

DVDMM 202

**Digital Promotion Strategies, Tools &
Freelancing- II**

School of Vocational Studies



उत्तराखण्ड मुक्त विश्वविद्यालय

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UNIT- 1

INTRODUCTION TO WORLD WIDE WEB

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1.1 INTRODUCTION

The World Wide Web or www or W3 is an information space where documents and other web resources are identified by Uniform Resource Identifiers (URIs). Such documents are created using hypertext and can be interlinked by hyperlinks, and also can be accessed via the Internet. The resources on the Web are transferred via the Hypertext Transfer Protocol (HTTP), which may be accessed by users through the web browser. Hypertext documents are commonly called webpages, which are created and formatted using Hypertext Markup Language (HTML). Webpages may contain links to images, videos, text, etc. that are rendered to users of a web browser application, running on the user's computer. Tim Berners-Lee invented the World Wide Web in 1989. Multiple webpages with a common theme make up a website. Websites are stored in Web servers, which is a program that responds to requests made over the Internet from web browsers (called client side) running on a user's computer. Websites are provided for

a myriad of informative, entertainment, commercial, and governmental reasons. Some basic components of World Wide Web are-

- Web Servers: The computers that hold information (web resources) for distribution over the Internet based on client's call.
- Web clients: The machines which can retrieve information from the Web servers.
- HTTP: Hyper Text Transfer Protocol, is used to transmit files between web servers and clients. When you click on a hyperlink or fill out a form in a Web document, at that time the information is transferred by the HTTP. There are several other protocols used in the journey of Internet for various purposes, i. e. FTP, TCP/IP, UDP, SMTP, etc.
- Browser software: It is needed by a Web client for displaying text, images, video clips, etc on the client's machine. some popular browser software names are-Internet Explorer, Google Chrome, Mozilla Fire Fox, Netscape Navigator, etc.

1.2 OBJECTIVES

After the successful completion of this unit you will be able to-

- Understand the key developments of WEB 1.0, WEB 2.0 AND WEB 3.0.
- Know Internet evolution.
- Define the role of Internet in marketing.
- Know the several types of digital transactions.

1.3 INTRODUCTION TO WEB 1.0, WEB 2.0 AND WEB 3.0

The World Wide Web is not synonymous with the internet but is the most prominent part of the internet that can be defined as a techno-social system to interact humans based on technological networks. The immense progress had been made about web and related technologies.

Web 1.0-

Web 1.0 was defined as web of information connection. The Web 1.0 was referred as the first generation of World Wide Web. The first generation of web was the era of static webpages and such webpages are only used for content delivery purposes. In the year 1993 came a turning point for the world wide web with the introduction of the Mosaic web browser, which could display graphics as well as text to the clients' machine, from that date, usage of the web grew rapidly. This early phase of web development, called Web 1.0, where mostly web pages were static documents (read from a server and displayed on a clients' machine) with no options for users to contribute content, or to interact with it. Web 1.0 is a content delivery network (CDN) which enables to showcase the piece of information on the websites. Characteristics of web 1.0 are-

- Static web pages.
- Web 1.0 technologies includes core web protocols, as- HTML, HTTP, and URI.

- Web 1.0 have read only content.
- It establishes an online presence and make their information available to anyone at any time.
- Content is served from the server's file-system.
- Pages built using Server side includes or Common Gateway Interface (CGI).
- Frames and Tables used to position and align the elements on a page.

Web 2.0-

Web 2.0 is the revolution period of computer industry which establishes Internet as a new business platform. It is also referred as participative web or people-centric web or interactive web or read-write web. Several technological advancements were noted, i. e. uses of client-side and server-side scripting languages, uses of Javascript and AJAX framework, etc. In the age of web 2.0, AJAX (Asynchronous JavaScript and XML) and JavaScript frameworks have become a popular means of developing interactive website with rich features, as- interoperable, high usability, ability to create user-generated content, interaction and collaboration with other applications, etc. Characteristics of web 2.0 are-

- Easy information classification and retrieval.
- Dynamic content which is user responsive.
- Information flows bidirectional (as- between website owner and website users by means of feedback and commenting).
- Developed APIs to allow self-usage, such as by a software application.
- Era of social web started, which open the doors of online tools and platforms where people can share their perspectives, opinions, thoughts and experiences.
- Web 2.0 applications tend to interact much more with the end user.
- The following applications/tools were started in trending, as- Podcasting, Blogging, Tagging, Curating with RSS, Social bookmarking, social networking, social media, etc.
- Web 2.0 were facilitated with Flexible web design, creative reuse, updates, collaborative content creation and modification.

Web 3.0-

The basic idea of web 3.0 is to define structure data and link them in order to more effective discovery, automation, integration, and reuse across various applications. Web 3.0 tries to link, integrate, and analyze data from various data sets to obtain new information stream. Web 3.0 is also known as semantic web. Semantic web was thought up by Tim Berners-Lee (inventor of the World Wide Web). The Semantic Web is a vision about an extension of the existing World Wide Web, which provides software programs with machine-interpretable metadata of the published information where computers are able to make meaningful interpretations similar to the way humans process information to achieve their goals. Web 3.0 is able to improve data management, support accessibility of mobile internet, simulate creativity and innovation,

encourage factor of globalization phenomena, enhance customers' satisfaction and help to organize collaboration in social web. It includes transforming the network into a database, a move aimed at making content accessible by multiple applications that are not just the browser, the push of artificial intelligence technologies, the geospatial web, 3D Web, etc. It enables the upgradation of back-end of the web where many evolutions of web usage and interaction among several paths happened. Characteristics of web 3.0 are-

- Towards semantic web.
- Uses of artificial intelligence.
- 3D Graphics.
- Content is accessible by multiple applications
- Several advance web technologies, tools and frameworks were designed and developed.

1.4 HISTORY OF INTERNET

In today's information age the Internet is a world-wide broadcasting system, which is capable to information dissemination, and a medium for collaboration and interaction between individuals. The original ARPANET (Advanced Research Projects Agency Network) grew into the Internet. Internet was based on the idea that there would be multiple independent networks of rather arbitrary design, beginning with the ARPANET as the pioneering packet switching network. In an open-architecture network, the individual networks may be separately designed and developed and each may have its own unique interface which it may offer to users and/or other providers, including other Internet providers. Each network can be designed in accordance with the specific environment and user requirements of that network. There are generally no constraints on the types of network that can be included or on their geographic scope, although certain pragmatic considerations will dictate what makes sense to offer.

The idea of open-architecture networking was first introduced by Kahn shortly after having arrived at DARPA (Defense Advanced Research Projects Agency) in 1972. This work was originally part of the packet radio program, but subsequently became a separate program in its own right. At the time, the program was called "Internetting". Key to making the packet radio system work was a reliable end-end protocol that could maintain effective communication in the face of jamming and other radio interference, or withstand intermittent blackout such as caused by being in a tunnel or blocked by the local terrain. Kahn first contemplated developing a protocol local only to the packet radio network, since that would avoid having to deal with the multitude of different operating systems, and continuing to use NCP (Network Control Program).

Vint Cerf and Bob Kahn designed a protocol that would improve the efficiency of the network, allow different networks to connect together into one big network (hence Internet: global group of interconnected networks), and would include error detection, packaging, and routing. The new protocol was called Transmission Control Protocol and was later split into a separate

Internet Protocol. Together, the suite of protocols were called TCP/IP. TCP/IP is particularly valuable as it ensures that messages are reliably sent over the Internet over multiple routes in individual packets. Those packets are then reassembled at the receiving system. If there is an error in a packet, a request for a new one is sent to the originating computer.

With the advent of TCP/IP, the 'global network' became a reality. Universities and government offices and agencies increasingly used the network for communication. Up to this time, the Internet was, by law, for strictly official use. However, personal email addresses became commonplace and games began to be played over the network. Unofficial use of the Internet gained impetus in the 1980's when personal computers by Apple and IBM became common in both offices and in homes.

In the year 1984, the Domain Name System (DNS) was introduced. DNS is a global network of servers that translate intuitive host names (Uniform Resource Locators) into numerical IP (Internet Protocol) addresses, which computers on the Internet use to communicate with each other. In the year 1990s, 'the World Wide Web' was introduced by the Tim Berners-Lee at CERN in Switzerland for distributing information across a network of different computers and operating systems.

The 'Hypertext Transfer Protocol' (http) is the communications protocol that enables the transfer of web pages. Http runs on top of TCP/IP and defines how different types of hyperlinked data (text and multimedia) are transmitted and accessed over the Internet. It supports a 'client/server' mode of communications between remote computers where a 'client' is a computer that requests data from a 'server' computer.

The first graphical browser, named Mosaic was came into existence in the year 1992. Further versions of Mosaic became Netscape. It is estimated that the Web has greatly surpassed one billion pages and that individuals, companies, educational institutions, and all other types of organisations are putting Web pages online. The Web is supported by backbone networks that are comprised of major, high capacity, long-distance computer networks with very high data transfer capacity.

1.5 GROWTH OF INTERNET

The Internet refers to the global information system that is logically linked together by a globally unique address space based on the Internet Protocol (IP). As we discussed in previous topic the history of the Internet began to take root out of a network developed by the Advanced Research Projects Agency (ARPA) to aid in the sharing of information and resources among researchers. The ARPANET, the network that became the basis for the Internet and made operational in the year 1969, became an essential tool for remote login, file transfer, electronic mail and the sharing of information by interest groups.

In the year 1973, the U.S. Defense Advanced Research Projects Agency (DARPA) started a research program called the Internetting project to develop communication protocols which would allow networked computers to communicate transparently across multiple, linked packet networks. The system of networks which emerged from the research is what we know as the Internet. The system of protocols which was developed during this project is the TCP/IP Protocol Suite, after the two initial protocols developed: Transmission Control Protocol (TCP) and Internet Protocol (IP).

Since its creation, the Internet has grown exponentially in terms of numbers of networks connected to it. Over the years, there has been wave of commercialization of the Internet. The Internet has now become almost a "commodity" service, and much of the latest attention has been on the use of this global information infrastructure for support of other commercial services. This has been tremendously accelerated by the widespread and rapid adoption of browsers and the World Wide Web technology, allowing users easy access to information linked throughout the globe.

NOTE- The Cisco Annual Internet Report is a global forecast/analysis that assesses digital transformation across various business segments. The report covers fixed broadband, Wi-Fi, and mobile (3G, 4G, 5G) networking. Quantitative projections are provided on the growth of Internet users, devices and connections. As-

Internet users- Nearly two-thirds of the global population will have Internet access by the year 2023. There will be 5.3 billion total Internet users (66 percent of global population) by the year 2023, up from 3.9 billion (51 percent of global population) in the year 2018.

Devices and connections- The number of devices connected to IP networks will be more than three times the global population by the year 2023. There will be 3.6 networked devices per person by the year 2023, up from 2.4 networked devices per person in the year 2018. There will be 29.3 billion networked devices by the year 2023, up from 18.4 billion in the year 2018.

M2M connections will be half of the global connected devices and connections by the year 2023. The share of Machine-To-Machine (M2M) connections will grow from 33 percent in the year 2018 to 50 percent by the year 2023. There will be 14.7 billion M2M connections by the year 2023.

The consumer segment will have nearly three-fourths share of total devices and connections by the year 2023. Globally, consumer segment's share of total devices and connections will be 74 percent, with the business segment claiming the remaining 26 percent.

Mobility growth- Over 70 percent of the global population will have mobile connectivity by the year 2023. The total number of global mobile subscribers will grow from 5.1 billion (66 percent of population) in the year 2018 to 5.7 billion (71 percent of population) by the year 2023.

5G devices and connections will be over 10 percent of global mobile devices and connections by the year 2023. By the year 2023, global mobile devices will grow from 8.8 billion in the year 2018 to 13.1 billion by the year 2023– 1.4 billion of those will be 5G capable.

[Source: <https://www.cisco.com/c/en/us/solutions/collateral/executive-perspectives/annual-internet-report/white-paper-c11-741490.html>]

1.6 INTERNET AND DIGITAL MARKETING

Internet marketing performs a major role in present marketing strategy. Internet marketing is a vital part of the success of any business organization. It is beneficial to nearly every aspect of the business. Internet marketing sometimes also called online marketing or digital marketing or web marketing or e-marketing is defined as the process of promoting brands, products, or services, over the Internet. It includes several promotional activities, such as- e-mail marketing, blogging, SEO, website, and social media.

The advent of Internet started a new era of Internet marketing. The worldwide reach of the Internet has made it possible for businesses to easily reach to their customers accross the globe. Through the Internet, business organizations of all sizes are now able to share brands, products, and services on a global scale at any time.

Internet uses are in trending irrespective of gender, age, place and time where vast majority of people spend a significant amount of time online, whether they are at work or home or waiting at the airport on a smartphone or digital device. The selection and execution of right Internet marketing strategies is the key factor to achieve the goal. Internet marketing also helps organizations in achieving better global branding and in building greater awareness of the products or services that they offer. The Internet has enabled the rise of the smart consumer. Today's consumer first takes the complete enquiry of the products or services before to proceed to buy or opt services.

1.7 IMPROTANCE OF INTERNET IN MARKETING

In todays' digital age Internet is a place where anybody can sale or purchase products/services, but for that you must have the art of utilizing Internet in your life. Now, developing online marketing strategy is the central idea for any successful business brand. The role of Internet in marketing is unavoidable. The following point states the importance of Internet in marketing-

- Product awareness and branding- Product awareness and online branding is one of the top reasons for using Internet in marketing.

- Meeting the new Demand- Consumers are gravitating to Internet media outlets such as social media platforms and mobile apps.
- Cost Efficiency- Internet marketing is significantly less expensive than traditional marketing.
- Better Visibility- Online marketing tactics like search engine optimization (SEO) enable your business to be more easily found on the channels your customers are using most.
- Increased Authority- Online marketing is important not just because it helps you to get found online, but also because it can change the way your business is perceived by potential customers.
- Long-Lasting Relationships
- Marketing boosts sales, which keeps your small business afloat. However, online marketing also does something more, which has a greater long-term impact. It enables you to build relationships. Building relationships with customers earns you repeat business.
- Increases Website Traffic- Internet marketing attracts consumers to visit the website.
- Increase Sales- Online marketing has proven to enhance sales. Most consumers research prices, sales and promotions online before proceeding to their online or in store purchase.
- Improve Credibility- Maintaining a consistent online presence via Internet marketing is one of the best ways to maintain credibility.

1.8 E-COMMERCE AND DIGITAL TRANSACTIONS

Digital transactions (in terms of payments) are defined as transactions in where the customer transfers money through electronic means, and the funds (payment) directly flows from one bank account to another bank account. The bank accounts could be held in banks, or with any other entities (such as payment bank). Such digital transfers could be done through means of cards (debit/credit), mobile wallets, mobile apps, net banking, Electronic Clearing Service (ECS), National Electronic Fund Transfer (NEFT), Immediate Payment Service (IMPS), pre-paid instruments or other similar means. Following are the types of digital payments usually followed in India, are-

[1] Banking Cards (Debit / Credit / Cash / Travel / Others)-

Banking cards offer consumers more security, convenience, and control than any other payment method. The wide variety of cards available– including credit, debit and prepaid cards which offers enormous flexibilities. These cards provide two factor authentications for secure payments, e.g, secure PIN and OTP (One Time password). RuPay, Visa, MasterCard are some of the example of banking cards used for payment systems. Such banking cards give people the power to purchase items in stores, on the Internet (online shopping), etc.

[2] Unstructured Supplementary Service Data (USSD)-

The innovative payment service *99# works on Unstructured Supplementary Service Data (USSD) channel. This service allows mobile banking transactions using basic feature mobile phone, there is no need to have mobile internet data facility for using USSD based mobile banking. It is envisioned to provide financial deepening and inclusion of underbanked society in the mainstream banking services. *99# service has been launched to take the banking services to every common man across the country. Banking customers can avail this service by dialling *99#, a “Common number across all Telecom Service Providers (TSPs)” on their mobile phone and transact through an interactive menu displayed on the mobile screen. Key services offered under *99# service include, interbank account to account fund transfer, balance enquiry, mini statement besides host of other services. *99# service is currently offered by 51 leading banks and all GSM (Global System for Mobile Communications) service providers and can be accessed in 12 different languages including Hindi and English.

[3] Aadhaar Enabled Payment System (AEPS)-

AEPS is a bank led model which allows online interoperable financial transaction at PoS (Point of Sale / Micro ATM) through the Business Correspondent (BC)/Bank Mitra of any bank using the Aadhaar authentication.

[4] Unified Payments Interface (UPI)-

UPI is a system that powers multiple bank accounts into a single mobile application (of any participating bank), merging several banking features, seamless fund routing and merchant payments into one place. It also caters to the “Peer to Peer” collect request which can be scheduled and paid as per requirement and convenience. Each Bank provides its own UPI App for Android, Windows and iOS mobile platform(s).

[5] Mobile Wallets-

A mobile wallet is a way to carry cash in digital format. You can link your credit card or debit card information in mobile device to mobile wallet application or you can transfer money online to mobile wallet. Instead of using your physical plastic card to make purchases, you can pay with your smartphone, tablet, or smart watch. An individual's account is required to be linked to the digital wallet to load money in it. Most banks have their e-wallets and some private companies. e.g. Paytm, Freecharge, Mobikwik, Oxigen, mRuppee, Airtel Money, Jio Money, SBI Buddy, itz Cash, Citrus Pay, Vodafone M-Pesa, Axis Bank Lime, ICICI Pockets, SpeedPay etc.

[5] Point of Sale (PoS)-

A PoS is the place where sales are made. On a macro level, a PoS may be a mall, a market or a city. On a micro level, retailers consider a PoS to be the area where a customer completes a transaction, such as a checkout counter. It is also known as a point of purchase.

[6] Internet Banking-

Internet banking, also known as online banking, e-banking or virtual banking, is an electronic payment system that enables customers of a bank or other financial institution to conduct a range of financial transactions through the financial institution's website. Different types of Internet/online financial transactions are:

- **National Electronic Fund Transfer (NEFT)**- NEFT is a nation-wide payment system facilitating one-to-one funds transfer. Under this Scheme, individuals, firms and corporates can electronically transfer funds from any bank branch to any individual, firm or corporate having an account with any other bank branch in the country participating in the Scheme. Individuals, firms or corporates maintaining accounts with a bank branch can transfer funds using NEFT. Even such individuals who do not have a bank account (walk-in customers) can also deposit cash at the NEFT-enabled branches with instructions to transfer funds using NEFT. However, such cash remittances will be restricted to a maximum of Rs.50,000/- per transaction. NEFT, thus, facilitates originators or remitters to initiate funds transfer transactions even without having a bank account. Presently, NEFT operates in hourly batches- there are twelve settlements from 8 am to 7 pm on week days (Monday through Friday) and six settlements from 8 am to 1 pm on Saturdays.
- **Real Time Gross Settlement (RTGS)**- RTGS is defined as the continuous (real-time) settlement of funds transfers individually on an order-by-order basis (without netting). 'Real Time' means the processing of instructions at the time they are received rather than at some later time; 'Gross Settlement' means the settlement of funds transfer instructions occurs individually (on an instruction-by-instruction basis). Considering that the funds settlement takes place in the books of the Reserve Bank of India (RBI), the payments are final and irrevocable. The RTGS system is primarily meant for large value transactions. The minimum amount to be remitted through RTGS is 2 lakh. There is no upper ceiling for RTGS transactions. The RTGS service for customer's transactions is available to banks from 9.00 hours to 16.30 hours on week days and from 9.00 hours to 14:00 hours on Saturdays for settlement at the RBI end. However, the timings that the banks follow may vary depending on the customer timings of the bank branches.
- **Electronic Clearing System (ECS)**- ECS is an alternative method for effecting payment transactions in respect of the utility-bill-payments such as telephone bills, electricity bills, insurance premia, card payments and loan repayments, etc., which would obviate the need for issuing and handling paper instruments and thereby facilitate improved customer service by banks / companies / corporations / government departments, etc., collecting / receiving the payments.
- **Immediate Payment Service (IMPS)**- IMPS offers an instant, 24X7, interbank electronic fund transfer service through mobile phones. IMPS is an emphatic tool to transfer money instantly within banks across India through mobile, internet and ATM

which is not only safe but also economical both in financial and non-financial perspectives.

[7] Mobile Banking-

Mobile banking is a service provided by a bank or other financial institution that allows its customers to conduct different types of financial transactions remotely using a mobile device such as a smart phone or tablet. It uses software, usually called an app, provided by the banks or financial institution for the purpose. Each Bank provides its own mobile banking App for Android, Windows and iOS mobile platform(s).

[8] Micro ATMs-

Micro ATM meant to be a device that is used by a million Business Correspondents (BC) to deliver basic banking services. The platform will enable Business Correspondents (who could be a local kirana shop owner and will act as 'micro-ATM') to conduct instant transactions. The micro platform will enable function through low-cost devices (micro-ATMs) that will be connected to banks across the country. This would enable a person to instantly deposit or withdraw funds regardless of the bank associated with a particular BC.

1.9 POINTS TO REMEMBER

- The World Wide Web or www or W3 is an information space where documents and other web resources are identified by Uniform Resource Identifiers (URIs).
- Hypertext documents are called webpages, which are created and formatted using Hypertext Markup Language (HTML). Webpages may contain links to images, videos, text, etc. that are rendered to users of a web browser application, running on the user's computer.
- The Web 1.0 was referred as the first generation of World Wide Web. The first generation of web was the era of static webpages and such webpages are only used for content delivery purposes.
- Web 2.0 is the revolution period of computer industry which establishes Internet as a new business platform. It is also referred as participative web or people-centric web or interactive web or read-write web.
- Web 3.0 is also known as semantic web. Semantic web was thought up by Tim Berners-Lee (inventor of the World Wide Web).
- The first graphical browser, named Mosaic was came into existence in the year 1992. Further versions of Mosaic became Netscape.
- Internet marketing sometimes also called online marketing or digital marketing or web marketing or e-marketing is defined as the process of promoting brands, products, or services, over the Internet. It includes several promotional activities, such as- e-mail marketing, blogging, SEO, website, and social media.

- Digital transfers could be done through means of cards (debit/credit), mobile wallets, mobile apps, net banking, Electronic Clearing Service (ECS), National Electronic Fund Transfer (NEFT), Immediate Payment Service (IMPS), pre-paid instruments or other similar means.

