was then used to describe the use of modern digital devices to promote advertisements and businesses.

In 2000, a survey in the United Kingdom found that most retailers had not registered their own domain address.

Digital marketing became more sophisticated in the 2000s and the 2010s, when the proliferation of devices' capability to access digital media at almost any given time led to great growth. Statistics produced in 2012 and 2013 showed that digital marketing was still a growing field.

Digital marketing is often referred to as 'online marketing', 'internet marketing' or 'web marketing'. The term digital marketing has grown in popularity over time, particularly in certain countries. In the USA online marketing is still prevalent. In Italy, digital marketing is referred to as web marketing. In the UK and worldwide, however, digital marketing has become the most common term, especially after the year 2013. [15]

Digital media growth is estimated at 4.5 trillion online ads served annually with digital media spend at 48% growth in 2010.[16] An increasing portion of advertising stems from businesses employing Online Behavioural Advertising (OBA) to tailor advertising for internet users, but OBA raises concern of consumer privacy and data protection.

Importance of Digital Marketing:

There's no denying it, the world is quickly moving from simple to advance. Individuals are expending increasingly computerized content once a day – on cell phones, workstations, personal computers at work, and then some – and organizations that have not yet perceived this in their showcasing procedures need to adjust quick.

Why is advanced showcasing so essential? Since it isn't just a quickly developing power in the present advertising playing field, it is set to be the eventual fate of showcasing, and it appears to be likely that computerized media will soon supplant more customary structures through and through.

While more seasoned ages will no uncertainty mourn the end of paper-based daily papers, books, specialized techniques and customary television and radio communicates, the individuals who have grown up with the web and cell phones as a Divine being given right are as of now grasping the overcome new universe of advanced utilization.

The actualities are that computerized strategies for correspondence and promoting are speedier, more flexible, handy and streamlined, so it is maybe obvious that once the innovation ended up plainly accessible we started rapidly moving into the advanced age. Fortunately advanced offers the same amount of potential to advertisers as it does to buyers.

Before we take a gander at the advantages of advanced advertising, let’s take a quick snapshot of some of the key forms of it at present: Websites and SEO content

Blogs Internet banner ads online video content Pay-per-click (PPC) advertising Email marketing

Social media marketing (Facebook, Twitter, LinkedIn, etc.) Mobile marketing (SMS, MMS, etc.)

This is far from an exhaustive list, and new forms of digital marketing, such as augmented reality, are arriving all the time. First of all, digital marketing is infinitely more affordable than traditional offline marketing methods. An email or social media campaign, for example, can transmit a marketing message to consumers for the merest fraction of the cost of a TV ad or print campaign, and potentially reach a wider audience. But one of the main benefits of conducting your marketing digitally is the ease with which results can be tracked and monitored. Rather than conducting expensive customer research, you can quickly view customer response rates and measure the success of your marketing campaign in real time, enabling you to plan more effectively for the next one.

Perhaps the strongest case for incorporating a digital element into your marketing is that digital media forms are quickly overtaking traditional forms of information consumption. According to the Office for National Statistics, over 82% of UK adults went online in the first three months of this year: that's over 40 million individuals. The bottom line is, the digital age is here, and those businesses that fail to adapt to the new marketing climate are at great risk of going extinct sooner rather than later.

Caters to the Mobile Consumer

Without any doubt, with the rapid expansion of smartphones, mobile marketing data is the most contemporary method of displaying today's main public channel today. This smartphone has turned into a major part of our lives that 85 percent of India's increase in dependence depends on the distance to reach their mobile devices.

DIGITAL MARKETING STRATEGIES.

1. One of the major changes that occurred in traditional marketing was the "emergence of digital marketing" (Patrutiu Baltes, Loredana, 2015), this led to the reinvention of marketing strategies in order to adapt to this major change in traditional marketing (Patrutiu Baltes, Loredana, 2015) . Due to the many competıtors of sımılar or different products, the customer wıll obvıously go for the best. In thıs case, the onlıne seller has some certaın responsıbılıtıes to ensure that he\she gets the attentıon of the buyer.

• The seller need ınteractıve tools, whıch may ınclude servers, computers, mobıle phones, electronıcs, and a good medıa phone.

• Socıal Medıa channels, lıke the Facebook, twıtter, ınstagram, snap chat, Google.

• Info graphic (your e-maıl, phone number or any other means of communıcatıon.