1.10 GLOSSARY

- **Packet:** The fundamental unit of data transmitted over the Internet. When a device intends to send a message to another device, it breaks the message down into smaller pieces, called packets. Each packet has the sender's address, the destination address, a sequence number, and a piece of the overall message to be sent.
- **Hub:** A simple network device that connects other devices to the network and sends packets to all the devices connected to it.
- **Bridge:** A network device that connects two networks together and only allows packets through that are needed.
- **Switch:** A network device that connects multiple devices together and filters packets based on their destination within the connected devices.
- **Router:** A device that receives and analyzes packets and then routes them towards their destination. In some cases, a router will send a packet to another router; in other cases, it will send it directly to its destination.
- **IP Address:** Every device that communicates on the Internet, whether it be a personal computer, a tablet, a smartphone, or anything else, is assigned a unique identifying number called an IP (Internet Protocol) address. Historically, the IP-address standard used has been IPv4 (version 4), which has the format of four numbers between 0 and 255 separated by a period. For example, the domain Saylor.org has the IP address of 107.23.196.166. The IPv4 standard has a limit of 4,294,967,296 possible unique addresses. As the use of the Internet has proliferated, the number of IP addresses needed has grown to the point where the use of IPv4 addresses will be exhausted. This has led to the new IPv6 (version 6) standard, which is currently being phased in. The IPv6 standard is formatted as eight groups of four hexadecimal digits. The IPv6 standard has a limit of 3.4×10^{38} possible addresses.
- **Domain name:** If you had to try to remember the IP address of every web server you wanted to access; the Internet would not be nearly as easy to use. A domain name is a human-friendly name for a device on the Internet. These names generally consist of a descriptive text followed by the top-level domain (TLD). For example, the Uttarakhan Open University's domain name is uou.ac.in; UOU describes the organization and .ac.in is the top-level domain. Other well-known TLDs include .com, .net, .org, .gov, etc.

- DNS: DNS stands for “domain name system,” which acts as the directory on the Internet. When a request to access a device with a domain name is given, a DNS server is queried. It returns the IP address of the device requested, allowing for proper routing.
- Packet-switching: When a packet is sent from one device out over the Internet, it does not follow a straight path to its destination. Instead, it is passed from one router to another across the Internet until it is reaching its destination. In fact, sometimes two packets from the same message will take different routes! Sometimes, packets will arrive at their destination out of order. When this happens, the receiving device restores them to their proper order.
- Protocol: In computer networking, a protocol is the set of rules that allow two (or more) devices to exchange information back and forth across the network.

1.11 CHECK YOUR PROGRESS

Descriptive type questions-

- a) Explain the key features of Web 1.0 and Web 2.0.
- b) Briefly define the history of Internet.
- c) Explain the role of Internet in digital marketing.
- d) What do you understand by various types of digital transactions? Define Banking Cards and Unified Payments Interface (UPI).
- e) What do you mean by Internet banking? Define NEFT, RTGS, IMPS, and ECS.

Objective type questions-

- a) In computer networking, a protocol is the set of rules that allow two (or more) devices to exchange information back and forth across the network (True/False).
- b) Every device that communicates on the Internet not necessarily needs a unique identifying number called an IP (Internet Protocol) address (True/False).
- c) Mobile banking is a service provided by a bank or other financial institution that allows its customers to conduct different types of financial transactions remotely using a mobile device (True/False).
- d) The RTGS system is primarily meant for large value transactions (True/False).
- e) It is not possible to transfer money using NEFT to someone's bank account without having own bank account (True/False).
- f) USSD stands for Unstructured Supplied Service Data (True/False).
- g) DARPA stands for Defense Advanced Research Projects Agency (True/False).
- h) DNS is a global network of servers that translate intuitive host names (Uniform Resource Locators) into numerical IP (Internet Protocol) addresses (True/False).
- i) The Semantic Web is a way to extending software programs with machine-interpretable metadata of the published information where computers are able to make meaningful interpretations (True/False).

Answer (objective type question)-

- [a] True [b] False [c] True [d] True [e] False
[f] False [g] True [h] True [i] True

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UNIT- 2

DATABASE CONCEPTS

2.1 INTRODUCTION

2.2 OBJECTIVES

3.3 DATABASE IN DIGITAL MARKETING

2.4 DATA MODELS

2.5 DATABASE DESIGN & RULES

2.6 ENTITY RELATIONSHIP DIAGRAM (ER-DIAGRAM)

2.7 INTRODUCTION TO SQL

2.8 TYPES OF SQL

2.9 POINTS TO REMEMBER

2.10 GLOSSARY

2.11 CHECK YOUR PROGRESS

2.12 BIBLIOGRAPHY/ REFERENCES

2.13 SUGGESTED READINGS

2.1 INTRODUCTION

A database is a collection of information that is organized so that it can be easily accessed, managed and updated. Computer databases typically contain aggregations of data records or files, containing information about sales transactions or interactions with specific customers. The DBMS is the software which is used to manage database is called Database Management System (DBMS). For Example, MySQL, Oracle etc. are popular commercial DBMS used in different applications. DBMS allows users to perform the following tasks:

- *Data Definition:* It allows us the creation, modification and removal of definitions or structures that defines the organization of data in the database.
- *Data Updation:* It allows us the insertion, modification and deletion of the information/data in the database.

- *Data Retrieval*: It allows us in retrieving/accessing of data from the database which can be used by applications to achieve various objectives.
- *User Administration*: It allows us in registering and monitoring database users, it promotes the enforcement of security of database, monitoring performance is another achievement, maintenance of data integrity, dealing with concurrency control and recovering of data corrupted due to various unexpected failures.

Database Design is a collection of various processes which facilitate the designing, development, implementation and maintenance of database management systems i.e., DBMS. Database designed by using certain rules are quite easy to maintain, it also improves a consistency of the data and are also cost effective in terms of a storage cost. As the user of the database a database designer will suggest us that how the data elements are correlated and what kind of the data is to be stored in the database. The main concerns behind the database designing is to produce the logical and physical design models of the proposed database system.

A logical model of the database focuses on the data requirements and a stored data is always independent of its physical considerations. This model of database makes us not to concern about where and how to store the database physically. Whereas, A physical data design model involves translation of a logical design of the database onto a physical media by using various hardware resources and software systems like as database management systems (DBMS).

2.2 OBJECTIVES

After the successful completion of this unit, you will be able to-

- Understand the role of Database.
- Know about the needs of Database and DBMS system.
- Know about the types and merits of Database and DBMS.
- Know about the process of Normalization.
- Know about ER diagram and its need.
- Know about SQL and its classification.

2.3 DATABASE IN DIGITAL MARKETING

Database concepts can also be use in marketing of various formats. It promotes the collection of customer's data like name of customer, addresses details, emails addresses, contact numbers, various transaction histories, customer support tickets, and so on. The information collected is then analyzed and used for creating a personalized experience for each customer, or to attract potential customers.

Who needs Database for Digital Marketing?

In today's world multiple businesses are using various database techniques for refining their direct marketing strategies, it also includes finance companies, various retailers, companies

having technology expertise, internet service companies, insurance companies, and different Business to Business companies.

Usage of Database in marketing is particularly useful for outsized companies, which already have huge customer base, it also generates huge amounts of transactional data. The larger the initially collected data set, the more opportunities are generated for finding groups of customers and/or prospects which can be achieved by making customized communication.

Many of those well-built companies are attending the conferences or exhibitions organized by Direct Marketing Association's annual National Center for Database Marketing, where various companies are making the discussion on how to improve database marketing. In 2011 various Exhibitors like American Express, Experian Marketing, Pitney Bowes, and the SAS Institutes have organized the conferences on database marketing. Some more companies like Microsoft, Farmers Insurance, General Motors, IBM, and the Whirlpool Corporation are recognized for their excellent performance with database marketing.

Benefits of Database Marketing

In today's world consumers are expecting a personalized experience with the brand. To deliver this, a marketing company needs a specified view of each customer across every touchpoint. By making the analysis of the collected data the marketing companies can only understand the customer's journey and keep them in a meaningful way. Use of database for various marketing strategies makes that easier. Database designed for customer can allow us the following:

- Finding the customer groups – from your most dedicated, highly-valued customers to first-time customers and occasional buyers.
- Making of detailed view of customer segments which was based on demographics, behaviours, or even personal interests of the customers.
- Creating of highly personalized messages for both current and forthcoming customers
- Determine the best channel and time for engaging customers
- Improving our marketing efficiency by not wasting much time and money in making campaigns to those who are unlikely to respond as per our requirements.
- Creating and Building effective loyalty programs which provides the suitable incentives schemes for repeated sales.

Improving of customer support service by providing support staff with a 24x7 view of the customer's satisfaction with our brand.

2.4 DATA MODELS

Data models defines how the logical structure of a database is created or developed. Data Models are the basic-blocks which introduce the abstraction in a DBMS. Data model defines how the data is connected to each other and how they are processed and stored inside the system.

While creating the database, initially the data model could be flat data-models, where all the data are to be kept in the same area. Previously, data models were not so logical, hence they are prone to introduce lots of redundancy and various anomalies.

Type(s) of Data Model

While talking about data model there are three different kind of data models: i.e., conceptual data models, logical data models, and physical data models, and each one of them have a specific concern. The data models are used to represent the data and how it is stored in the database for setting the relationship between data items.

- **Conceptual Data Model:** This data Model is use to define what the system contains. This model is mostly created and used by Business stakeholders and Data Architects. The function of this model is to organize, scale and define business concepts and rules.
- **Logical Data Model:** This defines how the system should be implemented which is independent of the DBMS (Database Management System). This approach of database is typically created and developed by data architects and business analysts. The objective of this technique is to developed the technical mapping of regulations and data structures associated with database design.
- **Physical Data Model:** This part of data model describes the database; it specifies that how the system would be implemented by using a specific DBMS (Database Management System). This approach is typically developed by database administrator (DBA) and developers. The main objective of this approach is to develop an actual implementation of the database.

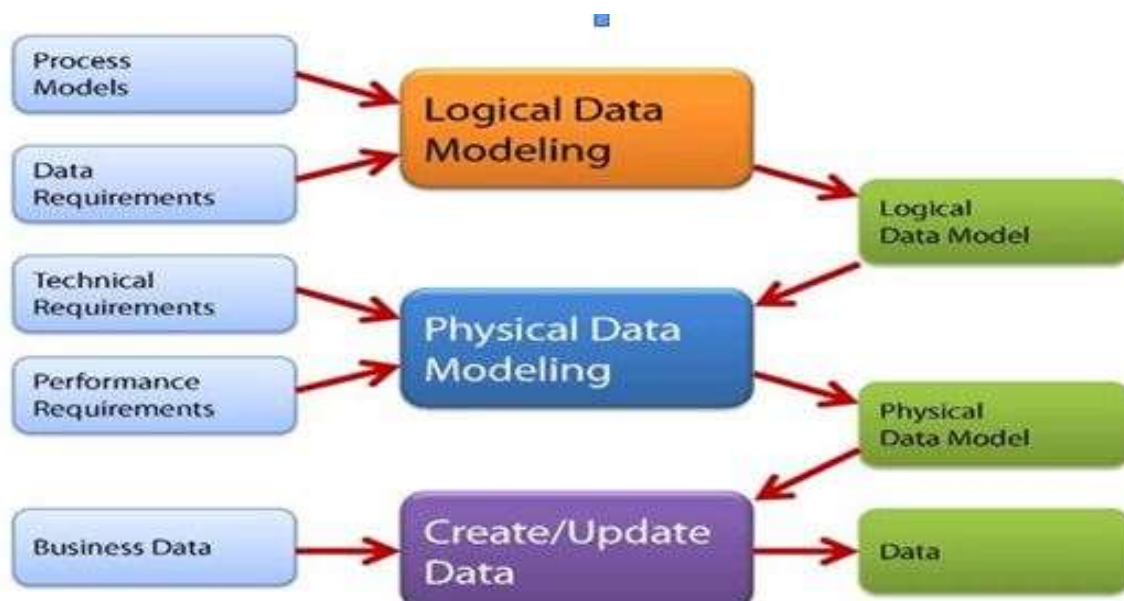


Figure 1: Data Model

2.5 DATABASE DESIGN & RULES

Normalization is the process of database design which reduces the data repetition and eliminates the unwanted characteristics like Insertion, Update and Deletion Anomalies. The rule of normalization makes the division of larger tables into smaller tables and associate them by using relationships. Normalization is used mostly for the following two purposes:

- Eliminating repeated(useless) data.
- Ensuring the role of data dependencies i.e., data is logically stored.

While we are not using the normalization/design rules anomalies are the main concerns that needs to be resolved with the assistance of different rule(s). Some of the major anomalies we face are discussed below:

Roll_Num	Name	Branch	Head	Contact
1	Anil Kumar	CSE	Dr Ajay Tyagi	676767676
2	Ravi Kumar	CSE	Dr Ajay Tyagi	676767676
3	Neha Sharma	CSE	Dr Ajay Tyagi	676767676
4	Rakesh Saxena	ME	Dr Amrita	767676767
5	Abhinav Kumar	ME	Dr Amrita	767676767

While going through the above table we have identified the following anomalies:

Insert Anomaly

Suppose, if we want to insert the record for a new admission, until and unless a student opts for a branch, the student data cannot be inserted in a table, or else we need to enter NULL as the branch information.

Update Anomaly

This anomaly deals “if Mr. Ravi Kumar (as per the table) leaves the college? or is no longer associated as the HOD of department of computer science? In this situation all the student records named with Mr Ravi Kumar needs to be updated, and if in case if we miss any record of Mr Ravi Kumar, it will lead to a term called data inconsistency”. This is known as Updation anomaly.

Delete Anomaly

As per the above **Student** table, we have stored two different kind of information's i.e. Information related to Student and Branch information of the student. Therefore, while ending of the academic year, if records of student are deleted, we will also lose the information related with their branch. This is known as delete anomaly.

Therefore, for managing the above-mentioned anomalies we need to follow the various rules associated with the database design, which is also known as **Normalization**.

Normalization is the process which divided into the following heads or Normal Form(s):

1. First Normal Form (1NF)

If we need a table to be in 1NF then we need to follow the below mentioned guideline(s).

- A field must be Atomic i.e. It should only have single value.
- Columns are from same domain.
- All columns must be of unique names.
- Order and sorting of data do not matter.

2. Second Normal Form (2NF)

If we need a table to be in 2NF then one need to follow the below guideline(s).

- Table should be in the 1NF i.e. First Normal form.
- It also needs to be in Partial Dependency.

3. Third Normal Form (3NF)

A table is said to be in 3NF Third Normal Form then we need to follow the guideline(s).

- It must be in 2NF i.e. Second Normal form.
- Removal of Transitive Dependency.

4. BCNF (Boyce Codd Normal Form)

Boyce and Codd Normal Form is also known as strict form of 3NF. This form deals with the certain type of anomalies which cannot be handled by 3NF. A table is in BCNF, if it does not allow the overlapping of candidate keys then it is said to be in BCNF. For a table to be in BCNF, following rule(s) must be there

- Table or relation must be in 3rd Normal Form
- For each (FD)functional dependency ($X \rightarrow Y$), X should be a super Key.

5. Fourth Normal Form

For a table to be in 4NF i.e., Fourth Normal Form then,

- It is in the BCNF (Boyce-Codd Normal Form).
- It doesn't have Multi-Valued Dependency (MVD).

6. Fifth Normal Form

Fifth Normal Form (5NF), also known as Project-Join Normal Form (PJNF), it is a level of normalizing the database designed which is used to reduce repetition in relational databases (RDBMS) by isolating semantically related multiple relationships.

2.6 ENTITY RELATIONSHIP DIAGRAM (ER-DIAGRAM)

Entity-Relationship (ERD) Diagram is based on the notation of real-world entities and relationships between them. While describing the real-world scenario into the database model, the ER Diagram creates entity set, relationship set, general attributes and constraints. ER Model is mostly recommended to be used for the conceptual design of the database. ER Model is based on-

- Entities and their attributes.
- Relationships among various Entities.

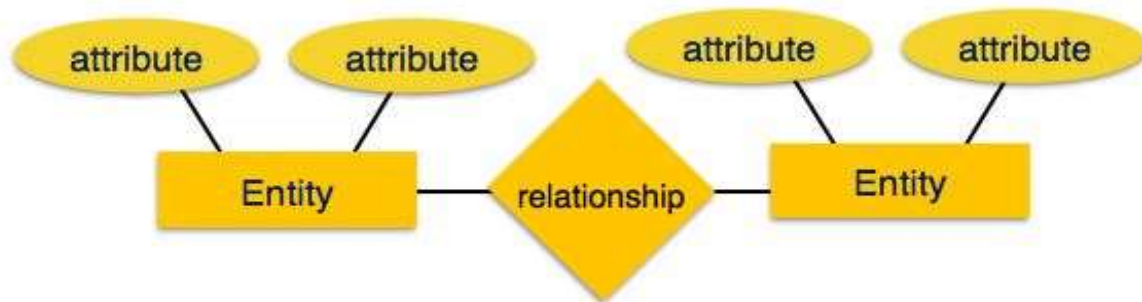


Figure 2: ER Model

Entity- An entity is a real-world object having properties known as an attribute. Every attribute is defined by a set of values known as domain. For example, in a college database, a student is considered as an entity. Whereas the student has various attributes like name, age, class, etc.

Relationship- The logical association between entities is known as relationship. Relationships are mapped with entities through various techniques. Mapping of cardinalities is defined as the number of associations between two entities.

Relationship is divided into the following type(s)-

- **One to One:** When we are having relationship between two entities only then it is also known as one-to-one relationship.
- **One to Many:** When a single entity is connected with many entities then it is also known as One-to-Many relationship.
- **Many to One:** When more than one entity is associated with a single entity then it is known as many to one.
- **Many to Many:** When more than one entity is associated with many entities then it is known as many to many.

2.7 INTRODUCTION TO SQL

SQL stands for Structured Query Language. It is designed for the management of data in a relational database management system (RDBMS). It is pronounced as S-Q-L or sometime known as See-Qwell. SQL is a language of database, which is used for creating the database, deleting the database, fetching the records, and modifying the records etc.

The chapter will give you a quick start to SQL (Structured Query Language). It covers most of the contents required for a understanding the basics Structured Query Language and to get an experience of how it works. SQL is used with all the Relational Database Management Systems (RDMS) like MySQL, MS Access, Oracle, Sybase, Informix, Postgres and SQL Server use SQL as their standard database language. Some of the commonly used RDBMS/DBMs are mentioned below: –

- MS SQL Server using T-SQL,
- Oracle using PL/SQL,
- MS Access version of SQL is called JET SQL (native format) etc.

2.8 TYPES OF SQL

The basic SQL commands which is use to interact with relational databases are CREATE, SELECT, INSERT, UPDATE, DELETE and DROP. These commands are classified into the following groups –

Data Definition Language (DDL)

DDL or Data Definition Language consists of the commands that can be used to describe the schema of the database. It simply deals with descriptions of the database schema and is specifically used to create and modify the structure of database objects in the database.

CREATE

Command is use to create the structure of the table/database.

Syntax [For creating the database]

Create database college;

Syntax [For creating the table]

```
CREATE TABLE table_name(
column1 datatype,
column2 datatype,
column3 datatype,
.....
Column N datatype,
PRIMARY KEY(one or more columns ));
```

Example:

```
create table student(roll int,name char(20),address char(20))
```

ALTER

The ALTER TABLE command is used to add, remove, or modify the columns in an existing table.It can also be used to add and drop various constraints (rules) on an existing table.

Syntax:

Use to add column in a table

```
ALTER TABLE table_name
```

ADD column_name datatype;

Example:

Alter table student add state char(20);

Use to drop the Column

ALTER TABLE table_name

DROP COLUMN column_name;

Example:

Alter table student drop column state

Use to modify the column

ALTER TABLE table_name

ALTER COLUMN column_name datatype;

Example:

Alter table student

Alter column address char(10)

DROP

The DROP TABLE command is used to drop an existing table including data in a database.

Syntax:

Drop table table_name

Example:

Drop table student

Data Manipulation Language (DML)

The SQL commands that deal with the manipulation of data present in the database belong to DML or Data Manipulation Language and this includes most of the SQL statements.

SELECT

The SELECT command is used to select data from the table.

Syntax:

SELECT column1, column2, ...

FROM table_name;

Example:

Select * From Student;

OR

Select Roll,Name From Student;

INSERT

The INSERT command is used to insert the new records in a table.

Syntax:

INSERT INTO table_name (column1, column2, column3, ...)

VALUES (value1, value2, value3, ...);

Example:

```
INSERT INTO student(roll,name,address) values(1,'ak','hld');
```

UPDATE

The UPDATE command is used to modify the existing records/data in a table.

Syntax:

```
UPDATE table_name  
SET column1 = value1, column2 = value2, ...  
WHERE condition;
```

Example:

```
UPDATE student  
SET name="jk"  
WHERE name="ak";
```

DELETE

The DELETE command is used to delete the existing data/record from the table.

Syntax:

```
DELETE FROM table_name  
WHERE condition;
```

Example:

```
DELETE FROM student  
WHERE name="ak";
```

Data Control Language (DCL)

DCL includes commands such as GRANT and REVOKE which mainly deals with the rights, permissions and other controls of the database system. Examples of DCL commands: GRANT- gives user's access privileges to database.

GRANT

SQL Grant command is specifically used to provide privileges to database objects for a user. This command also allows users to grant permissions for other users too.

Syntax:

```
GRANT privilege_name  
ON object_name  
TO {user_name |PUBLIC |role_name}  
[WITH GRANT OPTION];
```

Example:

```
Grant create table to SCOTT;
```

REVOKE

The REVOKE command removes the user access rights or privileges to the database objects.

Syntax:

```

REVOKE privilege_name
ON object_name
FROM {user_name |PUBLIC |role_name}.

```

Example:

```

REVOKE CREATE table from scott;

```

2.9 POINTS TO REMEMBER

- Database is used to store the contents.
- DBMS is a software which is use to manage the data in a database.
- SQL is a command use to work with a database.
- SQL is further classified as DDL, DML, and DCL.
- Create, alter and drop commands belong to DDL category.
- Select, Insert, Update and Delete commands belong to DML category.
- Grant and Revoke command Belongs to DCL category.
- ORACLE, MSQl and MS-Access are some common RDBMS.
- ERD- Entity Relationship Diagram.
- ER Diagram is use to represent our database logically.
- Normalization is a process use to reduce the redundancy.
- Data Models are used to show the physical representation of our database.

2.10 GLOSSARY

- DBMS: Database Management System.
- RDBMS: Relational Database Management System.
- ER: Entity Relationship Diagram.
- DDL: Data Definition Language.
- DML: Data Manipulation Language.
- DCL: Data Control Language.
- SQL: Structured Query Language.
- PL: Procedural Language.
- NF: Normal Form.
- BCNF: Boyce Codd Normal Form.

2.11 CHECK YOUR PROGRESS

Descriptive type questions-

- a) Define Database.
- b) Illustrate all the available RDBMS.
- c) Compare traditional system with DBMS.
- d) Discuss SQL and its classification.

- e) Design a table college with following attributes: College_Id, College_Name, College_Address
- f) Define Normalization and its types.

Objective type questions-

- a) RDBMS allows relationship between tables. [T/F]
- b) Normalization is a progressive process. [T/F]
- c) BCNF is also known as 3.5 Normal Form. [T/F]
- d) One cannot remove repetition through Normalization. [T/F]
- e) ----- NF is use to remove transitive dependency.
- f) ----- is an open-source RDBMS.

Answer (Objective Type Question)-

[a] True [b] True [c] True [d] False [e] 3NF [f]MySQL

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UNIT- 3

WEB DESIGNING BASICS

3.1	INTRODUCTION
3.2	OBJECTIVES
3.3	WEB DESIGNING: AN OVERVIEW
3.4	IMPORTANCE OF WEB DESIGNING
3.5	SIMPLIFYING YOUR BUSINESS BY CHOOSING SUITABLE WEB APPLICATIONS
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3.7	WEB DESIGNING AND DIGITAL MARKETING TOOLS
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3.1 INTRODUCTION

Online presence is important in today's scenario. Whether it is about education, about corporate processes, reports generation for any purpose and so on, the digital mode of data has big impact on achieving successful results.

There are various pillars on which business stands. In the present system, one pillar which is the web can either make or ruin the business you are involved with. The mode in which you are approaching your targeted customers and vice-versa is of highly importance today. The more you will use websites for operations of your business processes, the more you will be exploring your business. The main reason behind this is that all customers or consumers are e-

available these days and availability of business agents to them will make the results more attractive.

In practice, the challenge is to choose the digital platform through which you may approach your targeted audience. There are variety of ways to reach them such as using social media handles such as facebook, instagram etc., using electronic mails, using websites, using smartphone apps etc. Out of all, websites are very popular platform to reach them where general information may be disseminated. Further using variety of way this communication may be utilized to turn business into better health. On the other hand, cost of designing web site must be analysed based on requirements and facilities needed on the website. This cost may be considered as investment which yields in high multiple of invested amount. Various factors may be focused in advance for planning the website design viz. navigation, website contents, visual elements on website, branding, search engine optimization, e-commerce transactions etc. Most of the successful business enterprises are paying high to IT expert companies who are responsible for designing and developing their websites.

3.2 OBJECTIVES

After the successful completion of this unit, you will be able to-

- Understand the role of going digital in marketing.
- Planning a better marketing strategy.
- Distinguish between marketing and digital marketing.
- Understand the web designing tools for deploying digital marketing.
- Plan to reach your remote customers using digital approaches for marketing
- Know about the latest approaches of the digital marketing such as ephemeral marketing and artificial intelligence approaches.

3.3 WEB DESIGNING: AN OVERVIEW

Web design is not mastered by all internet users. It is a challenge for few people to get it mastered. We have all used web sites that provide us with what we are looking for. If you have some business which is also replicated on website, can you answer a question:

What is the role of my website in assisting my customers efficiently?

The answers may include as helping them buy something they need, to help them find information, to help them to save money and time, to help them to talk to the organization. In general, from the business perspective, there are five 'S' that may help in understanding the objective of web design. These 5 'S' are: Sell, Serve, Save, Speak and Sizzle. Each 'S' has business relevance and is given below:

- **Sell-** Help them buy something they need.
- **Serve-** Help them find information.

- **Save-** Help them to save money.
- **Speak-** Help them to talk to the organization.
- **Sizzle-** Help them to enjoy a great web experience.

Well-designed web sites have clear objectives and the 5 'S' can help you to customize your objectives wherever required. We should also take a serious note that the well-designed websites always ask how the site helps their customers and have clear objectives. It should also mention the priorities of tasks among them. Also, your website should provide quality content. It should also user friendly and customization according to the users should be given to its users. Heavy and unnecessary content should be avoided to open the website smoothly. More specifically, for exigencies where deadline is meeting, support of additional servers, connection pooling may also be considered for building trust from your customers. Finally, the content or the platform updating should be on regular basis.

3.4 IMPORTANCE OF WEB DESIGNING

In the today's digital scenario of the business, various factors need to be taken care of to lead from the front. Based on how your website is designed, it can either make or break the business you are trying to do. It actually makes a difference on how your customers view your business or company and resultantly turn these target audience into your potential customers. User interface of your web site also leads to better business and revenue and most of the user interfaces are designed based on the mutual selection of look and feel of the website.

The web design also costs you a significantly but it can generate good profit for your business enterprise. To be successful business owner, you must employ a web design expert who may design the efficient website for your business to run exponentially well. That expert must have good hands on with at least the expertise in following website characteristics:

Navigation

This is an essential key point when your website has so much of data which is contained in many web pages. The designer may focus on designing the best navigation bar that shows a list of the relevant web pages which collectively forms website. When the website navigation is developed well, exploration and understanding of contents of your website becomes easy.

Content and Visual Elements

This feature is all about look and feel of the contents used in the webpages. Use of fonts, their colors and their contrast colors must be wisely chooses so that the targeted audience may read the content without unwanted side effects of the colors. The colors and their contrasts must be comfortable while surfing the details. The same is also applied to the visual elements display.

Brand Uniformity

This point is about your logo which must be uniformly used. If your business enterprise has a unique logo that is placed on all print materials, then all the logo's elements must be integrated into the website design for the sake of consistency as it will make confirm that both the printed and web contents are from same brand i.e., your organization.

Engagement

This point is about the more and more time the user stays at your website. For this you have to plan and outstanding web layout and its design. Only when the layout will be appealing only then its users will stay at your website.

Organization and Search Engine Optimization

Assume you have very impressive content on your web page. But if the content flow on the web page is not used in a right manner, then you may lose your visitors return to your website visiting. For example, most people read starting from the upper left area, designers put the most important information there while providing the contents on the web page. Search engine optimization (SEO) of your web site must be wisely planned. It requires to select the keywords that will be prone to more and more redirection towards your website.

Moreover, these are not the only features of the good websites. With the help of website design, business owners are able to create a user-friendly and welcoming online environment where users can get useful information any time of the day. Do not forget when you have a well-managed website, people can rely on you with confidence.

3.5 *SIMPLIFYING YOUR BUSINESS BY CHOOSING SUITABLE WEB APPLICATIONS*

Web tools provide the facilities to do business more smoothly by the use of convergent media. When using wisely, the web helps in simplifying the tasks to achieve the success in the business. We may consider the following key points to run the business smoothly, which includes:

Mobile-first: To run business successfully, we always need to consider the fact that whatever the business we are running must have web apps. Because a paradigm shift has been seen to the buying habits of clients. Hence, mobile oriented web apps are the first choice of the clients.

Recovery from data loss: If you are ready for paying extra for secure web designing, you may get facilities to recover data quickly in case of data loss or technical blunders using web apps.

Secure web operations: Web apps offer better security to the users, which ultimately lead to gaining better and long-term customer relationship for your business.

Competitive Edge: To keep the customers engaged and involved with your company you also need to open new business fronts for your web site recognition. In this front, artificial intelligent agents may also be deployed to fulfil your challenges for achieving success in the business.

24x7 Accessibility: Though website already serves 24 hours a day and 7 days of a week but we need to focus the processing of the specific transactions which are blocked for few hours. If you provide 24x7 full website support, you may increase the count of your targeted audience. It helps your consumers to access web apps anytime and anywhere provided that they have a suitable internet connection.

Moreover, you may consider the scalability to increase your business. Increase of the targeted audience is healthy for your business, but if that increase goes beyond the used capacity of the web servers you are using then you must have to think for paradigm shift. Equally, the flexibility of the website is also one of the important pillars that increases your potential customers.

3.6 DIGITAL MARKETING AND ITS USEFULNESS

The main advantage of digital marketing is that a targeted audience can be reached in a cost-effective approach. Other digital marketing advantages include increasing brand loyalty and driving online sales. Digital marketing gives various advantages as compared with the physical marketing. Few of the benefits are listed below:

Global reach - This is the prominent advantage for going digital because websites allow your business to reach key market niche. It also supports for trading without any geographical barriers as seen in physical marketing.

Lower cost - Proper planning is at the core of the cost management. You may filter your true market clients by using low-cost filters and increase your business outcomes unlike traditional marketing planning.

Improved way of marketing using various digital marketing tricks- measuring your online marketing with web analytics and other online metric tools makes it easier to establish how effective your campaign has been. You can obtain detailed information about how customers use your website or respond to your advertising.

Personalization- You have various plans to remain your earlier customers by giving various benefits by giving extra benefits such as offering them the vouchers that they can redeem. This will increase your customers trust and long-lasting business relations with them.

Customizing the social media of existing clients to increase business- In this you may reach your new customers and may honour the existing customers by providing them benefits and using their social media front customized your way

Better conversion rate- Using digital marketing give you a better conversion rate as compared with other ways such as giving outbound target calls to your customer care executives or outsourcing to some call centre. It is better to design and develop a website and your customers are only a few clicks away from making mutual and lucrative transaction.

3.7 WEB DESIGNING AND DIGITAL MARKETING TOOLS

Uplifting and upgrading in the technologies in the area of web designing has made a complete change in the marketing field today and web sites are playing a vital role in this using various tools. These tools are helping the users in providing them various solutions. In these days, lengthy coding is not used due to the use of widgets and automation tools enabled web designer software. To achieve the results much better the following tools may be used to create the much effective web designing tools. Few of the tools are discussed below:

WordPress

WordPress, which is popular web designing tool among top web designers provides thousands of themes and plugins which helps to cater the need of the designers to complete the task in very short span of time. It provides the suitable, comfortable and useful customization to its intended subscribers.

InVision Studio

InVision Studio is another useful web designing tool with user-friendly interfaces. It has fantastic and catchy transition effects that turns the web designers to use it. It has rich library for animations and other effects.

Photoshop

It is also one of the giants in this area of software and a perfect choice for Adobe Suite developers for web designers. It gives appealing and attractive colour using facilities that helps in designing awesome web products.

Sketch

Sketch is a vector-based tool. It has small documents-based programs that helps you to better manage and combine these small programs for a big project. In other words, it allows you to apply designing in a top-down designing approach where a big task of designing is broken down into small tasks and then combined. This process is known as top-down designing approach. Moreover, it has remarkably user-friendly tool and cost is relatively very low as per the services provided by this tool.

Google Web Designer

Google is one of the giants in all areas of web these days. Earlier it was also developed to support HTML5, Cascading Style Sheets (CSS) and JavaScript based web pages that are responsible for its interactive web pages. This tool also provides 3-Dimension animations tools, basic shape tools, text covering tools etc. Google Web Designer provides an interface that is more user-friendly. Additionally, on its right pane it has a panel which gives you more web designing options such as colours and other designing tools that helps designers to comfortably achieve their task.

Due to huge developer and designers support, this tool has a rich library for videos and images which may be used for small programs by making small animations for programs such as product promotions ads. From the perspective of the programmers, it also provides two views for web designing. These views are 'design' view and 'code' view. The web designers may easily switch from any view as per their comfort.

Conclusively, as discussed above, each tool has its typical features that make it a better choice for their intended subscribers. But in general, any tool that web designers choose must have user-friendliness, automation tools, pleasant user interfaces and should also be simple to use.

3.8 APPLICATIONS OF DIGITAL MARKETING

The Digital marketing strategy in the today's era come up with various cutting-edge technologies has given the paradigm shift on how the business will execute. Multichannel are available for fulfilling the need of marketing the products and services. Advertising medium, direct-response medium, platform for sales transactions, lead-generation method, distribution channel, customer service mechanism and relationship-building medium. Benefits of digital marketing for businesses includes:

Affordability

Digital marketing is considerably less expensive than other marketing methods. Specific prices vary based on what you're doing but ad spend tends to be lower than other forms of marketing.

Mobile Access

In the today's scenario, generally every user has its own smartphone. Be it a meeting, a product promotion advertisement, workshops etc. all such operations are processed in these smartphones. So, mobile access to the programs is to be compulsorily planned for increasing the stakeholders for successful business.

Flexibility

There are many forms and uses of high-quality digital marketing, including banner ads, email marketing, content marketing, and social media posts. Thus, by learning how to creatively market yourself digitally, you open up a wide range of possibilities for future publicity strategies. With digital marketing, you also have the flexibility of testing and stopping poorly performing campaigns in real time.

Expansion

Many consumers do almost all of their shopping online. Digital marketing lets you appeal to these people and thus expand the reach of your company

Multimedia

Customers tend to engage more with marketing materials that combine multiple types of content, including photos, video clips, and audio. It is far easier to incorporate all these content types into digital marketing than any other type of publicity and it is very important.

Interactivity

Digital marketing lets you communicate directly with the customers who see your content, notably through website comments, messages, reviews, and social media posts. This shows those customers that you care about what they say and think, leading them to feel respected and part of the community you're building. It also allows you to gather invaluable information on customers' reactions and preferences.

Tracking

Besides communicating with customers, digital marketing lets you track their activities. You can monitor which ads and types of content they have seen shortly before they make a purchase. This tells you which marketing methods are most effective, allowing you to refine and improve your strategy.

Authority

Digital marketing makes it easy to comment on issues and controversies that relate to your product or your industry. In this way, you can establish yourself as an authority on such topics, leading readers to trust you, come back for more information, and eventually make a purchase. Digital marketing allows you to come off as the industry expert that you are and will instill trust in your business.

Influencer Engagement

Many of the most influential figures in modern culture promote themselves online or through social media. Digital marketing allows you to engage with these influencers and gain their respect. If you play your cards right, you can get them to endorse you, leading their followers to become customers and spread brand awareness.

Print Enhancement

Digital marketing lets you expand on your print marketing efforts. By writing online content that explains claims you make in your print ads, you can go into greater detail, maximizing the effectiveness of all forms of publicity and integrating your campaigns.

3.9 BENEFITS AND LIMITATIONS OF WEB DESIGNING IN BUSINESS FLOW

Benefits of Web Designing in Business Flow-

The benefits of digital marketing for businesses include:

- Lower costs and higher flexibility for your marketing efforts.

- Access to consumers who rely on their mobile phones or do all their shopping online.
- The ability to speak with authority on topics related to your product or industry.
- A chance to engage with influencers, earn their respect and get them to endorse your company.
- Opportunities to incorporate multiple types of media into your marketing.
- The ability to track customers' purchase journeys.

Limitations of Web Designing in Business Flow

Although Digital marketing is the new way to advertise there are restrictions involved which make it less effective. However, despite the advantages, there are limitations which may act as a barrier for marketers and can prevent them from succeeding. They are as follows:

- Nothing is free of cost, not even online marketing.
- The trust factor in Online marketing.
- The issue of Internet fraud and cybercrime.
- The problem of digital-divide.
- Website breakdown and no internet access.
- Continuous updating required.

3.10 LATEST APPROACHES FOR DIGITAL MARKETING

Things in the field of information technology are changing at rapid rate and thereby the approaches of web designing are too changing. There are few approaches which are influencing the marketers for going digital in more interestingly ways. Few of them are listed below:

Using Video Contents for Marketing

Going digital using video content is giving the best result. It tells the intended user the highlights of the product and compel them to land to your website.

Ephemeral Marketing

It is also known as temporary social media marketing. This marketing is also one the best choice for digital marketers. Marketers are starting to realize the potential of using fleeting media messaging apps, such as Snapchat as an effective way to reach potential customers.

Social Messaging Apps

The more popular the social media, the more successful the digital marketing . In this way, mobile messaging apps have increasingly become popular and serve as an alternative to text messaging that may use Facebook Messengers, WhatsApp etc. for better and result oriented marketing.

Artificial Intelligence enabled tools and plugins

This tool is not handed over to beginners in the area of web designing. It requires the understanding of the AI algorithms such as supervised algorithms, unsupervised algorithms, reinforce algorithms etc. But soon this approach will hijack most of the tools of digital marketing by its smart, real-time and accurate digital marketing features.

3.11 POINTS TO REMEMBER

- Choosing the right mediums for marketing is to be planned.
 - If your business enterprise has budgets for marketing then you may invest for digital marketing for better results.
 - Before deploying the digital marketing for your product promotion, training for using the digital platform for marketing is to be organized.
 - Moreover, to remain in the list of leading digital marketers, the latest digital marketing approaches should also be taken seriously for long term benefits.
-

3.12 GLOSSARY

- **Web Designing:** Web designing refers to the design of websites that are displayed on the internet.
- **Marketing:** Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large.
- **Digital Marketing:** Digital marketing is the use of the Internet to reach consumers. Digital marketing is a broad field, including attracting customers via email, content marketing, search platforms, social media, and more.
- **Social Media:** Social media is computer-based technology that facilitates the sharing of ideas, thoughts, and information through the building of virtual networks and communities.
- **E-commerce:** Electronic commerce is the business of buying and selling things over the Internet
- **Navigation:** Web navigation refers to the process of navigating a network of information resources in the World Wide Web, which is organized as hypermedia.
- **Hypermedia:** A database format similar to hypertext in which text, sound, or video images related to that on a display can be accessed directly from the display.
- **Search Engine:** A program that searches for and identifies items in a database that correspond to keywords or characters specified by the user, used especially for finding particular sites on the World Wide Web.
- **Search Engine Optimization:** Search Engine Optimization or SEO means the process of improving your site to increase its visibility for relevant searches.
- **24x7:** In commerce and industry, 24/7 or 24-7 service (usually pronounced "twenty-four seven") is service that is available at any time and usually, every day.

- **HTML 5:** HTML5 is a markup language used for structuring and presenting content on the World Wide Web. It is the fifth and last major HTML version that is a World Wide Web Consortium (W3C) recommendation.
- **CSS:** CSS describes how HTML elements are to be displayed on screen, paper, or in other media
- **JavaScript:** An object-oriented computer programming language commonly used to create interactive effects within web browsers.
- **Multimedia:** Multimedia is all about using sound, pictures and film in addition to text on a screen.
- **Ephemeral Content:** Ephemeral content is rich media, primarily images and videos, that are only accessible for a brief period.
- **Ephemeral content marketing:** Also known as short-lived or impermanent content, ephemeral marketing is any visual content, video or photo, that has a brief lifespan of 24 hours before automatically disappearing. Short live-videos or livestream are the examples of ephemeral content marketing.
- **Artificial intelligence:** Artificial Intelligence or AI in short refers to the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions.

3.13 CHECK YOUR PROGRESS

Descriptive type questions-

- a) What are the benefits of digital marketing?
- b) List the salient features of the web designing tools.
- c) What are the 5 S's to understand the objective of web design are?
- d) Define Ephemeral Content and how it is used in digital marketing for better response.

Objective Type Questions-

[1] One of the popular digital marketing tools is:

- | | |
|---------------|----------------------|
| (a) WordPress | (b) InVision Studio |
| (c) Sketch | (d) All of the above |

[2] CSS Stands for:

- | | |
|----------------------------|---------------------------|
| (a) Combined Style Sheet | (b) Cascading Style Sheet |
| (c) Cumulative Style Sheet | (d) None of the above |

[3] The marketing content used in the latest approaches of digital marketing that uses short lived video content is also known as:

- (a) Social Media Content (b) Ephemeral Content
(c) Video Content (d) None of the above

Answer (Objective Type Question)

[1] d [2] b [3] b

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UNIT- 4

IMAGE EDITING TOOLS AND INFO GRAPHICS- II

4.1 INTRODUCTION

4.2 OBJECTIVES

4.3 DIGITAL TERMINOLOGIES

4.4 ESSENTIAL OPERATIONS ON PHOTO EDITING

4.5 INFOGRAPHICS AND ITS ROLE IN DIGITAL PROMOTION PROCESS

4.6 VISUAL ELEMENTS OF INFOGRAPHICS

4.7 TECHNIQUES FOR PHOTO EDITING

4.8 TOOLS USED FOR IMAGE EDITING

4.9 POINTS TO REMEMBER

4.10 GLOSSARY

4.11 CHECK YOUR PROGRESS

4.12 BIBLIOGRAPHY/ REFERENCES

4.13 SUGGESTED READINGS

4.1 INTRODUCTION

Whether you are beginner level learner, intermediate level learner or the expert level learner, the quote “a picture is worth thousand words” is always fit in all cases of learning. In the learning track when images are concerned the objective is achieved very timely. Also, in the area of digital promotions this phenomenon is also utilized by using images to promote the product and services where images are given more priority rather than merely depending on the words.

4.2 OBJECTIVES

After the successful completion of this unit, you will be able to-

- Understand what are digital terminologies.
- Use photo edition operations.

- Understand the common image editing and manipulation operations.
- Understand the role of infographics in digital promotion process.
- Know various common tools used for photo editing purpose.

4.3 ***DIGITAL TERMINOLOGIES***

Pixel: Small squares which collectively form a digital photograph are known as pixels. Pixels are the smallest unit of the image.

Resolution: Resolution is the amount of information in a digitally captured image measured in pixels. In this sense, the higher the number of pixels, the higher the resolution of the picture.

Compression: The process of shrinking the size of original image to its fraction of its original size is called compression. This is used for variety of purposes such as transferring images from one place to another, creating more vacant space in the storage devices etc.

Lossless Compression: It is a compression scheme in which no bits of information are permanently lost. This mechanism does not provide much compression and files remain very large.

Lossy Compression: It is a compression scheme in which some bits of information are permanently lost during compression and decompression of an image. Because lossless compression is not practical in many cases, all popular digital cameras offer a lossy compression.

File Format: It is the manner in which a file is constructed or in which a scanned picture is saved. A format is the pattern of ones and zeros in a file as created by a program using a specific set of rules to write that pattern.

Digital Zoom: The process of magnifying an image by spacing out pixels electronically is called digital zoom. It is very little different from blowing up an image to a larger size using a software program on a computer.

4.4 ***ESSENTIAL OPERATIONS ON PHOTO EDITING***

Storing a photograph in digital form is not a full stop on operations on images. Editing or manipulating in the digital photograph with a photo-editing program is the main part of image operations. For non-professional image editors, such programs are the helping hands where they may apply a variety of operations on the given images. Depends on the quality of such program, it may provide limitless operation which are allowed while editing on the digital images. To achieve such image editing tasks various image editing software are available on both paid and unpaid licenses. Anyone who is interested in such operation can start learning and then applying some basic photo-editing techniques, which can improve the quality of your digital images.