• Block posts (Insure securıty, secure server)

• Your websıte (Upgrade always)

• Your logo (lıke hp, dell, Honda,

To summarize, Pull digital marketing is characterized by consumers actively seeking marketing content while Push digital marketing occurs when marketers send messages without that content being actively sought by the recipients.

1. Online behavioural advertising is the practice of collecting information about a user's online activity over time, "on a particular device and across different, unrelated websites, in order to deliver advertisements tailored to that user's interests and preferences

2. Collaborative Environment: A collaborative environment can be set up between the organization, the technology service provider, and the digital agencies to optimize effort, resource sharing, reusability and communications. Additionally, organizations are inviting their customers to help them better understand how to service them. This source of data is called User Generated Content. Much of this is acquired via company websites where the organization invites people to share ideas that are then evaluated by other users of the site. The most popular ideas are evaluated and implemented in some form. Using this method of acquiring data and developing new products can foster the organizations relationship with their customer as well as spawn ideas that would otherwise be overlooked. UGC is low-cost advertising as it is directly from the consumers and can save advertising costs for the organisation.

3. Data-driven advertising: Users generate a lot of data in every step they take on the path of customer journey and Brands can now use that data to activate their known audience with data-driven programmatic media buying. Without exposing customers' privacy, users' Data can be collected from digital channels (e.g.: when customer visits a website, reads an e-mail, or launches and interact with brand's mobile app), brands can also collect data from real world customer interactions, such as brick and mortar stores visits and from CRM and Sales engines datasets. Also known as People-based marketing or addressable media, Data-driven advertising is empowering brands to find their loyal customers in their audience and deliver in real time a much more personal communication, highly relevant to each customers' moment and actions.

An important consideration today while deciding on a strategy is that the digital tools have democratized the promotional landscape.

5. Remarketing: Remarketing plays a major role in digital marketing. This tactic allows marketers to publish targeted ads in front of an interest category or a defined audience, generally called searchers in web speak, they have either searched for particular products or services or visited a website for some purpose.

6. Game advertising: Game ads are advertisements that exist within computer or video games. One of the most common examples of in-game advertising is billboards appearing in sports games. In-game ads also might appear as brand-name products like guns, cars, or clothing that exist as gaming status symbols.

The new digital era has enabled brands to selectively target their customers that may potentially be interested in their brand or based on previous browsing interests. Businesses can now use social media to select the age range, location, gender and interests of whom they would like their targeted post to be seen by. Furthermore, based on a customer's recent search history they can be ‘followed’ on the internet so they see advertisements from similar brands, products and services, This allows businesses to target the specific customers that they know and feel will most benefit from their product or service, something that had limited capabilities up until the digital era.

ADVANTAGE OF DIGITAL MARKETING

Greater Opportunity:With digital marketing, an organization or company company can find more and more height of popularity and goals. The organization of digital marketing or online marketing provides a wide range of opportunities to enhance your business, market or customer base. Today digital marketing is very important, everyone is connected to the Internet, and this organization can make organizations easier for organizations to spread awareness about their products. So they have been given a huge opportunity to grow in popularity as well

Easy to Communicate: It makes it easy for organizations to communicate with potential buyers with digital marketing. Organizations help digital organizations increase and increase conversion rates as they can communicate directly to users or customers and to resolve all of their complaints customers are. By solving all the questions, it is a good and easy way to promote your product, such as if product information, benefits etc. are obvious in the customer's mind, they can buy products easily.

CHALLENGES FACING DIGITAL MARKET

1 .GENERATING TRAFFIC AND LEADS

Generating enough traffic and leads was the top marketing challenges, according to the 2017 States of Inbound report. We started asking this question with this answer as a new option last year and we’re glad we did.

Clearly, marketers are struggling with producing enough demand for their content. And as the year’s progress and competition stiffens, this will only become truer. With so many options of platforms for marketers to publish their content and even more ways to promote it, it’s hard to know where to focus your efforts.

WHAT CAN YOU DO?

When it comes to creating content that produces enough traffic and leads, marketers should ask themselves two questions; are you truly creating high-quality content the type of content people would pay for? And, do you know the type of content your audience actually wants?

For example, Hub Spot research has found that 43% of consumers want be see more video from marketers in the future, while only 29% want to see more blog posts. To learn more about how the way people are reading and interacting with content is changing, check out this Hub Spot Research report

Once you know you’re creating the type of content your audience wants, the focus shifts to promoting it in a way that makes your audience take notices .More than ever before, people are being flooded with content. Consumer don’t have to use a search engine to find answers. Instead, articles fill their news feed or buzz in their pocket via mobile notification.