The editing operations may give the various benefits such as adjusting color of image, adjusting the brightness and contrast of image etc. In other cases, you adjust an image for other purposes, such as resizing the image to smaller size which is required for the purpose of uploading the

image with the given size only such as 5kb to 50kb size while uploading the images to the online form filling. Converting the original image to another format is also a common operation in digital images.

In a nut shell, the following operations are listed which are used for common image editing or manipulations:

- Cropping the image
- Reducing the size of the image
- Implementing the color balance
- Adjusting the brightness
- Adjusting the contrast
- Color saturation operation
- Rotating the image
- Using filters for implanting the sharpening of the images for better look and feel
- Operating on the RGB factors to change the color to achieve the image processing
- Avoiding or hiding the unwanted spots or parts
- Adding or removing the backgrounds to the images
- Adding the text with the images etc.

You may have different software that you may use to apply the above operations. Irrespective of the user interface of these software, all the tools have basic techniques which are more or less similar among them as image editing is of prime focus in all this software.

4.5 ***INFOGRAPHICS AND ITS ROLE IN DIGITAL PROMOTION PROCESS***

To increase the understanding of the topic, infographics plays a vital role. An infographic or information graphic is a visual representation of information that aims to make the data easily understandable. In this way of information representation, use of text is minimum and focusing. An infographic makes minimal use of text and can be a powerful tool for displaying data, explaining concepts, simplifying presentation, relationship representation, providing key understanding etc. Moreover, infographics come in different types and can be categorized based on purpose, types of objects used and the flow of information. The types are infographics are listed below:

Informational Infographic

The informational infographic is distinguished by its above average use of text when compared to other types of infographics. To enhance the graphics, use of icons, shapes, colors and other visual elements may be used. The main focus is to be given to the words.

Timeline Infographic

Chronological order of the events and actions is the main concern in this area. They are often used to demonstrate development of a product, a historical trend etc. where the chronology is of prime importance. Timeline infographic makes use of icons, images, and graphic elements to put the point across. Moreover, the format of the timeline may be vertical, horizontal or winding out of which vertical and winding timelines are relatively easier. On the other hand, a horizontal timeline infographic works best in posters, presentations, and environments where space is not a constraint.

Charts Infographic

Charts infographic has a chart as the centre piece of the information visualization. Colors, shapes, and icons may be added for emphasis and/or explanation.

Pie Charts Infographic

A pie chart infographic is one where the focus object is a pie chart. Whereas a pie charts infographic is technically a subset of a chart infographic, we assign it a distinct category given its widespread use. Pie charts are great for showing an item's different components or how one value compares to several other values.

4.6 VISUAL ELEMENTS OF INFOGRAPHICS

Whereas there are different types of infographics, certain elements are key to making a visual representation of data qualify as an infographic. The visual elements used while working with infographics are:

Infographic Colors: Colors are perhaps the most eye-catching aspect of an infographic. It is important to choose the color scheme as your color choice can either make or break your infographic.

Infographic Fonts: The number of fonts has increased dramatically in recent years. There are now far more infographic fonts options than the usual Times New Roman, Arial, Calibri and Comic Sans. Fonts can be classified in several ways but many experts place them in four broad groupings: Serif, Sans-Serif, Script, and Decorative.

Infographic Icons: Choosing the right infographic icons can make the difference between a verbose and winding visual, and an engaging and impactful one. Icons are sometimes taken for granted but can actually come in handy when packing plenty of information in small spaces. A single icon can replace a paragraph of explanations.

4.7 TECHNIQUES FOR PHOTO EDITING

When we talk about photo editing, it may be treated to change its color, contrast, resizing, spot removal etc. But in a broader perspective it must be clear to you that what is photo editing. To know this, you must know the following photo editing tools:

Noise reduction: Noise is the presence of unwanted pixels in the digital image. It is sometimes also used to make the images much smoother than the original raw picture.

White balance: This technique is all about managing the color of the light in the digital image.

Contrast: Based on the requirements you may change the contrast of the images. The higher the contrast the sharper the image, while the lower the contrast the flatter the color of image.

Lens correction: This technique is about camera lens-based effects and also resolving the issues related to camera lens from which the image was captured.

Color adjustments: It is about changing the color of an element in the digital photo.

Resizing and cropping: This feature is used mostly by most of the users for various purposes. One example where this technique is needed is when you need to reduce the image size of your signature or passport size photograph, captured from your mobile camera while you upload it with file size restrictions.

Background removal: This feature is also used in common for variety of purposes. To focus the particular part of the image, isolating some part of the image from the original image is known as background removal.

On the other hand, there are few advanced techniques which are actually complex for those who are not aware of the photo-based operations. Few of these advanced techniques are given below:

Clipping paths: This technique is used to extract some element from an image.

Portrait corrections: This technique is used to fix the required complexion of people in images for better look.

Drop and reflection shadow: This feature adds the effect of shadow on the existing images. **Special effects:** This technique is used to edit the digital images by supplying the special effects to the original images. Few such effect includes adding pattern to images, tilting the image, adding some animation to represent the special effect like raining or sunlight effects on the existing images.

Adjusting text and visuals: This feature is about adding overlays on the images. Overlays may include overlapping of images, joining the images, applying the cover to the images etc.

Photo stitching: It is a technique in which we join two differently captured images in a way that end user will be in an illusion if the stitched two images is actually one single image.

Photo masking: As the name depicts, masking is the process of hiding and revealing specified portions of an image.

Various other features are also used while editing the image such as segmentation, finding the HSV factors which stands for hue, saturation and value. This method is used to detect certain

color in the image or to remove the unwanted light intensity. These methods are used for research data collection where images are captured under controlled circumstances and then their RGB values are calculated for further processing such as dimensionality reduction, feature extraction etc.

Things to Know Before Choosing the Image Editing Tool

Before starting the tools used for image editing, one need to know the things which are like prerequisite before starting the learning and trying the hands-on with these tools. Following are the things listed and the new image editing user must know it:

- Sketch is powerful and easy to learn. That's why Sketch is used by designers, developers, product managers, marketers, and anyone looking for professional graphic design software for their Mac.
- There are over one million designers using Sketch to transform their ideas into incredible products, every day. Sketch is powerful and easy to learn.
- Sketch is used by designers, developers, product managers, marketers, and anyone looking for professional graphic design software for their Mac.
- Sketch App Sources is the largest collection of free and premium design resources for Sketch discussed above.
- Thousands of Sketch files as well as plugins, tutorials, and articles created by Sketch users from around the world are curated by Sketch App Sources, which helps the intended users to get benefited from it.
- A content delivery network (CDN) refers to a geographically distributed group of servers which work together to provide fast delivery of Internet content.
- Further, for your knowledge you must know that Sketch App Sources is the largest collection of free and premium design resources for Sketch. The aim of Sketch App Sources is to help you design, collaborate, prototype, learn, and ideate faster with Sketch. Lunacy supports, not only the saved. sketch files but also supports the older templates which are found at SketchAppSources.

In the next section we will focus one tool which is used widely by many users for their personal and professional use. The insight on this image editing tool is discussed with few details.

Things to Think About Before You Begin Image Editing

In this section we will discuss the things which you need to think wisely before you begin the image editing job. These are given below:

Choosing photo editing programs: You need to choose the type of the image editing program before starting the image editing using any software. Consider whether you want cloud-based program for which you have to pay monthly or you want the standalone version which requires one time investment to purchase. The advantage of cloud-based programs is that you stay up

to date as well as you may store photos in the cloud, sometimes on payment basis if size is exceeding the limit of storage in the cloud server. Online connectivity with the cloud is also a requirement. But on the other hand, buying a standalone version of an image editing program will usually become cheaper as it takes onetime payment. But overall, based on your requirement it is your choice which mode you choose.

Importing and Sorting Photos: A beautiful thing about digital photography is you can take multiple shots to increase the odds of getting some specific ones that suits your need. So, your first step after you transfers and organize your images on your computer is to review them to decide which ones to edit. The basic photo editing techniques should be available in even simple editing programs, and each can enhance your images to make them more powerful and shareworthy.

Crop and Clean-up Your Images: Cropping the image is common operation that may further be used for separating the cropped section or patching with some other section to create some sense in fulfilling the scenario. Sometimes, this task may yield the solution to clean the spots of the images. Sometimes, some cleaning-up operations may help you to achieve the objectives.

Adjust the White Balance: If your image has an overall color tone that you find displeasing or unnatural, you can adjust white balance to fix it. It is also point to be noted that RAW image files have bigger size than JPG files. It is because while converting the RAW file to JPG formats, the white color balance is adjusted and resultantly it saves the bits of your digital device. White balance adjustment is also an important point to note.

Adjusting contrast: In image displays, contrast is the display range from dark tones to light tones. Both extra high and extra low contrasts should be avoided. Typically, you want a middle contrast that avoids both extra high and extra low contrasts and gives better results.

Adjust Color Vibrancy and Saturation: After white balance, you need to make choice of improving colors in your photos with two controls known as saturation and vibrancy of colors. The more the vibrancy, the more the intensity of the colors. While increasing saturation will increase the intensity of the colors throughout the frame.

Adjust Sharpness: This operation is a must for all the image editors whether they are beginners, intermediate or expert level editors because it gives the image a catchy and clean look. This is the reasons that all the image editors have support of this tools

Finalize and Share Your Photos: This is the winding-up operation where you convert your RAW images into your preferred image formats such as JPG. At this stage, your edited images becomes lighter in size and are ready to use for any purpose viz. sending as attachment with your e-mails, sharing on social media platforms or use them for any business purpose.

4.8 TOOLS USED FOR IMAGE EDITING

Software used for the purpose of photo-editing are tools which can be used to create, edit and enhance images with other additional features such as red-eye removal, cropping, adding effects, creating collage, adjusting the contrast, adding colors etc. These tools help you to fulfil the variety of purposes such as creating and editing profile photos for your social profile used in websites such as Facebook and others. Such tools will also provide the facility to change one image file format to another image file format.

Further, it takes more than showy images and better choice on picking the colors to make an effective infographic object. Here, the designing is of prime concern and for which various tools are available for editing. Below are some of the popular tools used for infographic editing of the images which you can use for personal as well as professional purposes. Basic features of the below listed tools are also given:

- a) **Lunacy Editor:** It is free window platform-based tool which support vector graphics design-based software. Its full name is Icons8 Lunacy with versions starting from 1 till 6.7 as a latest version. It was developed as a sketch viewer for Windows operating system, because the problem of opening sketch files was always a troublesome for people who didn't own Mac machines. But it is quickly becoming a powerful tool on its own.
- b) **Adobe Photoshop:** Photoshop is the product of Adobe which is paid for image editing programs. Photoshop is Adobe's photo editing, image creation and graphic design software. The software provides many image editing features for raster (pixel-based) images as well as vector graphics. It uses a layer-based editing system that enables image creation and altering with multiple overlays that support transparency.
- c) **Piktochart:** Piktochart was also a free editing tool at initial levels. Later, better and remarkable support was also given but it was paid version. So, to work in professional manner, pictochar's paid version was also popular. Moreover, this tool bundled with hundreds of templates which helps the users to do the task from the scratch. Infographic objects supported include maps, charts, photos and icons. The facility of importing the data from various tools such as Microsoft Excel, Google Spreadsheet etc. is provided. The best part is that the completed infographic can be embedded on a website or downloaded from website. The files edited and/or changed to any formats such as pdf, png, jpg/jpeg are also ready to share also.
- d) **Canva:** This tool is also very popular online design tool for image editing. It has a large collection of templates which are ready to be used by new users. It is free to be used but if wish to use this tool for business purpose then it has affordable cost with plenty of features provided by it. Its user interface is user-friendly. A novice to this tool will feel comfortable while using this tool with any training or any pre-requisite background.

Infographic elements such as icons, maps, and images, can be dragged and dropped into position. It also has various layouts to work with.

- e) **Venngage:** Venngage is also one of the free tools which is used for image editing specifically for infographics. While most other infographic tools can be used on a wide range of design projects including reports and slideshows. It helps us to complete the task in a short time. It also provides icons, maps and charts that creates a remarkable design. Like Piktochart, the infographic created in Venngage can be shared on social media, embedded on the site, or downloaded as a PDF or image file.
- f) **Visme:** Visme is another tool where interactive feature us provided for image processing. Also, it is suitable for implementing significant animation where you may design professional image editing. As a controller the web designer may provide password protected entry to the infographic content where there exists need to use it.
- g) **Easelly:** The tool named 'Easelly', which is easy to use, is free to use which provides simple design layout and a range of infographic contents viz. shapes, charts, and backgrounds. One of the key reasons why this tool is used by many users as this tool provides thousands of templates and is higher than other peer infographic tools. Due to its features which are easy to use and loads of templates this tool is much suitable for beginners, students, educators and business executives who are working as a beginner, intermediate or expert in the infographics. It also supports for the download the results into pdf or other file formats. There are also some other tools which allows us to create and edit pictures easily. Some other tools which will help in image processing are listed below:
- h) **PicMonkey:** PicMonkey is a tool which provides user-friendly interface for photo editing which easily runs in your browser. You can quickly and easily edit a single image or even create a collage which may be used wherever you want to use it.
- i) **Social Image Resizer Tool:** The images used for social media profiles can be edited using this tool quickly. As the name depicts, it is focused for resizing the images. It also provides various handles for resizing the images, customizing the image etc. This tool is very useful for image handling on social media websites like Facebook, LinkedIn, etc.
- j) **Timeline Slicer:** Timeline Slicer is also among one of the best tools for designing and editing images used popularly for using in social websites discussed above.
- k) **Photovisi:** To develop the collage of the images, this tool is suitable for you as it is simple and easy to use. Usually, with most of the image editor tools it is required to create the profile or subscribe it to use its facilities such as collage. But with this tool, without creating the account you can perform the operations and upload them at a faster rate too.

- 1) **BeFunky:** This tool comes with major collection of tools which you are expecting from a standard photo editor tool which is available as browser-based tool. It has features for which it is useful such as image cropping, red-eye and blemish fixes, filters, borders, text, collage etc.

Insights on 'Icons8 Lunacy' Image Editing Tool-

There are various image editing tools available today, out of them few are listed above. In this section we will discuss in little bit more detail about one image editing tool listed above which is one of the best tools used today. This tool is Icons8 Lunacy tool which has alpha and beta versions available. Its benefits are listed below:

- It is available to its users at free of cost.
- It has facility to read any sketch file irrespective of any version of the tools.
- Lunacy automatically searches and downloads the missing Google fonts which you need to prepare your digital image or info graphics.
- Any user of Lunacy can publish the assets designed by them on the CDN directly. CDN servers provide this facility to store the images at free of cost.
- This platform is for the designers by the designers.
- Moreover, if you have an account on icon8 then you may take more benefits too.

As discussed, Lunacy is free to use supported on Windows platform based tool which support vector graphics design-based software. Its full name is Icons8 Lunacy with versions starting from 1 till 6.7 as a latest version. It was developed as a sketch viewer for Windows operating system, because the problem of opening sketch files was always a troublesome for people who didn't own Mac machines. But it is quickly becoming a powerful tool on its own. Its user interface is given below:

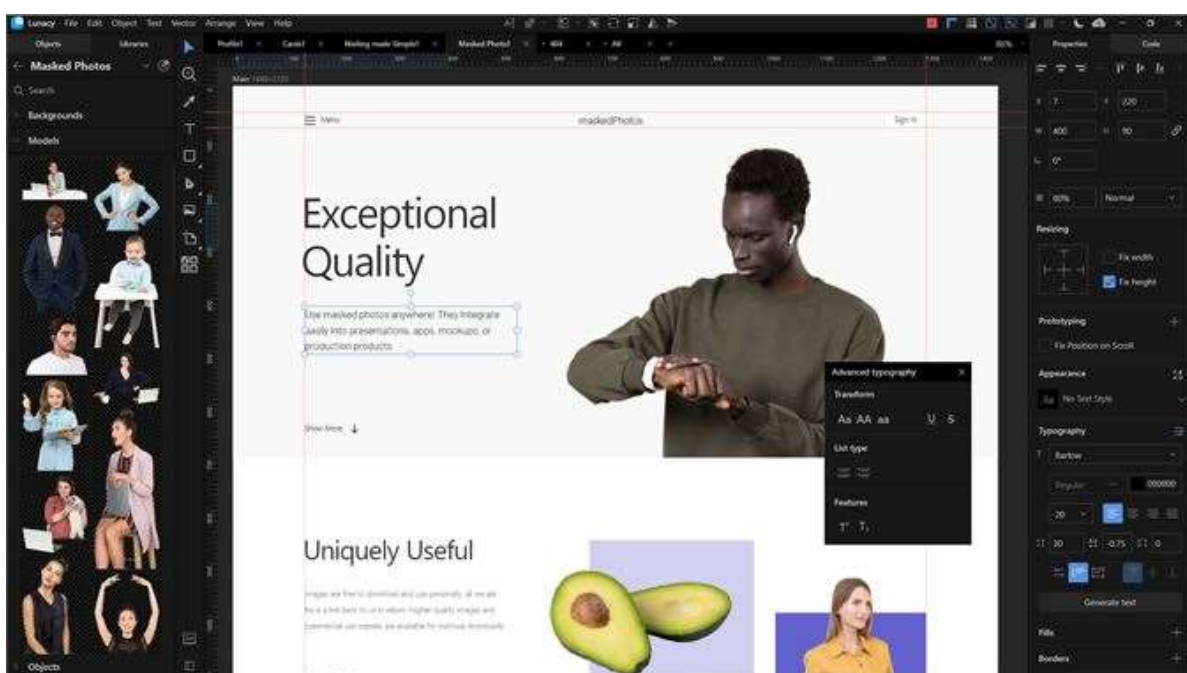


Figure 1: Lunacy user interface

In the figure 1 above, you may see that its user interface of the Lunacy looks simply to use even you are novice to the image editing tools. The UI (user interface) of this tool is quite focused to improve its UX (user experience) which increases the easiness in utilizing its interactive features in much better way. Also, its look-n-feel and layout is suitable for completing your targeted jobs-in-hand.

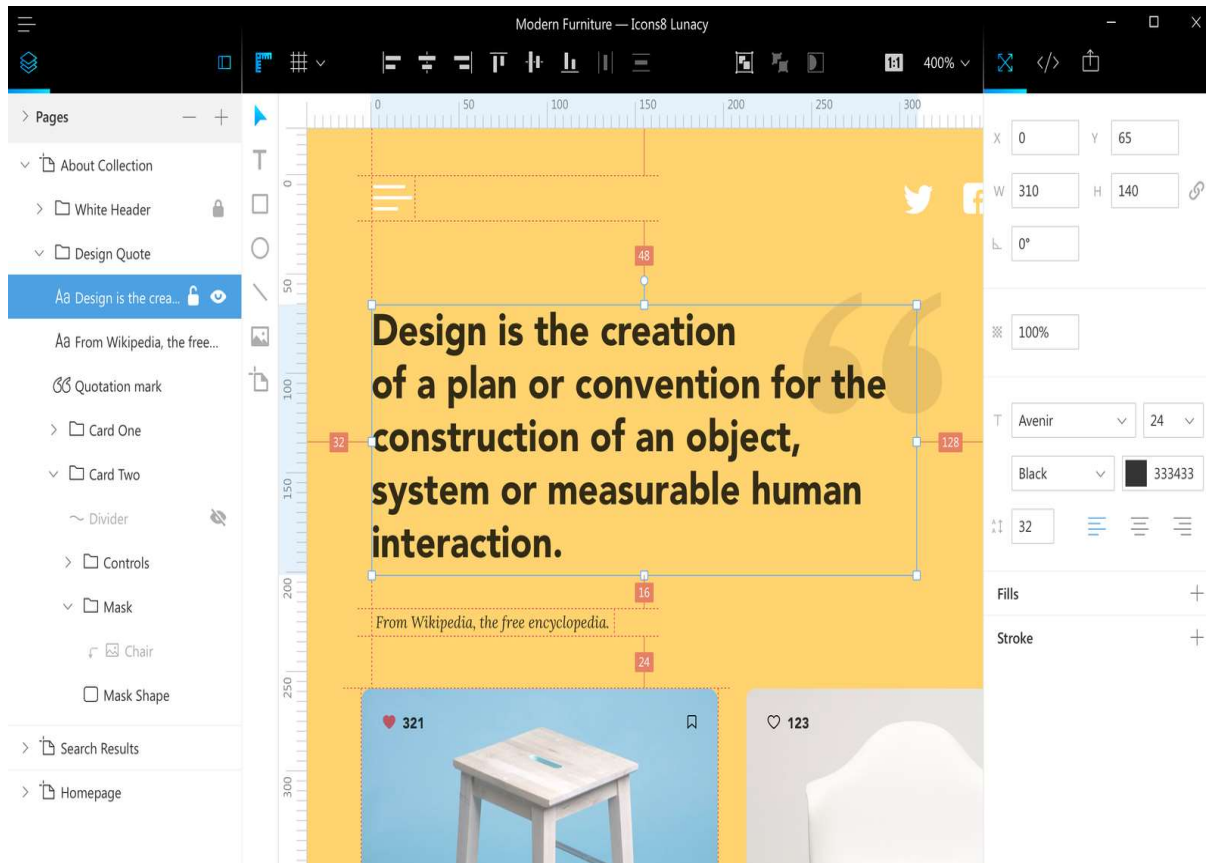


Figure 2: Object creation using Icons8 Lunacy 3.0

There are various reasons that made it the choice for users to work with Lunacy. Few good reasons for its popularity are its amazing features such as sketch editing support for Windows, regular software support, regular updates of software in the above figure 2 the user interface and user experience is easy to use and explore for creating the perfect image editing operations. Moreover, its versions were portable which make it choice for users to carry forward the contents from one machine to another. It is also used to provide support for designing and then also editing the profile page images and templates along with.

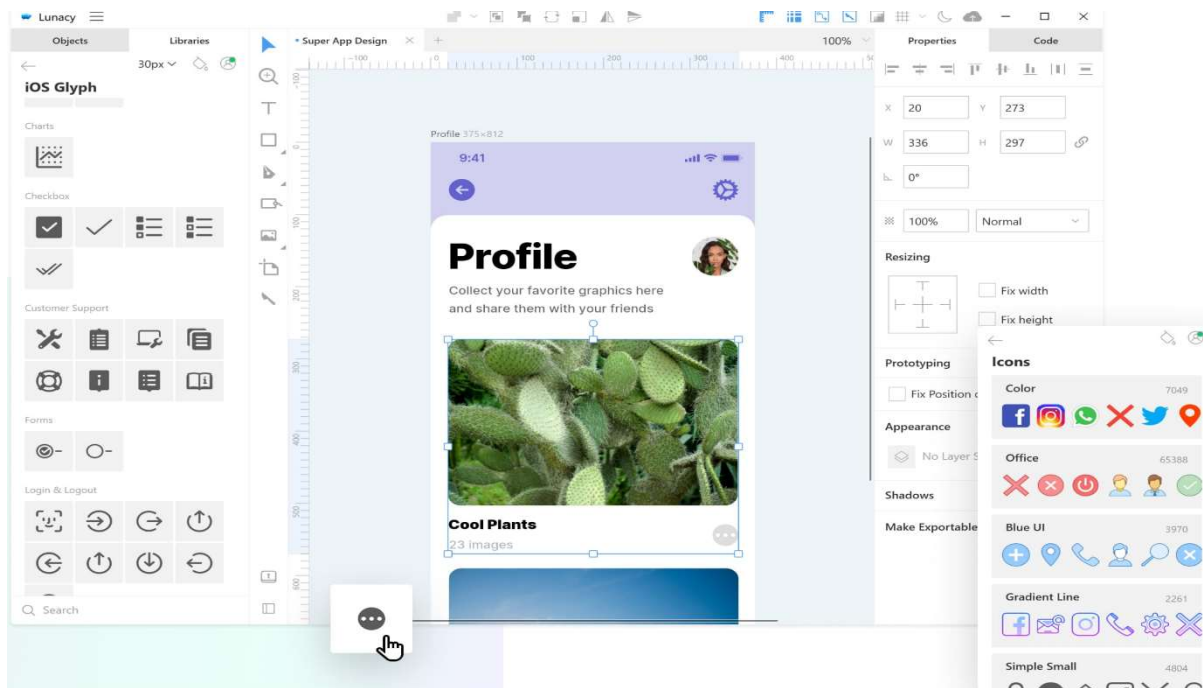


Figure 3: Profile picture editing on Lunacy tool

Here you may use the contents from its rich library such as icons shown above at the down-right side of the figure 3. You may also utilize this tool for digital promotion of the products, creating infographics etc.

In the summarized manner, we can say-

If you do not edit the images before upload or use it in raw format, it will definitely harm your business some way. Image editing tools are there to provide you facilities that will definitely help in good results from your business. It is strongly recommended to avoid any haste on using images without editing so that the image could present much better.

On the other hand, when using some image editors for photo editing or creating some info graphics for any need viz. product promotion, you must first get the list of available software or any other digital tools such as cloud-based tool on web browser. Also, based on your need, choose the best one which fulfil your requirements of image editing. You also have to make it a note that if you are using paid software or paid cloud services then tools are obviously better as compared with free tools. But, when your task is adequate enough to be completed using freebies, we recommend you for not buying any paid software.

4.9 POINTS TO REMEMBER

- “A picture is worth thousand words”. This is the reason for mushrooming of the software which provides you image editing tools.
- The raw image is original image and its size is bigger. You need to convert a raw image file into some pleasing format such as jpg which are smoother to use and smaller in size as compared with raw image formats.

- Infographic or Information graphic is a visual representation of information that aims to make the data easily understandable.
- If you are beginner in the field of the image editing then you must know beforehand about Sketch, Sketch App Sources, content delivery network (CDN) etc.
- Finally, before using any image editing tool you must have the basic knowledge about what common operations you can perform with all the image editors so that you may not trapped with cheap image editors immaturely.

4.10 GLOSSARY

- **Image Cropping:** Image Cropping is the removal of unwanted outer areas from a photographic or illustrated image.
- **Image dimensions:** Image dimensions are the length and width of your image, measured in pixels.
- **Digital Photography:** Digital photography is the art and science of producing and manipulating digital photographs that are represented as bit maps.
- **Infographics:** An infographic or information graphic is a visual representation of information that aims to make the data easily understandable.
- **Photo stitching:** It is a technique in which we join two differently captured images in a way that end user will be in an illusion if the stitched two images is actually one single image.
- **Photo masking:** As the name depicts, masking is the process of hiding and revealing specified portions of an image.
- **Sketch:** Sketch is powerful and easy to learn. That's why Sketch is used by designers, developers, product managers, marketers, and anyone looking for professional graphic design software for their Mac.
- **Sketch App Sources:** Sketch App Sources is the largest collection of free and premium design resources for Sketch.

4.11 CHECK YOUR PROGRESS

Descriptive Type Questions-

- a) What are common digital terminologies used in image editing?
- b) What is difference between lossless compression and lossy compression?
- c) What is difference between graphics and infographics?
- d) Discuss the role and support of Sketch to image editors.

Objective Type Questions-

[1] Photo masking is the process of hiding and revealing specified portions of an image. [True/False]

[2] Photo stitching is a technique in which we join two differently captured images in a way that end user will be in an illusion if the stitched two images is actually one single image. [True/False]

[3] CDN stands for Content Directed Network. [True/False]

[4] When talking about adjusting the contrast of the image, the contrast should be either extra high or extra low. [True/False]

[5] is used by designers, developers, product managers, marketers, and anyone looking for professional graphic design software for their Mac machines.

[6] Which of the given tools are not an image editor, i.e., Lunacy, Canva, MS Access, Social Image Resizer Tool.

[7] UI stands for user interface, likewise UX stands for

Answer (Objective Type Question)-

[1] True [2] True [3] False [4] False [5] Sketch

[6] MS Access [7] User Experience

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- 10 best practices for picture editing, <https://www.godaddy.com/garage/best-practices-for-picture-editing>.
- Cloudflare, <https://www.cloudflare.com/learning/cdn/what-is-a-cdn>.
- Changing the world through digital experiences, <https://www.adobe.com/in/about-adobe.html>.
- All About Images for Infographics <https://www.copypress.com/kb/infographics/all-about-images-for-infographics/#1>.
- How to Enhance Your Infographics with Images, <https://barnimages.com/enhance-infographics-with-images>.
- 5 Image Editing Tools that Make You Look like a Pro, <https://neilpatel.com/blog>.
- Part 2: Digital Terminology and Essential Elements of Photo-Editing, <https://extension.uga.edu/publications/series/detail.html?id=35&name=Digital+Photography+for+Horticulture+Professionals>.

4.13 SUGGESTED READINGS

- 6 Great Image Editing Tools For Bloggers (Hint: Most Are Free), <https://bloggingwizard.com/image-editing-tools-for-bloggers>.

- Envira Gallery, <https://enviragallery.com/best-photo-editing-software-for-photographers>.
- Skylum Luminar Interface, <https://enviragallery.com/refer/skylum-luminar>.

UNIT- 5

VOICE AND VIDEO MARKETING- TOOLS AND ACTIVITIES- II

5.1	INTRODUCTION
5.2	OBJECTIVES
5.3	VOICE TECHNOLOGY- AN OVERVIEW
5.4	CHALLENGES IN VOICE SEARCH ANALYTICS
5.5	VOICE-ORIENTED MARKETING
5.6	TOOLS USED FOR VOICE ASSISTANCE
5.7	AMAZON ALEXA- HIGHLIGHTS AND COMMON COMMANDS
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5.1 INTRODUCTION

Voice and video contents are used heavily in business processing these days. Various programs for which voice is given as input are deployed in the machines such as Apple Siri, Amazon Alexa, Google Assistant etc. Selection of spoken language is important to execute any specific type of program for creating any interaction during voice processing better. The voice tools are used for voice-oriented marketing which are typically based on long search queries to fetch the meaningful results. Such voice tools may be used to achieve all tasks such as making calls,

send text, set alarms, timers, reminders, play music, play TV shows, solve mathematic equations for students, providing scores of the going match, searching real life queries such as ATM, restaurants, forecasting of weather etc. If you use voice for searching, luckily, your voice is free, if only there were a device that could listen to your oral order and do the work needed so that your food will be at your doorstep exactly when you finished your assignment. In fact, there is a solution to your general to specific queries based on voice as a data and this is known as voice recognition technology.

On the other hand, video marketing in the business is playing a vital role too. Whether you watch any video on YouTube you must get small sized video advertisement made for the product marketing purpose. This type of marketing is also used for product promotions especially when you watch videos for free. The other types of videos used in video marketing includes event videos, testimonials, how-to-videos, vlog (video logs), webinars, tutorials, reviews, presentations, live videos etc. These tools are fulfilling the business needs of today. Moreover, these marketing tools are controlled under the smart artificial intelligence technology that makes automatic and suitable selection of videos to its customized audience. Both audio and video-based marketing tools are in use at every segment of the market. The detailed insights on both the audio and the video technologies are given in the sections below.

5.2 OBJECTIVES

After the successful completion of this unit, you will be able to-

- Know about voice technology.
- Using voice for managing business.
- Understanding voice marketing.
- Knowing the tools used for voice.
- Understanding video marketing.
- Knowing the tools used for video marketing.
- Understanding the insight on one voice marketing tool.
- Understanding the insight on one video marketing tool.

5.3 VOICE TECHNOLOGY- AN OVERVIEW

Voice recognition technology can be a program (software) or a standalone device (hardware). The core of voice technology is the ability to take a user's voice as input or a command to either produce a desirable output or perform some particular tasks.



Figure 1: Voice Technology

In other words, Voice Technology is a Technology that enable you to perform certain action only with the help of your voice. Some of you may never know life without “Siri”. Other may feel like voice technology is something out of science fiction. But the truth is somewhere in between. While most people remember 2011 when IBM’s Watson won Jeopardy, or when Apple launched Siri, actually voice technology dates back much further. In 1961, IBM introduced the IBM Shoebox, the first digital speech recognition tool. Since then, voice technology has improved and become more present in our everyday lives. Now-a-days various voice assistants are available to not only serve you personally but in promoting your business too.

Voice Technology Today-

The voice technology is growing every moment. This growth is shown with the facts taken from various sources. These facts depict that in 2019, Google research showed that 20% of all search queries on mobile were voice search, and more than 40% of adults used voice search daily. It is not surprisingly to say that this percentage is rising, as more people buy voice assistants for their homes and for businesses too. Another study of December 2018 shows that 118.5 million smart speakers were in US homes, a figure that had grown 78% just from the year before.

However, the NPR-Edison study found that of the people who already owned smart speakers, 69% had no intention of buying another speaker. But just because they aren’t buying a speaker doesn’t mean they won’t use the ones they already own any less. By the year 2024, there will be a revolution in the field of voice marketing that is based on voice-based search.

Voice Search-

Voice search is speech recognition technology on smart devices, which enables users to perform online searches by speaking terms aloud instead of typing into a search field. Some devices that enable voice search are:

- Siri– Acquired by Apple in 2011, the former standalone iOS app
- Alexa– Amazon’s Alexa was released in 2014, initially as part of the Amazon Echo smart speaker.

- Google Assistant– Not to be outshone, Google started this technology in 2016. Apple’s Siri is now one of the top virtual assistants used by its customers. Whereas, by January 2019, Amazon had sold over 100 million Alexa-enabled devices which is also a big figure. Also, Google Assistant is arguably now the best voice-enabled virtual assistant. Whatever the voice assistance you choose for your business, you will get benefit from all as the competition always gives benefits to the customers. But here we may make a point that in future voice-based marketing will lead from the from especially when this technology is loaded using artificial intelligence.

Content to be Used for Voice Search-

Before we start learning what is voice search optimisation and its use for voice marketing, let us know what are contents used for better results. We have to make sure about few things that we will use in the understanding of searching with voice. These are:

Implement Schema mark-up on all relevant pages

Design of a database is called the schema. It shows the relationship between the tables used in the database. Here, implementing schema mark-up on all relevant pages on your website is still best practice whether you are optimising for voice search or traditional search. Schema mark-up helps to tell Google, Yahoo, Bing or any other search engine about the nature of the content on a specific webpage. Common types of schema mark-up include: Organisation, Website, Product, Local Business, Recipes, Articles, Person, Events, Video, etc.

Make sure you are using HTTPS protocols

Earlier, few browsers such as Chrome have been marking websites that do not use the HTTPS protocol as ‘Not secure’, displaying warning to visitors about the security of their data when using unsecure sites. With 70.4% of Google Home results pages secured with HTTPS, now more than ever is the time to shift to the HTTPS protocol and provide a secure environment for visitors and improve the ranking in voice search as well as traditional search.

Focus your efforts on page speed

Page speed is important factor while searching. People want results quickly when they conduct a voice search and also this process should also be convenient for the intended users. A study by Backlinko found that the average Time to First Byte of a voice search result was .54 seconds (vs. the worldwide average of 2.1 seconds). Speeding up your website should be a priority. Use tools like Google’s Page Speed Insights, Web Page Test and GT Metrix to discover potential issues that are slowing down your site and specific pages and look to address these to improve your opportunities to rank for voice queries.

Keep short and simple words

When you are targeting a specific voice query with a piece of content, think about the way you structure your content and the language you use. In a study conducted by Backlinko, it was found that voice results tend to be short and concise. They found that the average voice search answer is just 29 words. Not only this, but the language used in voice search results should also be as simple as possible for faster results. It needs to be understood by people on the first pass as they don't want to have to ask for the answer to be repeated to understand it.

5.4 CHALLENGES IN VOICE SEARCH ANALYTICS

Whether the voice-based search is in the high use today, still there are various obstacles while using this search technology in practice. Following are not all but few commonly encountered barriers in voice search analytics:

- **Google yet not allow filtering of voice searches-** One of the substantial obstacles that becoming obstacle in voice search analytics is that tools of Google do not allow for filtering out the voice searches. According to coverage of the matter on Search Engine Roundtable, Google is focusing the possibility of allowing that at some point but hasn't given a timeframe for when it might roll out that feature.
- **Directory errors may stop people from searching content by voice-** Substantial errors are found in the directory content that could make it difficult for people to reach business sites through voice searches. For example, in almost a quarter of instances, there were errors in the business name. Then, in approximately half the directory listings, there were mistakes in the opening hours. If those errors remain, they could prevent people from reaching certain sites through voice searches. Then, the analytics for such searches may be abnormally low due to the mistakes.
- **Technology tweaks may cause changes in search behaviours-** In late January 2019, Google added a microphone icon to the Google search bar on Chrome for people using Android devices. As such, people may be more likely to depend on that voice search feature when doing things that make it difficult or impossible to type, such as driving or washing the dishes. If companies try to develop voice search analysis tools in the future, they must realize how the availability of voice search tools could influence popularity. The search processes must be retrieved on voice content when voice is used for searching by the user. The challenge is to develop algorithm that must comply with both text and voice-based search.
- **The potential for a steep learning curve when using new analytics tools-** Making the most of those resources once they exist may require people to go through a longer learning process than anticipated. The length of time required to learn one's way around an analytics tool used to dig into voice searches will likely go up depending on the depth of the data offered, too.

- **A Lack of Urgency from Marketers About Voice Search-** It will definitely change how people get information as well as how marketers prepare their content for their customers. But there are others who think voice search won't make such a big dent in the content landscape. Some companies that are considering making voice search analytics tools may ultimately decide that the demand is not high enough yet. This challenge is somewhere not motivating for the content voice-based application developers. Voice search may need to penetrate the market more. The technology may need to reach that point before many companies try to develop analytics tools.
- **Separating voice-search and text-search-** We also can't overlook how, at least for now, marketers can only rely on best practices as they look at search analytics data and try to decide whether particular queries happened via voice searches or typed searches. For example, marketers know that voice searches are usually more conversational than typed searches. But nothing is stopping a person from speaking a voice query and stating, "music shop near me" instead of typing "Where can I find the closest music instrument shop?" So, any worthwhile voice search analytics tools offered must offer some reliable way to tell marketers whether a person spoke the search query or typed it.

That'll be exceptionally difficult considering that some devices, like smartphones, allow either typed or spoken searches. As such, it's not enough for a voice search analytics tool to tell a marketer if the search traffic came from a mobile or desktop device. It must be even more precise and identify the method a person used to get results, such as a microphone or a phone keyboard.

5.5 VOICE-ORIENTED MARKETING

Voice oriented marketing is the collective strategies, tools, and processes a company uses to reach its target audience through voice-enabled devices, including Amazon Alexa, Apple Siri, and Google Assistant. The voice marketing is changing the scenario of the workplace with various facts. Text and voice languages are different while in use, where text may be formal by voice usually casual. Voice search usually involves longer queries as compared with text queries. Voice oriented search is focussed on local solutions and people changes the way how search is to be done. Following section focuses the contents of the above statements:

(i) The Language of Voice Search is Different

Typically, people use questions more with voice search, as the voice assistants are programmed to respond to these rather than to an affirmation. For example:

- Text – “Weather in New Delhi”
- Voice – “What is the weather in New Delhi?”

People tend to speak in full sentences with voice search, and the artificial intelligence (AI) platform will respond in kind. As programs like Siri use the text of web pages to deliver answers, content needs to be optimized for conversational language.

(ii) It Involves Longer Search Queries

With the dawn of voice search, people tend to use even longer, more specific queries.

- Text – “best restaurant in Delhi”
- Voice – “What is the best Italian restaurant in Delhi?”

(iii) It’s Focused on Local Solutions

Voice searches are most performed whenever people are looking for quick answers and information about the local area. They pull out their device and ask Siri or Google for directions or information on the nearest restaurant, bar, or shop.

(iv) It Changes the Way People Get Their Search Results

Users no longer need to visit a website to get the answer they want. Instead, a quick voice search serves up the answer, which can be read back to you in mere seconds.

5.6 TOOLS USED FOR VOICE ASSISTANCE

Come to the practical part of the voice-based tools. There are various tools which are popular these days that help in voice-based assistance. Few voice-based tools are discussed below with their basic introduction too:

(i) Amazon’s Alexa

It is capable of voice interaction, music playback, making to-do lists, setting alarms, streaming podcasts, playing audiobooks, and providing weather, traffic, sports, and other real-time information, such as news.



Figure 2: Amazon’s Alexa

Alexa is also available on a lot of third-party devices like speakers or TVs as well as through the Alexa app on phones.

(ii) Google Assistant

In the field of voice assistance technology, Google Assistant is an equivalent product which is equivalent to Amazon's Alexa, Apple's Siri and Microsoft's Cortana. Google Assistant has made incredible progress since its 2016 launch and is probably the most advanced and dynamic of the assistants out there.



Figure 3: Google Assistant

Google has spread Assistant far and wide, not only on its own hardware, but through partnerships with other companies that see Google Assistant in a huge range of devices, from fridges and headphones to speakers and cars.

(iii) Apple's Siri

Similar to other voice assistants, Apple's Siri is the voice assistant used popularly. Its interface is shown below:



Figure 4: Interface of Apple's Siri

Specifically, for this smart voice product various commands are well prepared. Below is a list of some of the commands and questions on which Apple's Siri is able to respond to or to take the actions in reply:

- Make calls
- Send/read texts
- Set alarms/timers/ reminders/check calendar etc.
- Play music (specific songs, artists, genres, playlists)

- Play TV shows and movies, answer questions about them
- Do translations and conversions
- Solve math equations
- Offer up sports scores
- Check movie times and ratings
- Search for nearby restaurants and businesses
- Check the weather
- and many more.

Surprisingly, this voice assistant will definitely help you in tuning your business as per your interest.

5.7 *AMAZON ALEXA- HIGHLIGHTS AND COMMON COMMANDS*

As discussed above, Amazon's Alexa can also control several smart devices using itself as a home automation system. The list of Alexa commands is expansive and grows with every new service or device it supports. Alexa isn't perfect, but it's pretty great at understanding natural language, so you don't always have to speak the commands exactly as you see them below. Many commands work when worded several different ways or even with words omitted. Out of various commands the basic commands followed by Alexa are listed below:

(i) **Basic commands**

- Ask for help: "Alexa, help."
- Have a conversation: "Alexa, let's chat."
- Mute or unmute: "Alexa, mute" or, "Alexa, unmute."
- Stop or pause: "Alexa, stop" or, "Alexa, shut up."
- Change volume: "Alexa, set the volume to 5," "Alexa, louder" or "Alexa, turn up/down the volume."

Also, the Alexa is updated with the Coronavirus commands given below:

(ii) **Coronavirus commands**

- Ask for coronavirus information: "Alexa, what is the coronavirus?"
- Ask for coronavirus news updates: "Alexa, what's the latest with the coronavirus?"
- Ask for help washing your hands: "Alexa, help me wash my hands."

To understand the concept deeper, various commands developed for Amazon's Alexa are bundled in the following categories:

- **Echo Show commands:** The Echo Show and Echo Spot are the only Echo speakers with touchscreen displays. This means you can tell them to show you things.

- **Fire TV and Fire TV Stick:** You can now use compatible Echo devices (Echo, Echo Dot, Echo Look, Echo Show and Amazon Tap) to control your Fire TV and Fire TV Sticks.
- **Media controls:** Helps in managing the media control options.
- **Time and date:** Able to respond the queries related to time and date.
- **Calls and messaging:** Help in interacting on calls and message related activities on your devices.
- **Purchasing:** Used to process commands related to purchasing using audio features of Alexa
- **Notifications:** Echo speakers will light up yellow when you have new notifications
- **News and weather:** Help in forecasting on weather and give you news alert also.
- **Entertainment:** Helps in providing and short listing the entertainment-based tools.
- **Food and businesses:** Whether you want to raise your query to get food or feed any business transaction, Alexa is there to help you.
- **Math:** Alexa also helps you to overcome the mathematical problems. Moreover, it will help your kids to solve the puzzles too.
- **Definitions and spelling:** Get the definition or spelling of a word using this device is easy.
- **Sports:** Check the results of a finished game, find out the results of your favorite teams, ask if a team won, ask when the next game is scheduled etc.
- **Smart home:** Alexa can integrate with loads of smart home platforms, such as SmartThings, Wink, Insteon, Lutron, Belkin WeMo, Philips Hue and many more.
- **Bluetooth:** Pair a Bluetooth device, Disconnect from a Bluetooth device
- **Profiles and user accounts:** Switch profiles, check which profile is active etc.
- **Skills:** Skills are like third-party applications for Alexa speakers. They allow you to connect third-party software and hardware to your speaker, as well as play games and add different news sources to your Flash Briefing.
- **Search:** Get Wikipedia information, Tell Alexa to continue reading a Wikipedia entry
- **Holidays:** Find out when a holiday is, Ask for holiday movies?

Conclusively, this is not the limit to use this smart device. Whatever you may think about this device it will either respond you immediately, and if not, then soon you will get updated version including the solution of the problem left in the earlier version.