Needless to say, the content promotion playbook is not the same as it was five years ago. To make sure your traffic and lead numbers continue to rise, check out this comprehensive guide to content promotion

2) Providing the ROI of Your Marketing Activities

Why It's a Challenge

Measuring the ROI (return on investment) of your marketing activities has remained a top marketing challenge year-over-year. But, it also continues to be a vital way for marketers to understand the effectiveness of each particular marketing campaign, piece of content, etc.

Plus, proving ROI often goes hand-in-hand with making an argument to increase budget: No ROI tracking, no demonstrable ROI. No ROI, no budget.

But tracking the ROI of every single marketing activity isn't always easy, especially if you don't have two-way communication between your marketing activities and sales reports.

What Can You Do?

When it comes to providing ROI, there's a strong case to be made for dedicating time and resources to establishing links between marketing activities and sales results. This means using both marketing software (like Hub Spot) and a CRM solution (like Hub Spot’s free CRM), and then tying them together to close the loop between your marketing and sales efforts with a service-level agreement (SLA). That way, you can directly see how many leads and customers are generated through your marketing activities.

We've found there's no better combination than having an SLA and doing inbound marketing. According to this year's report, inbound organizations with SLAs are 3X more likely to rate their marketing strategy as effective compared to outbound organizations with misaligned marketing and sales teams.

(Use this ROI calculator to simulate the potential ROI you could realize by conducting inbound marketing.)

3. SECURING ENOUGH BUGET

Securing more budget is a pressing challenge for marketing globally. And often, getting more budget is easier said than done especially for smaller organizations that aren’t working with sizable nor flexible marketing spend.

But the key to securing more money for your team might not be that complex. Here’s what you can do.

WHAT CAN YOU DO?

The key to unlocking budget lies in being able to prove the ROI of your marketing efforts. According to our report, organizations that can calculate ROI are more likely to receive higher budgets.

4) Managing Your Website

Why It's a Challenge

Managing a website was the fourth biggest challenge for marketers in 2017. And chances are, your website's performance is high on your list of priorities. It's an asset that works around the clock to draw in visitors, convert them, and help you hit your goals, after all.

Issues with website management include a variety of different factors, from writing and optimizing the content to designing beautiful webpages. Here are a few things marketers can do to deal with this challenge.

What Can You Do?

First, read this report to see how your website stacks up against over 1 million other websites. It also includes a deep analysis on the four most critical elements of website performance and design, from average load time and website security to mobile friendliness and SEO.

If your primary challenge with managing a website has to do with the skills and resources you have available, you aren't alone. This is especially true for small companies who don't have all the talent in-house required to cover content, optimization, design, and back-end website management.

One solution? Hire freelancers and agency partners. To find freelancers, we recommend:

• Tapping into your personal and professional network by posting on LinkedIn, Facebook, and other social networks with a description of what you're looking for.

• Browsing freelance writers and designers based on their portfolios and areas of interest. For writers, check out Zerys and Contently. For designers, check out Behance & Elance.

• Browsing HubSpot's Services Marketplace, which lists a wide variety of designers from partner companies and agencies we've deemed credible.

Overall, you can make website management easier on your team by hosting your website on a platform that integrates all your marketing channels like HubSpot's COS.

Finally, for the projects you want to keep in-house, here is a list of ebooks and guides that might be helpful to your team:

• Run a Website Grader report

• Ebook: Website Redesign Guide

• Ebook: 50 Brilliant Homepage Design Examples

• Ebook: How to Design and Optimize Landing Pages

• Ebook: How to Increase Your Website SEO Traffic in 30 Days

• Ebook: The Ultimate Workbook for Redesigning Your Website

• Ebook: The Marketer's Guide to Mobile

Again, success with inbound marketing also plays a large role in driving higher budgets. Effective strategies obviously produce results, and our more than 2X as likely to get higher budget for their marketing teams. But remember, inbound marketing is a long game. If you get off to a slow start, you shouldn’t back off in fact, you might consider doubling down

The biggest digital marketing group is the GLOBAL DIGITAL MARKETING GROUP which has 1 Billion global audience, 12 years of marketing experience, 150 employees 4000 satisfied clients.

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