5.8 AMAZON ALEXA IN BUSINESS

Voice marketing as discussed above is used to process the task of searching, sorting, deleting, filtering the content used by various devices. Few of the areas where Amazon Alexa is deployed for improving your business are discussed below:

- **Development of Voice ID for identifying voices:** Amazon's Alexa may become even smarter in the near future, as Amazon is currently working on developing voice identification software that will allow Alexa to identify who it is speaking with and differentiate speakers from one another. Voice ID would be able to match a person's voice to a pre-recorded voice print to accurately identify voices. With this function, primary account holders could get benefited with the security policies. No doubt, this new feature will become the building block for the new business model.
- **Introduction to a mobile app:** Amazon's Alexa is now available on its Amazon shopping app for iOS, causing it to become available to users on iPhones and iOS devices. Although, Alexa lives on the Amazon app, its functions are not limited to the app itself and can perform a variety of functions extending beyond shopping.
- **Introduction to competitor products:** Amazon has recently allowed Alexa to be adapted for competitor products, licensing its technology to other manufacturers attempting to create home assistant products similar to Amazon's Echo.
- **Introduction to motor vehicles:** Ford, Volkswagen, Hyundai, and Volvo all announced Alexa integrations this past year, bringing Alexa into the car voice assistant market. Most notably, the partnership between Ford and Alexa is taking voice assistance one step further, allowing you to feed destinations into your car navigation systems, control smart homes from the driving seat, and lock, unlock, start, and check info on your car from inside the house, all through Alexa.
- **Introduction to TV:** The features of commanding a Television set is not supported universally. Whether in the specific TV sets such as Amazon's Fire TV, Alexa is having full control on operations. This feature will suffer with the existing TVs but in the manufacturing of new TV set such smart features are being considered so that they may respond to the smart devices too.
- Therefore, the Dish Hopper 3 is one product that is looking to change this reality and push us towards a remote-less, button-less TV future. Specifically, Dish Hopper 3 is a product for controlling TV integration with Amazon Alexa and allows you to vocally prompt your TV to change channels and do more by providing the high-tech features by supplying the convergent media-based results.
- **Integration with smart home devices:** Alexa has the potential to be a universal smart home hub for all the devices in your home, regardless of which providers you employ for different products. Many smart home companies have native support for Alexa and allow for effortless integration, so that you may call upon Alexa to turn off your lights, update your home security settings, change your refrigerator settings, etc. Numerous companies have smart home hubs that are compatible with different brands of devices, but Alexa is universal and ubiquitous in the competition these days. Needless to say, the its

competitors are also updating their products at high end to increase the capture of the market.

5.9 VIDEO MARKETING- AN OVERVIEW

Video marketing is using videos to promote and market your product or service, increase engagement on your digital and social channels, educate your consumers and customers, and reach your audience with a new medium. According to the research by HubSpot, video on page is capable of increasing conversion rates by over 80%. Moreover, most of the customers have a faith that video based search results help them to make buying decisions better as compared with text-based results. One of the main features of the video-based content for any purpose is that once it starts, it resumes automatically and you may repeat or jump to any part the video anytime. Also, if the video is interactive one then the understanding of the content may be witnessed by asking questions in between.

A single picture worth a thousand words, then how much more valuable is video? Video is a collection of many pictures and that is the basis of video marketing. It is all about a new marketing strategy that integrates engaging video into your marketing campaigns. If we use video for marketing then, it can be used for everything for your business such as from building customer report, to promoting your brand, services or products. In the education, interactive videos may track whether the students are watching and listening their videos attentively or not by raising small questions based on the content delivered moments before.

How Video Marketing Works?

Marketing your product and services is really a challenge for its intended employees as competition is cut-throat in the market place. Duplicate product practices are highly active that may defame your genuine product one way or the other. You may use the video contents to promote the products and services for achieving better marketing results. Your business brand creates videos that promote your company, drive sales, raise awareness of your products or services, or engage your customers. Various points are important to note here before you develop you video contents. To develop your video marketing strategy, you need to take a note on following:

- **Budget for creating videos:** As you develop the video for your business, before hand, you must consider to choose various things that may help you in reaching your target. You must think for suitable equipment, good editing software, and obviously a smart video marketing team
- **Time:** Time is also a factor before you create the video. Sometimes the time for videos may be short sometimes it may be long especially when you are giving the detailed demonstration of your premium products. Conclusively, it may be said that the more the cost of the product the more the time for demonstration of the product.

- **Engage:** It's not enough to simply tell your stories to your customers, but you must engage your audience while you do so. You have to know that how will you make your stories interesting? Create the stories that will pull audience to your business.
- **Keep it short and focussed:** Try to cover the things in time as much as less because customer must not get irritated with your video content. May be the customer will not return to you in future if you unnecessary engage them or comply them to subscribe into your business. The golden rule is keep it short.
- **Publish:** To get the better promotions for your business products use the social media platforms that will make your business to take leaps and grow exponentially. You may promote your videos on your websites, Facebook, Instagram, YouTube and other social media channels.
- **Analyse:** This feature is for keeping an eye for your business growth. You may also create a repository to maintain the statistics of your video data for improving the business by removing the weaknesses in future videos.

Benefits of Video Marketing-

Once you have prepared video content for your product and service promotions you will definitely going to get benefits from it. Few of the benefits of video contents for marketing are listed below:

Video make connecting with your audience easier: Yes, audiences are interested in knowing the products on videos. Even reviews are also given in video modes. Nowadays, many company's marketing efforts are designed to help build trust of the customer. This medium allows customers to get more eager to know your brand.

Videos boost information retention: If your customers hear something only, they are likely to retain less of that information. But if we provide them the same contents using audio-video medium then they will retain the content for longer run as well as more accurately. Your customers are comfortable in watching the video as compared with other contents such as text or audio advertisements. Also, if good video marketing is planned it can attract new visitors easily.

To make the marketing practices more robust, the firm must select this tool to reach heights in the business. Video can be a versatile tool for salespeople throughout the entire customer buying journey and it can do much more than increase engagement. Moreover, using video contents you may highlight the features of the products to your customers so that they may easily find the way how to use the latest features of the product or services. In case of online service marketing, screenshots of the process may be used and in case of more complex topic screen may be recorded while preparing the content.

5.10 TYPES OF VIDEOS USED IN MARKETING

In this section we will know what are various types of Content used in video marketing include-

- **Product Demo:** In this kind of video, there should be proper information about project which explains the customer or consumer about features, and benefits of the products. It should be design in such a way that it showcases the utility to the customers that they will get after buying the product.
- **Interviews:** Here interview does point that interview which we all have to gone through during selection process of any company, here interview is used for answering questions on a particular topic and posting its video online.
- **Event Videos:** These videos are basically containing the highlights of an event (the event can be professional or kind of social activity and it is usually a part of the event marketing.
- **Explainer Videos:** This kind of videos is specially designed to answer Frequently asked question related to the product that is selling buy a company or an individual.
- **Testimonials:** The term testimonials refer to customer who already bought that product from a company and happy or renowned company expressing their appreciation and good experience with the company. This helps in increasing the confidence of prospective buyers.
- **How-To Videos:** These kinds of videos are used to express that how to use a product of a company. Video contain step by step procedure on working of product.
- **Vlog:** Vlogs or video blogs are video versions of traditional blogs. Through vlogs, a business executes its marketing strategies using videos.
- **Webinars:** Webinars or web-based-seminars are live, web-based video conferences where the host uses an internet connection to connect with the audience of viewers and listeners worldwide and talk about a specific topic.
- **Presentations & Talks:** These include posting recorded videos of presentations and talks someone related to the business has organised, delivered, attended, or was a part of. Such talks (like TEDx) are much sought after video content on the internet.
- **Tutorials:** Tutorials are basically used to teach the customers the intricacies of the offering or other offering business are affiliated with.
- **Reviews:** These are the reviews of the product or services posted by influencers and thought leaders, which result in altering the decisions of the viewers.
- **Live Videos:** Live videos are videos related to the brand or offering that are streamed live either to showcase something important or to interact with the customers directly.

- **Brand Videos:** Brand videos are typically created as a part of a larger advertising campaign, showcasing the company's high-level vision, mission, or products and services. The goal of brand videos is to build awareness around your company and to intrigue and attract your target audience.
- **Animated Videos:** Animated videos can be a great format for hard-to-grasp concepts that need strong visuals or to explain an abstract service or product.

To make a business that suits your business perfectly you have to plan in advance, prepare and shoot video and mix it with audio and other visual effects by applying the mixing effects. If you are in need or interested in creating videos for your business growth then following ten steps used by the HubSpot to create business videos will help you in achieving your task. These steps are:

- Plan your video.
- Script your video.
- Understand and use your cameras.
- Set up your studio.
- Prepare your talent.
- Shoot for the edit.
- Organize your footage.
- Edit your video.
- Choose your music.
- Record your voice over.

If you are new in this technology then you may take these steps as guidelines for preparing videos for your business promotion activities. In the next section we will take insights on a specific organization that has used video content for their business and have got benefited too.

5.11 INSIGHTS ON VIDEO MARKETING

A case study of Revzilla.Com (A Motorcycle Gear Company)

The concept of video marketing seems very simple. Still, if you are new in this task then you must take a closer look on any model that is developing such models. In this section revzilla.com, a motorcycle gear company is focussed for your better understanding. Its user interface is shown in the figure below.

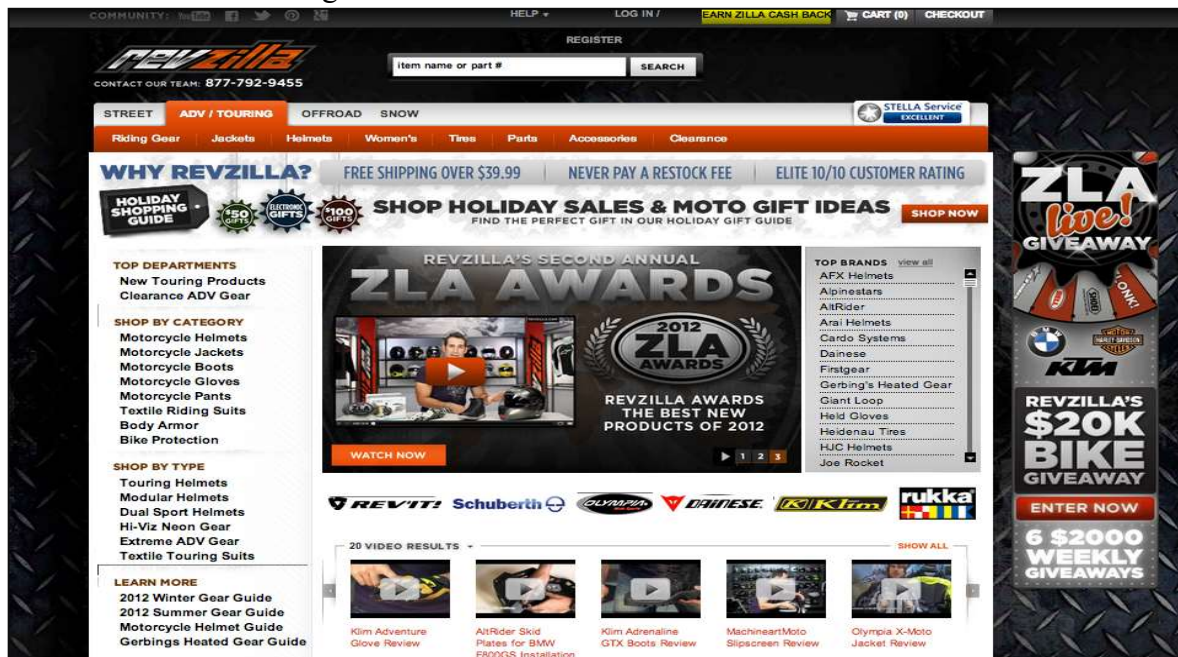


Figure 5: User interface of RevZilla, A Motorcycle Gear company

The facts about this website are:

- RevZilla has produced over 1,800 videos that provide product reviews and instructions for more than 17,000 subscribers around the world.
- In just a few years, RevZilla has accumulated over 9,000,000 video views.

Here we may focus that how the strategy of using videos has generated leads for the company. Surprisingly, it is very high. There are various reasons for the popularity and obviously the high gain of this company due to use of videos-based content for its customers. Few of the features used by revzilla are shared below, which you may also note while creating videos:

- **Short and engaging:** If the videos are short and engaging the customers, there are lot of chances to get profit. Such valued videos provide information about products that RevZilla sells to its most valued customers. The purpose of the videos is to provide viewers with information to make smart choices about products and not to force them to buy specific product. No diversion for business purpose only is to be made unless opt by the customer itself.
- **Consistent:** The videos here follow a consistent, host-driven formula that is both informative and engaging, which helps to grow audiences and brand loyalty. One or two online videos is simply not enough to create the kind of conversations that grow a brand. The concept of series is used by RevZilla's videos and it gives benefit for longer run too.

- **Specific focus:** RevZilla positions itself as an expert on motorcycle gear, and it has successfully built an online video audience by focusing exclusively on what it knows best. Sometimes companies have achieved viral success with more emotional, less content-oriented videos, but having a specific focus and area of expertise is more likely to build brand loyalty over time.
- **Conversation:** The RevZilla encourages conversation. One of the best things about online video marketing is that it gives users the opportunity to join in on the conversation. For example, this RevZilla video features the best products of the year, which were chosen in part based on user feedback.

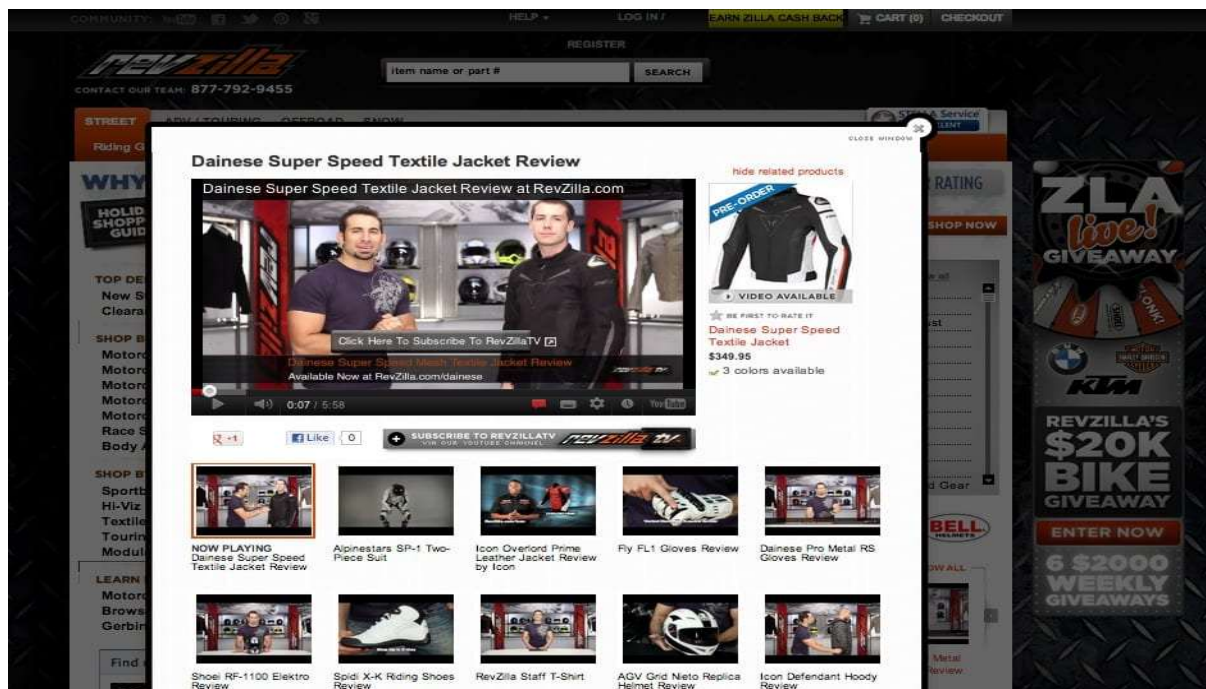


Figure 6: Revzilla video features the best product of the year

- **Responsiveness to comments by its representatives:** One of the main features of the video marketing strategy opt by this company is that the representatives from the RevZilla team respond to comments whether it is positive comment or the negative comment. Likewise, the response is quick, polite and open ended from the representative's end. This feature increases the confidence of the customers with the organization and resultantly business grows more.
- **Style of valuable feedback by viewers:** In this platform, viewers also provide valuable feedback on the difference in styles. As a case of promotion, the hosts from the RevZilla offers gifts such as free t-shirt to whichever commenter can respond to them for particular case such as guess the team member who is dressed up as Batman in the currently running video. This is a clear example of a fun, personalized type of interaction through online video that is likely to build brand loyalty over time.

5.12 POINTS TO REMEMBER

- Voice based search is used frequently for casual search these days.
- Apple Siri, Amazon Alexa, Google Assistant are few examples of voice assistants that accepts the commands and responds accordingly.
- Marketing is fully affected by voice-based search and market stakeholders are using voice technology for ease of processing their tasks.
- Voice marketing-based process uses casual search strings such as ‘ATM near me’ in spite of ‘May I know the location of all the ATMs near me.’.
- Video content for marketing is used heavily by all the brands.
- Product promotion content use on video mode gave better growth in the businesses.
- Types of videos used are event videos, testimonials, how-to-videos, vlog (video logs), webinars, tutorials, reviews, presentations, live-videos etc.
- In the online education, interactive videos are used to verify if the students are attending the video lectures attentively.
- The voice based smart systems such as Siri, Alexa, Google Assistant etc are making the change in the way how the business is growing these days. Moreover, voice id-based voice processing is in practice to do business more conveniently by giving the customized and verified service to the existing customers.
- Video marketing is growing exponentially specially in the social platform such as YouTube, Facebook, Instagram etc where maximum stakeholders meet. Various factors such as budget, time, engagement, publishing, analyzing must be considered before creating any product and service promotion using video marketing.
- YouTube, Instagram, Facebook etc are the social platforms where the video contents are used for marketing.
- Biteable, Video Marketing Blaster, Vidgeos, Animaker, Hippo Video, Filmora, Powtoon, Vidyad etc are used to create the videos for various purposes.

5.13 GLOSSARY

- **Voice marketing:** Voice marketing is a set of tactics and strategies designed for reaching audiences who are using voice devices
- **Video marketing:** Video marketing is the strategy designed by marketing teams to create, curate, and utilize videos as a means of marketing their products or services to their target audience.
- **Amazon Alexa:** It is a virtual assistance AI technology which is capable of voice interaction, music playback, making to-do lists, setting alarms, streaming podcasts, playing audiobooks, and providing weather, traffic, sports, and other real-time information, such as news.
- **Apple Siri:** It is similar technologies as Amazon Alexa.

- **Google Assistant:** It is similar technologies as Amazon Alexa.
- **Voice recognition:** Voice or speaker recognition is the ability of a machine or program to receive and interpret dictation or to understand and carry out spoken commands.
- **Voice search:** Speech to Text Searching Assistant makes it faster and easier than ever to search apps, web search, or image search for the content you want.
- **Video marketing:** Video marketing is using videos to promote and market your product or service, increase engagement on your digital and social channels, educate your consumers and customers, and reach your audience with a new medium.
- **Event video:** It is the art of capturing social and special events onto video by a videographer.
- **Product testimonial:** a positive report on a product written by a customer.
- **How-to-videos:** It is a video format used popularly to teach viewers about a product or a service for business purposes.
- **Vlog:** refers to a type of blog where most or all of the content is in a video format. Vlog posts consist of creating a video of yourself where you talk on a particular subject such as reporting or reviewing a product or an event.
- **Webinars:** A webinar is an event held on the internet which is attended exclusively by an online audience.
- **Live videos (Live streaming):** This type of video allows us to broadcast a current video feed to an online audience.

5.14 CHECK YOUR PROGRESS

Descriptive Type Questions-

- a) Define voice marketing and its use in searching.
- b) Define video marketing and its use in product and service promotion for business.
- c) How seminar is different from webinar?
- d) Write the purpose of creating how-to-videos.
- e) Discuss in detail how to increase the business using Social media.

Objective Type Question-

- a) Vlog is also called video log. (True/False)
- b) Amazon Alexa is a one of the popular video marketing tools used to promote business. (True/False)
- c) The basic mathematical problems are easily addressed by voice assistants such as Apple Siri. (True/False)
- d) Voice assistant allows strict use of language syntax that follows the grammar rules. (True/False)

- e) Keeping the video short, engage your audience throughout, and Budget plan are some of the important feature(s) that should be addressed while creating video for product or service promotions. (True/False)
- f) Event videos, Testimonials, and How-to-videos are the ONLY types of videos used for businesses. (True/False)
- g) The term is used to recognize the voice of the customer or user for customizing the business.
- h) is/are the voice assistant(s).

Answer (Objective Type Question)

- [a] True [b] False [c] True [d] False [e] True
 [f] False [g] Voice id [h] Amazon Alexa

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UNIT- 6

CONTENT MANAGEMENT SYSTEM

6.1	INTRODUCTION
6.2	OBJECTIVES
6.3	CONTENT MANAGEMENT SYSTEM
6.4	WORDPRESS- A BRIEF INTRODUCTION
6.5	WORDPRESS DASHBOARD
6.6	CREATE A WORDPRESS WEBSITE / BLOG
6.7	WORDPRESS POST
6.8	WORDPRESS LINKS AND GOOGLE MAP IN WORDPRESS
6.9	POINTS TO REMEMBER
6.10	GLOSSARY
6.11	CHECK YOUR PROGRESS
6.12	BIBLIOGRAPHY/ REFERENCES
6.13	SUGGESTED READINGS

6.1 INTRODUCTION

The digital marketing approach focused on creating and distributing valuable, relevant and consistent contents to attract and retain valuable customers. The content can be defined as the information produced through editorial process. The contents can be texts, images, graphics, sound, video etc. A website plays an important role to boosting a business of an organization. However, website development means internal knowledge of programming or coding. But a new concept called content management system (CMS) makes it easy to create, edit and update the contents of a website. With the help of CMS, the user is able to maintain a website without having any knowledge of web development.

6.2 OBJECTIVES

After the successful completion of this unit, you will be able to-

- Define the Content Management System (CMS).
- Define the structure and types of CMS.
- Define the WordPress basics.
- Explain how to create a website/blog in WordPress.
- Describe how to add a post, link and other contents using WordPress.

6.3 CONTENT MANAGEMENT SYSTEM

Content Management System (CMS) is application software that provides an easy environment or platform to manage our digital content data such as text, images, audio, video, documents etc. CMS is multiuser, server-based software that interact with contents stored in a database. It provides some level of automation for the tasks required to efficiently manage contents. Content refers to the type of information that the CMS will allow us to manage.

A content management system (CMS) consists a database which organizes and provides access to all types of digital contents. CMS allow the user to control the structure of the website and makes the view of the webpages more attractive. A CMS allows editors to create new contents, edit existing contents, perform editorial processes on contents and make the contents available to other peoples. With the help of CMS, we can manage and control all types of contents virtually. The users with no knowledge of programming languages can easily use the features of a CMS and create web pages or websites.

Structure of CMS

A CMS consist two major components:

[1] Content Management Application (CMA): It is a front-end user interface which is used to create and design the web pages using drag and drop features. It helps the user to add, modify and delete contents from the web pages.

[2] Content Delivery Application (CDA): CDA is responsible for compiling the information and updating the webpages. It acts as the back-end portion of the website. It takes the contents entered by the creator through user interface and turning them into a effective website that the visitor or other users can access.

Types of Content Management System

Content Management System can be classifying as:

[1] Component Content Management System (CCMS)

[2] Document Management System (DMS): DMS allow a paperless solution to organize, manage, store and track documents in a cloud. It provides an automated solution for uploading, processing and sharing business documents without printing, copying or scanning.

[3] Enterprise Content Management System (ECM): ECM collects, organizes and delivers an organization's documentation.

[4] Web Content Management System (WCMS): It allows the users to manage digital components of a website without any need of highly technical skills or web programming. It uses templates in which the editor can insert images, text and videos to be published onto the website.

[5] Digital Asset Management System (DAM): DAM allows the user to manage media files such as videos, photos, graphics and other multimedia contents.

Benefits of CMS

- Easy and quick page management.
- Consistent navigation.
- Flexibility for user or editor.
- Keep design separate from contents.
- Database driven.
- Resource sharing.
- Remote access.
- Security.
- Search engine friendly.

6.4 *WORDPRESS- A BRIEF INTRODUCTION*

WordPress is free and open-source software package that work as a content management system (CMS). WordPress makes easy to setup, manage and maintain a blog or a website without any technical expertise. It includes all the tools and features we need to publish a blog or a complete web site. With the help of WordPress, we can manage several types of contents including posts, pages, links, widgets etc. WordPress started its journey in 2003 and now the most popular self-hosting tool. It is based on PHP and MySQL. Due to its features, it becomes a most popular CMS tool.

Brief History of WordPress

WordPress was released on 2003 by its founders Mike Little and Matt Mullenweg. It is written in PHP language with MySQL. WordPress first version 0.7 was released on May 27, 2003. Next version 0.1 was released in January 2004 which is called Davis Version. WordPress is expanding day by day and adding more features in its each version.

Features of WordPress

- Creating a website or blog without the knowledge of programming languages.
- Provide a wide range of themes.

- Free and open-source application i.e., it allows free installation, modification and distribution of its source code to others.
- Plugins are used to add extra functionality.
- It provides all types of blog solutions.
- WordPress makes easy to upload a multimedia files like videos, audios or images.
- Easy to use with GUI interface.
- WordPress is secure and mobile friendly.

WordPress Installation

System Requirement for WordPress-

[1] Database: MySQL 5.0+

[2] Web Server: WAMP (Windows) or LAMP (Linux) or XAMP(Multi-Platform)

[3] Operating System (Cross-Platform Supported) [4] Browsers: Internet Explorer 8+, Firefox, Google Chrome, Opera, etc.

[5] PHP Compatibility: PHP 5.2+

Download WordPress-

WordPress is free and open-source platform under the GNU General Public License (GPL) and can be easily downloaded from WordPress official website through the link- <http://wordpress.org/download/>

WordPress Installation Steps

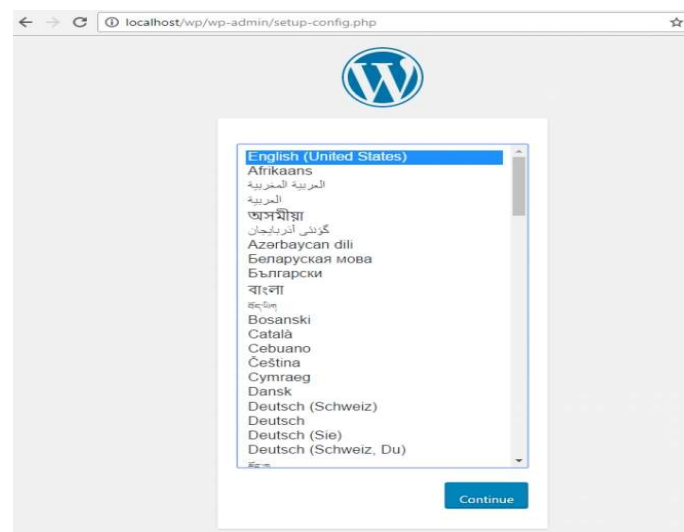
[1] Extract the downloaded file and upload into your local host or web server project folder.

[2] Open web browser and navigate the URL of the WordPress folder path. In local host the URL is “ http://localhost/wordpress_project_folder_name “

[3] Create MySQL database.

[4] WordPress Setup wizard requires some initial information about your website as follows:

Step 1- Choose the language and press continue.



Step 2- Enter the information related to the MySQL database. List of fields are-

- Database Name – Name of the database created in MySQL.
- User Name – User name for database
- Password – Enter the password for MySQL database.
- Database Host: Enter the host. By default, it is localhost.
- Table Prefix – Add prefix in the database tables.

Below you should enter your database connection details. If you're not sure about these, contact your host.

Database Name	<input type="text" value="wordpress"/>	The name of the database you want to use with WordPress.
Username	<input type="text" value="root"/>	Your database username.
Password	<input type="text" value="password"/>	Your database password.
Database Host	<input type="text" value="localhost"/>	You should be able to get this info from your web host, if localhost doesn't work.
Table Prefix	<input type="text" value="wp_"/>	If you want to run multiple WordPress installations in a single database, change this.

After filling all the information press the submit button.

Step 3- now the setup checks the authentication of database and acknowledge with a confirmation.

All right, sparky! You've made it through this part of the installation. WordPress can now communicate with your database. If you are ready, time now to...

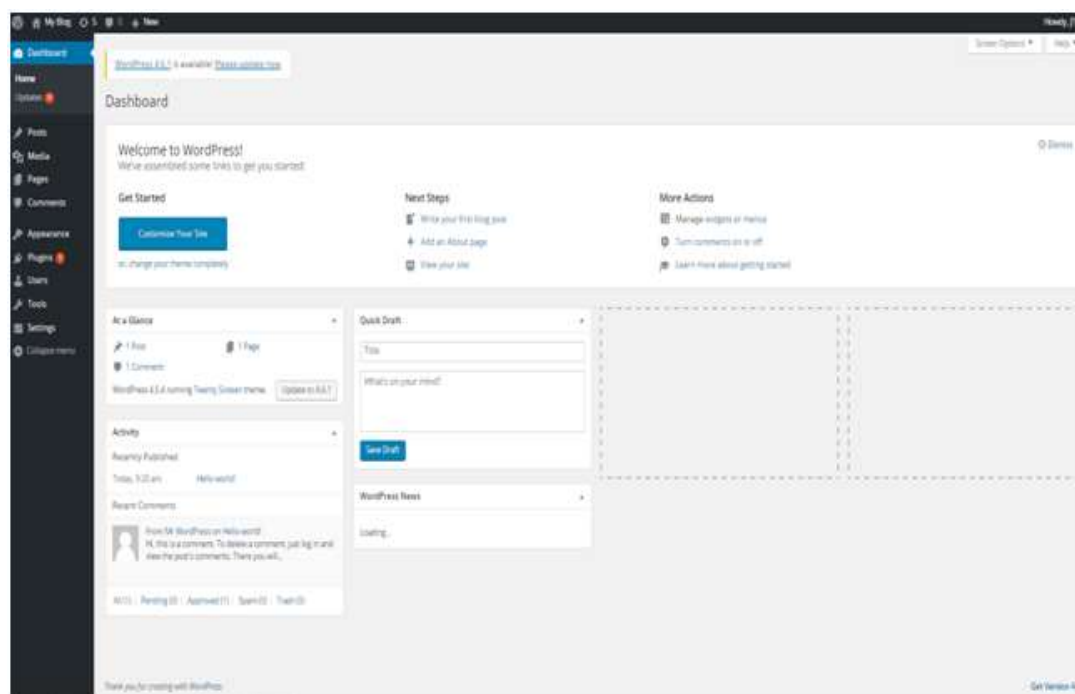
If the MySQL credentials are correct then a new screen comes up with the option “Run the install”. Click on “Run the Install” button.

Step 4- The final step of installation is to provide site admin information such as- Title of the site, User name, Password, Email Address, and Search engine visibility check box.

After filling the data click the “install WordPress” button.

6.5 WORDPRESS DASHBOARD

WordPress dashboard is a first screen which seen when login to admin. WordPress dashboard allows full access to manage a website or blog. The contents are grouped into widgets in dashboard. We can hide or show these widgets as required.



Various contents of dashboard are-

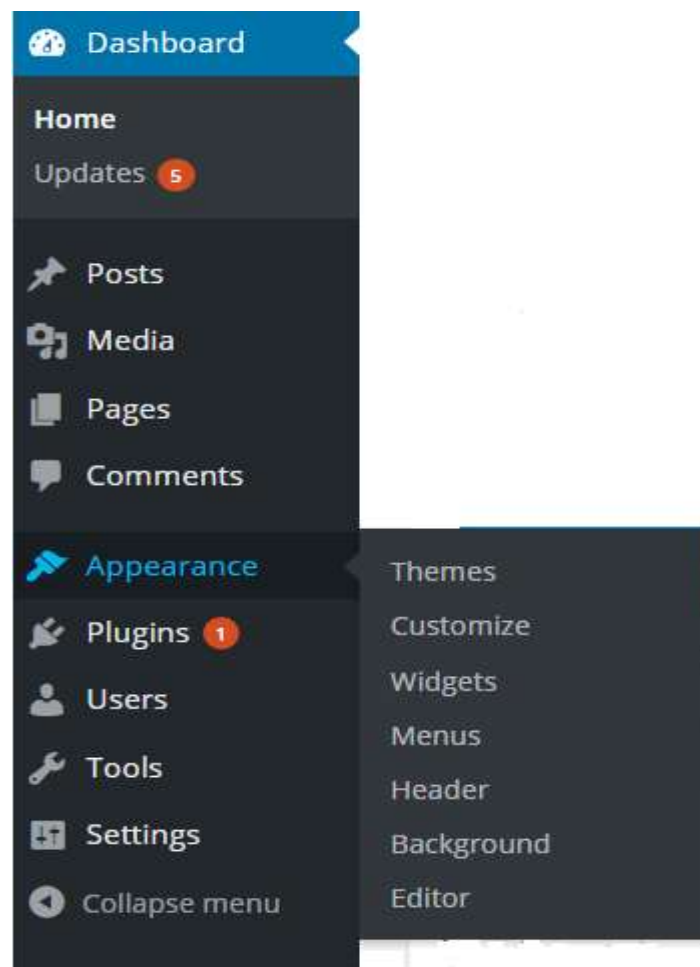
[1] **Admin Bar:** The top black bar is admin bar. It displays only when admin is logged in.



The admin bar contains following items:

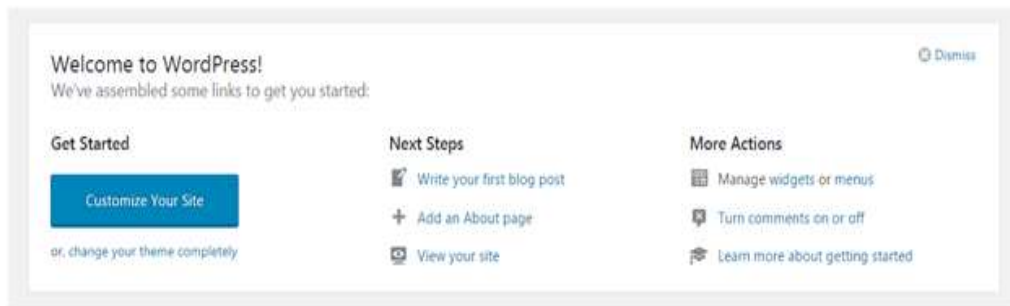
- A WordPress Icon
- Home of site
- Notifications
- Comments
- New (add up new page, post, user etc.)
- Admin name

[2] Sidebar Menu: Side bar of dashboard contain full menu of options for easy access to different areas of website.



Menu items in the sidebar are- Dashboard, Posts, Media, Pages, Comments, Appearance, Plugins, Users, and Tools

[3] Welcome to WordPress: In the top middle of dashboard “Welcome to WordPress” is displayed. It contains a “Customize your site” button allow the user to use different themes. Also create different links to create blog, view site and many more options.



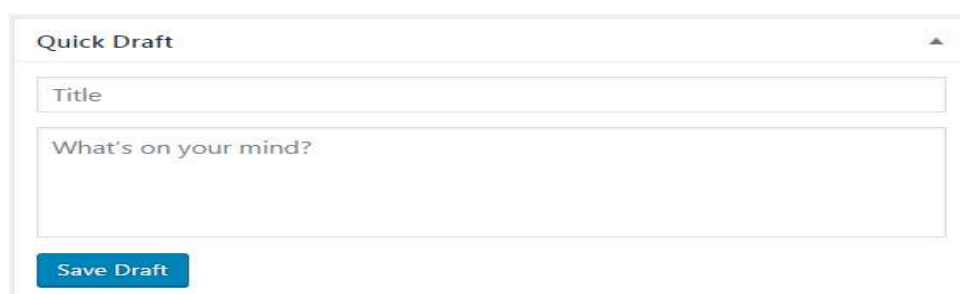
[4] **At a Glance:** It tells us how many posts, comments and pages are in our site.



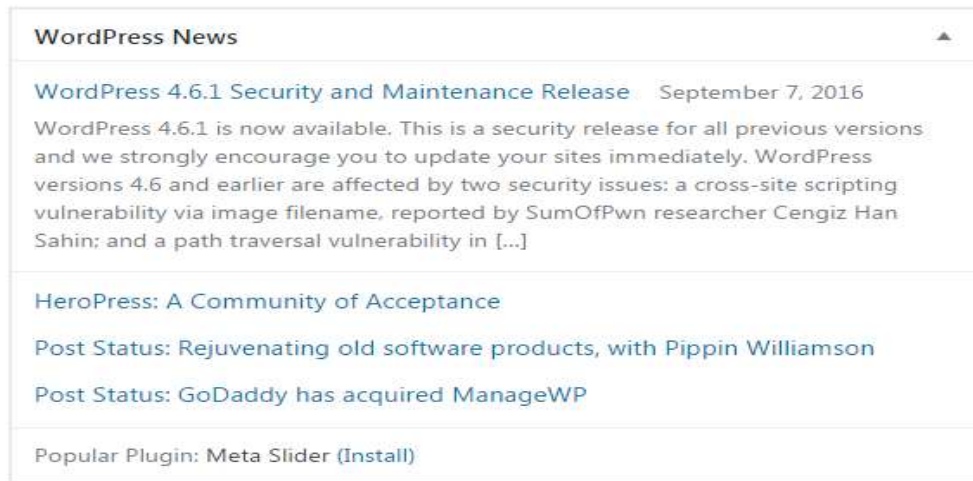
[5] **Activity:** It provides information about some of recent posts and display recent comments on posts.



[6] **Quick draft:** This feature allows us to write our ideas and save it in a draft form.



[7] **WordPress News:** All the latest blog posts from the WordPress official blog are displays in this section.



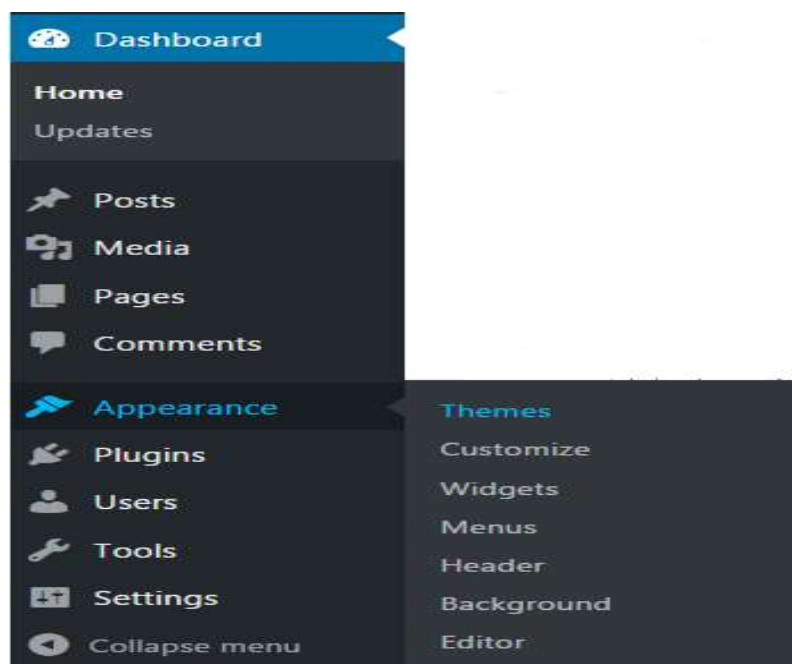
[8] Screen Option: Screen options allow us to enable or disable different widgets on dashboard area.

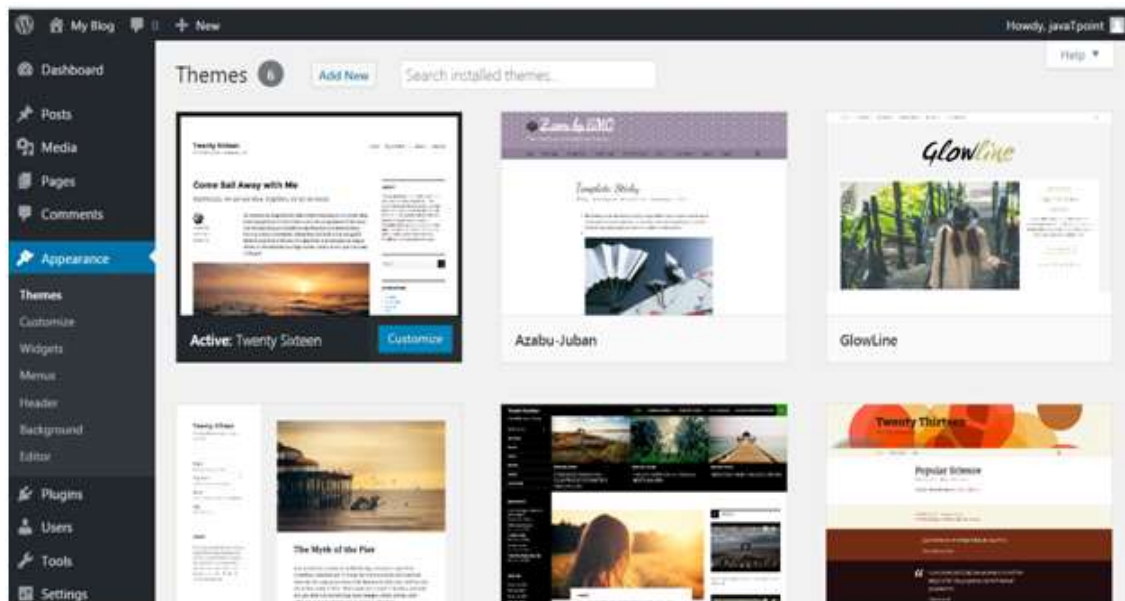
6.6 CREATE A WORDPRESS WEBSITE / BLOG

WordPress provides an easy platform to design and create an attractive website. Steps involved in creating a website through WordPress are:

Step 1- Choosing a domain name and host: To publish the website online we need to register a domain name. Domain name should be short and easy to remember.

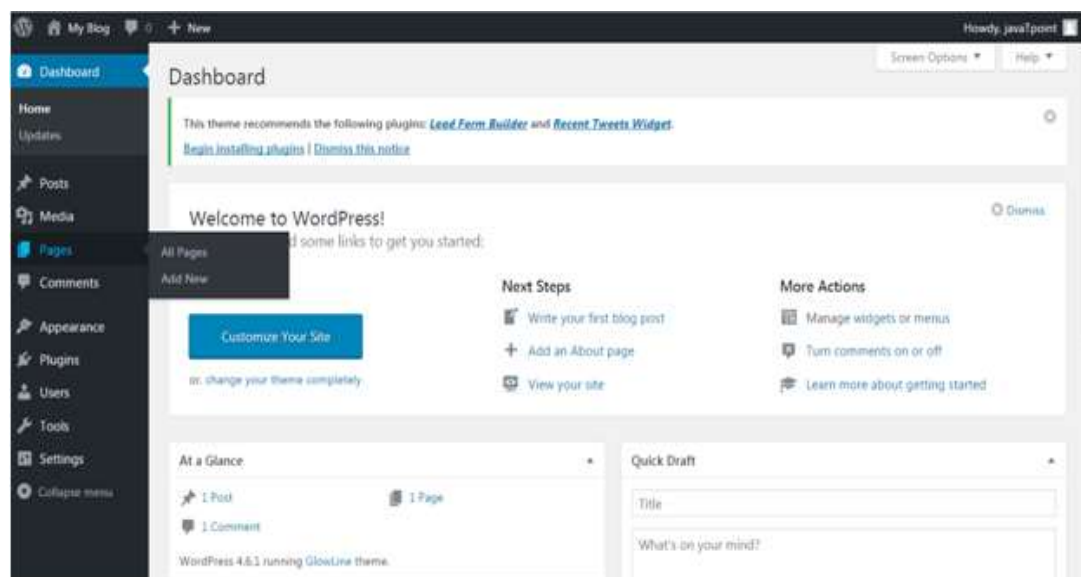
Step 2- Choosing a theme/template: To use themes or templates for your site, login to your WordPress site. By default, dashboard is the first screen to be displayed. In WordPress there are more than 150 free themes. To access free themes “go to the side bar menu of dashboard”, select Appearance > Themes



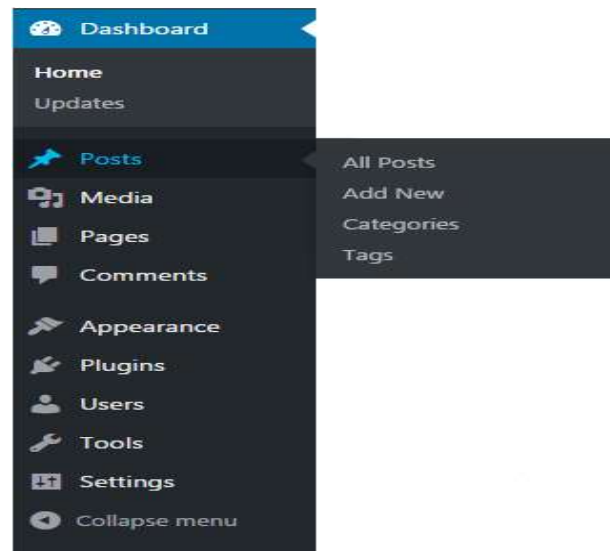


For more themes click on “Add New” button. To install a theme, click on install followed by Activate button.

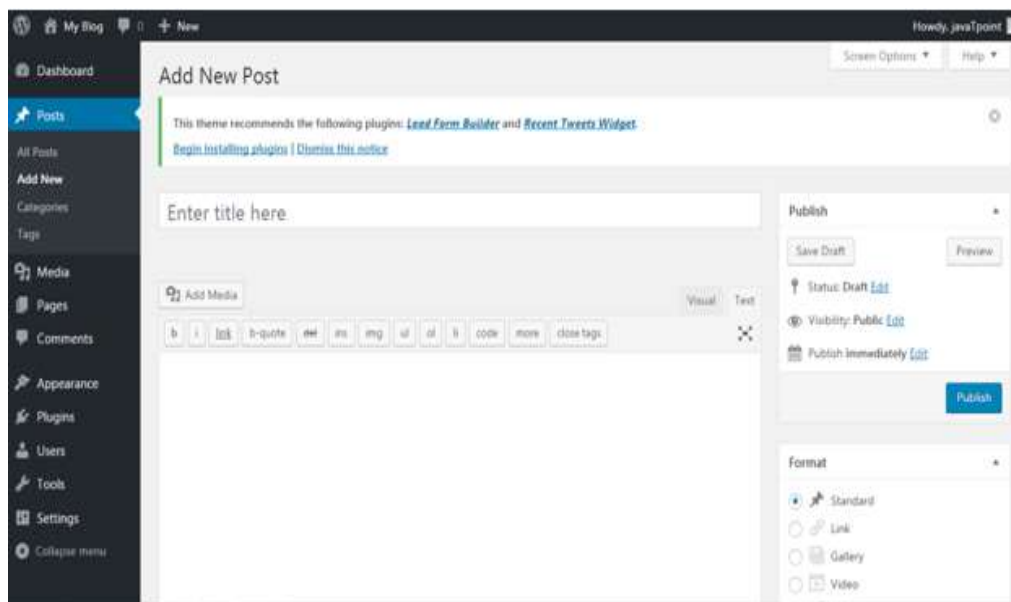
Step 3- Creating new pages: To create a new page, go the sidebar menu. Click Pages > Add New option.



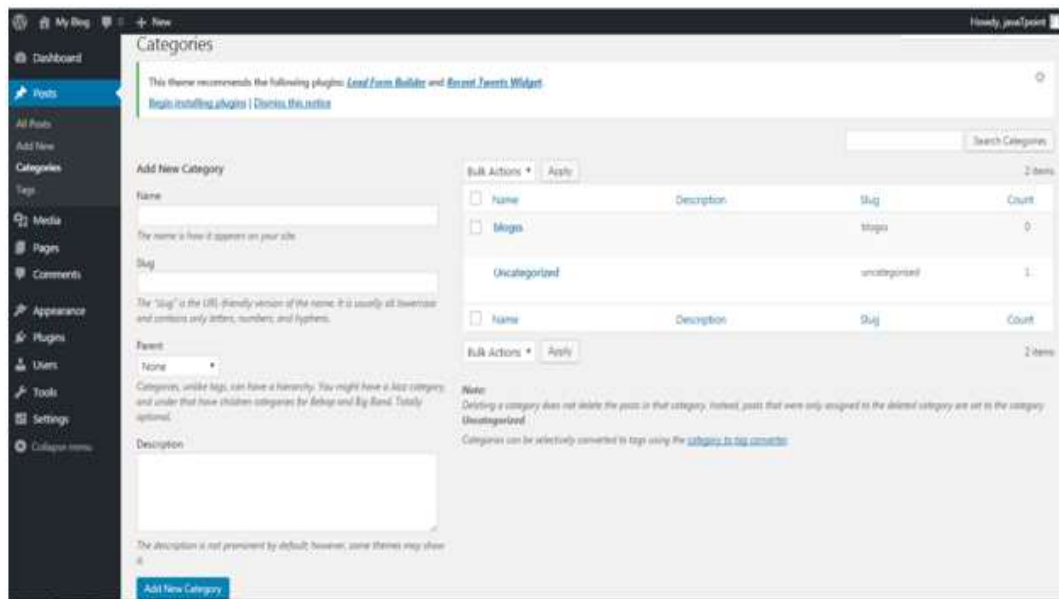
Step 4- Adding Content: (i) Adding new post



Posts are required to make our site more popular. To add posts, click on Post > Add New option. There are two ways to write a post, either in visual editor or in text editor.

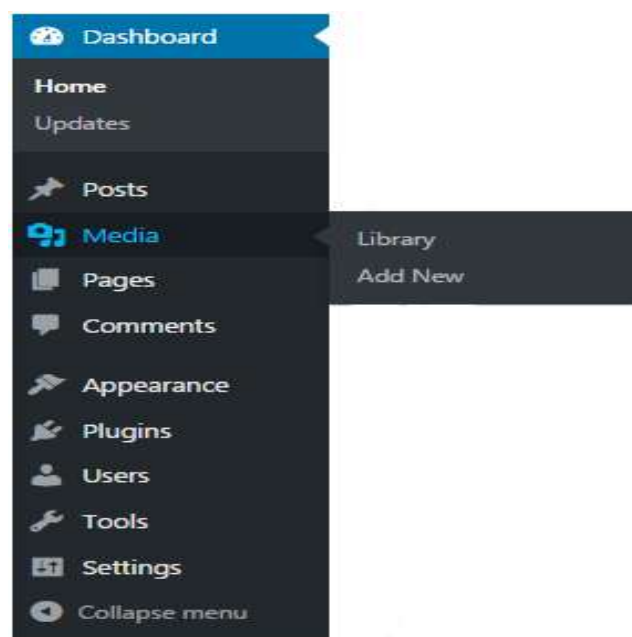


(ii) Adding Categories: With this feature we can divide our contents in different categories. This tool is very useful when we are publishing contents for more than one field. To add categories. Click on Posts > Categories.

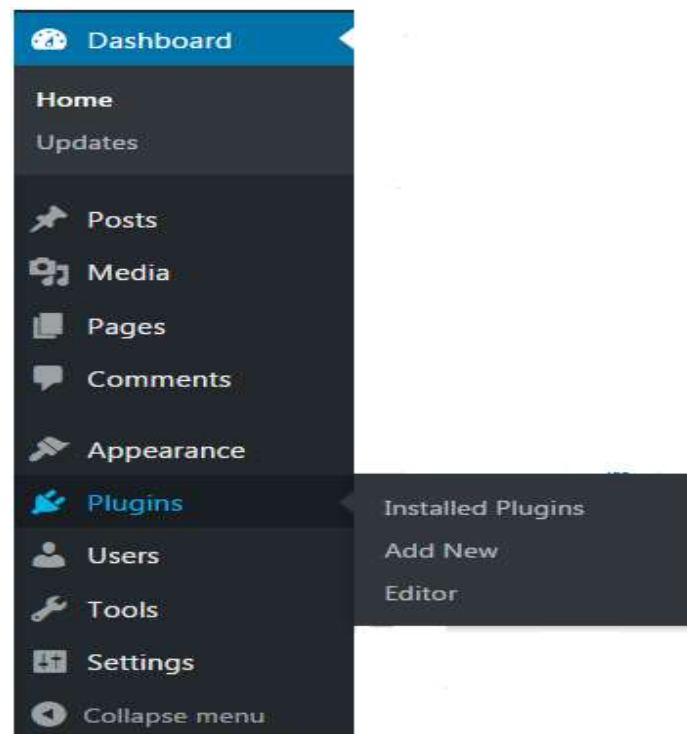


Here, the Name adds a title to your new category. In Slug, you can add some words which will become part of URL while searching.

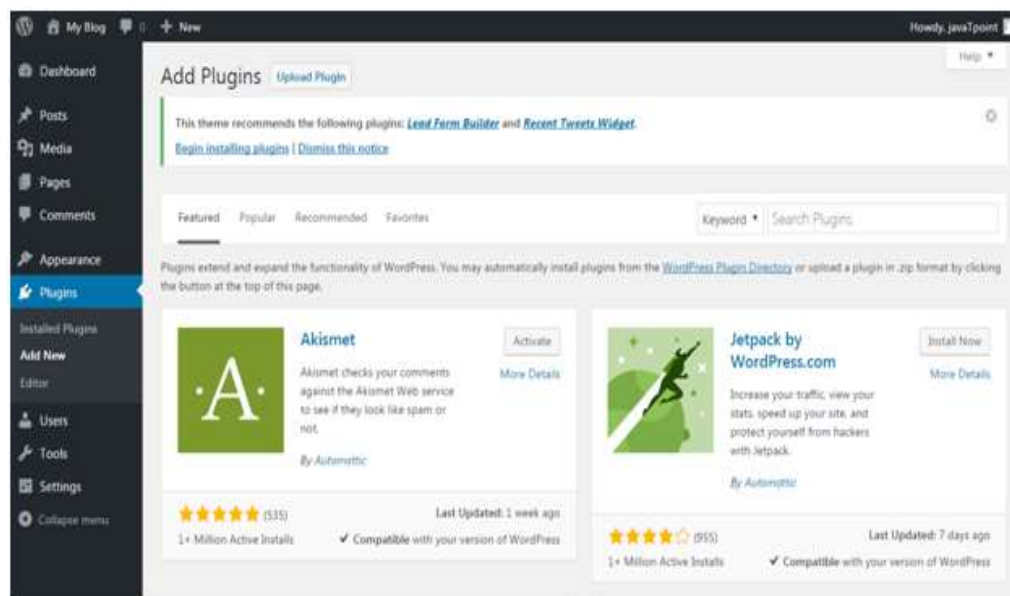
Step 5- Adding Media: Websites look attractive by using media files such as photos and videos to describe its contents. WordPress provides functionality to add media. To add media in website, click on Media on sidebar menu.



Step 6- Installing plugins: Plugins are the extensions in the WordPress with certain piece of coding expanding specific function to your site. They are not built-in. There are almost 25,000 different plugins options to choose from.



To install a plugin, click on Plugins > Add New.



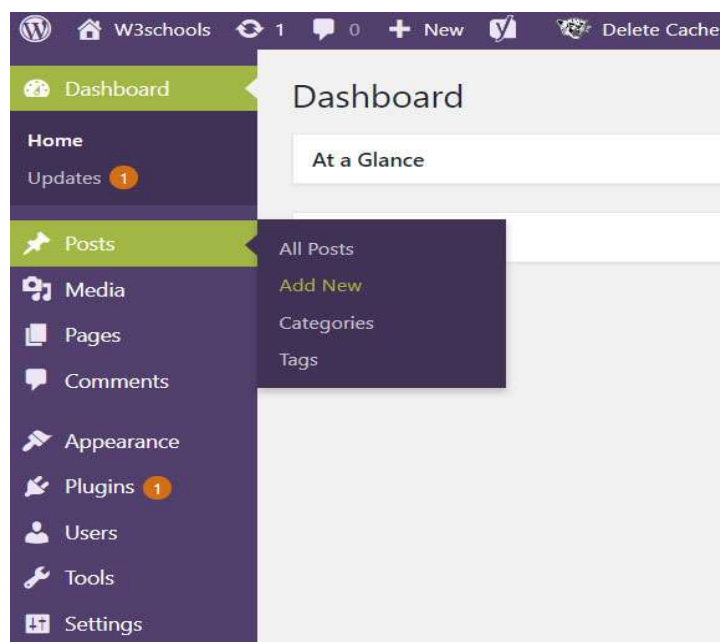
Now we can choose a plugin from the given options. Just click Install Now and we will be able to use it.

6.7 WORDPRESS POST

One of the common activities of WordPress admin user is to insert contents such as text, multimedia or other contents by adding posts in WordPress. Putting contents on website is done using this feature of WordPress. Post is a component of WordPress that allow users to inscribe a blog and post its contents on website.

Adding a New Post: To add a new post on the website through WordPress, we have to login to WordPress account. After login follow the below steps:

- Go to the sidebar menu on the left of dashboard.
- Click on Post > Add New
- Now a new screen will appear where we can give the option to add a title and contents for our page. There are two main components
 - 1) Title: Insert the title of the post.
 - 2) Content: Where we can write the contents of the post. It can be done by two different ways. The first is visual mode where we can write contents in regular format using WYSIWYG editor. The second one is text mode where we can write in HTML format.



Publishing a New Post:

When a post is created, the next step is to publish the contents of the post. For this click on the publish button available on the right side of the panel. List of the components that comes under the publish section is:

- Save Draft- used for saving post as a draft.
- Preview- is used for previewing the post before publishing.
- Move to Trash- used for deleting the post.
- Status- for changing the status of the post whether it is published, pending or under draft.
- Visibility- is used to modify the visibility of the post to public, private or password protected.
- Published- is used for changing the published post time and date.

Edit Existing Post: To edit a post go to “Posts > All Posts”. This will provide a list of all created posts. Move the mouse on any post; you will see an option for Edit and Quick Edit.

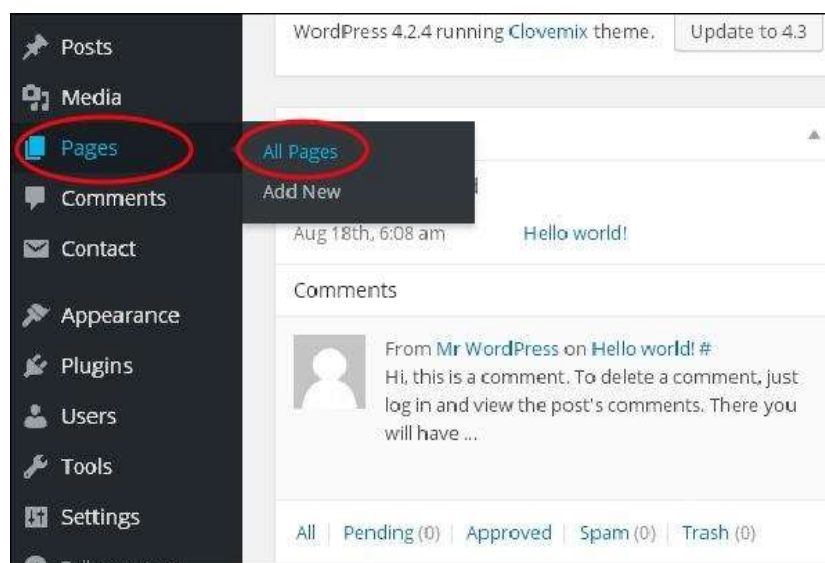
Delete Existing Post: To Delete a post go to “Posts > All Posts”. This will provide the list of all posts. Move mouse on any post you will see a link of Trash. The trash option allows us to delete the particular post.

6.8 **WORDPRESS LINKS AND GOOGLE MAP IN WORDPRESS**

In webpages links are used to connect one resource to another resource. A link in a page or blog posts help to connect to other pages.

Add WordPress Links- Steps to add links in WordPress are-

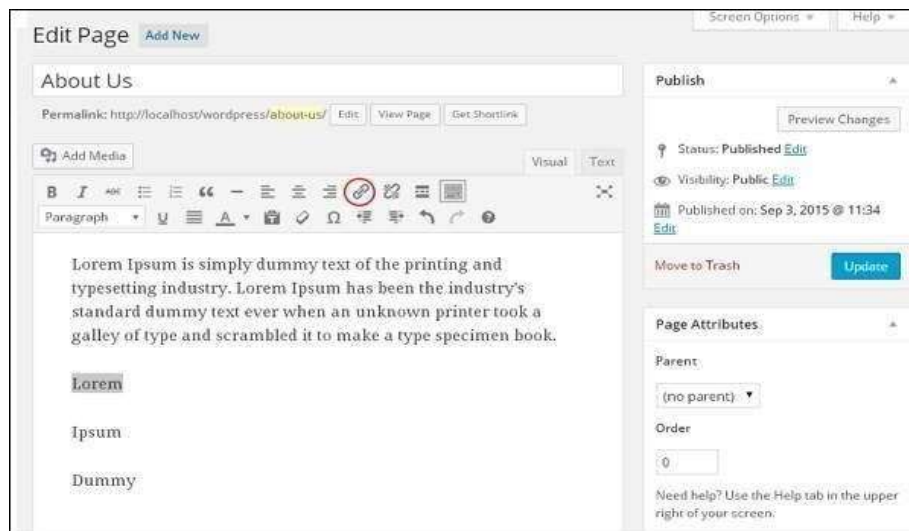
Step 1- Click on “Pages > All Pages”



Step 2- A new window get displayed which provide the list of created pages. Select any page to add links inside it.



Step 3- Select any of the word or sentence where we want to add link.



Step 4- When we click on the Insert / Edit link symbol, the following window gets displayed.

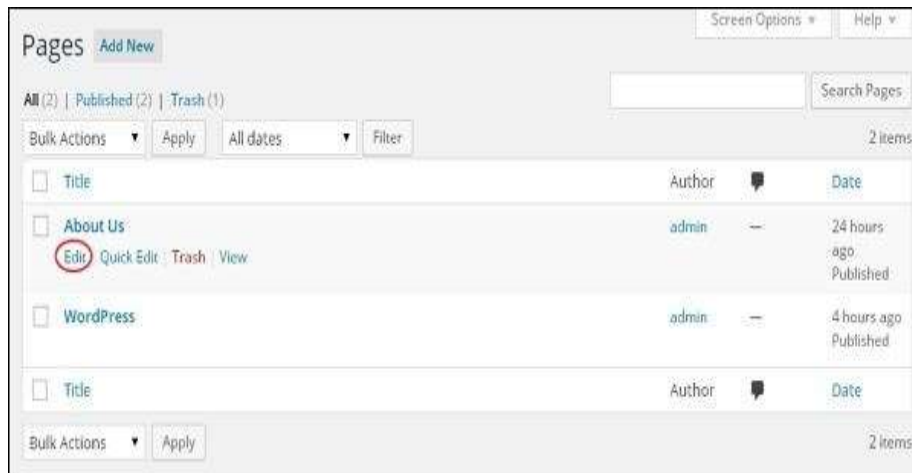
The various fields in insert/edit link are

- URL: Enter URL to the link.
- Link Text: Insert text we want to enter into the link.
- Open link in a new window/tab: check the box as required.

Now click **“Add Link”** button and then **Update** button to update the changes.

Edit Links- Steps to edit links in WordPress

- 1) Click on “Pages > All Pages”
- 2) A new window provides a list of all the created pages. Move the cursor on the page to be edited. It gives the option of Edit, click on “Edit”.



3) It displays the page which contains the link. Move the cursor on the word which has a link, it shows a pencil symbol to edit the link. Click on it.

4) You can change or edit link by selecting the page from the existing list. After selecting the page click on Update button.

Delete Links- Using WordPress we can remove the unwanted links from our websites or articles. Steps to delete the links in WordPress are-

Step 1- Click on “Pages > All Pages”,

Step 2- A new window shows the list of all created pages. Move the cursor on the page which has the link to be deleted. Click on the “Edit” button to delete the link.

Google map in WordPress-

Google map is a free online mapping and navigation application for desktop and mobile devices from Google. We can use Google maps to get step by step directions, find information about locations and local businesses etc. The Google map can be added in our webpage or blog through WordPress in following two ways.

Directly Embed Google Maps in WordPress: The simplest way to add Google Maps in the WordPress post or website is by directly using an Embed Code provided by Google itself. To use this feature, first open Google Maps, and then search for location or required place. Then click on the “Share” button and then on the “Embed Map” option. Now choose the size required for your Google map and copy the given Embed code.

Once we have the embed code, we can insert the code as an HTML block into our post. To do so, click on the plus icon to add a block and look for custom HTML block under the formatting section. Now paste the embed code here. After saving the post, the map is shown in the post.

Adding Google Maps in WordPress using a Plugins: If the maps are the important content of website and we need to frequently add maps in our posts, then adding Google Maps using a plugin is recommended.

For this feature first we need to install and activate Map Press Easy Google Maps plugin. Edit a post or page where we want to add the map. Scroll down to Map Press section on the post edit screen and click on “New Map” button. This will open Map Press editor where we can enter an address or click on my location link to allow plugin to automatically detect your location. Now provide the title to your map and choose the map size. Now click on the “Save” button and then click on “Insert into Post” button to add the map into your post. Update or publish the post and see the preview. With Map Press we can add multiple maps to a page or post.

6.9 POINTS TO REMEMBER

- Content Management System (CMS) is application software that provides an environment to manage digital contents such as text, images, audio, video etc.
 - CMS consist a database which organizes and provides access to all types of digital contents.
 - The main objective of a computer network is sharing of information, resources and distributes the processing load.
 - Content Management Application (CMA) and Content Delivery Application (CDA) are the main components of CMS.
 - CMA is the front-end user interface which is used to create and design web pages.
 - CDA act as the backend portion of website which is used for compiling the information and updating web pages.
 - CMS can be classified as (1) Component Content Management System (CCMS), (2) Document Management System (DMS), (3) Enterprise Content Management System (ECM), (4) Web Content Management System (WCMS), (5) Digital Asset Management System (DAM).
 - The most popular open-source software which works as a CMS is WordPress.
 - WordPress makes easy to setup, manage and maintain a blog or a website without any technical expertise.
 - WordPress is based on PHP and MySQL.
 - WordPress was released on 2003 by Mike Little and Matt Mullenweg.
 - WordPress dashboard is the first screen which seen when login to admin and allows full access to manage a website or blog.
-

6.10 GLOSSARY

- **Digital Marketing-** Digital marketing is a type of marketing which uses the internet, computer, mobile devices, search engines and other channels to reach the consumers.
- **Contents-** Content can be defined as the information available on digital media such as text, images, sound etc.
- **Database-** A database is an organized collection of structured information or data stored

in a computer system.

- **Programming Languages**-The languages or syntax which are used to write instructions or programs for computer are called programming languages.
- **Graphical User Interface (GUI)**- The graphical user interface provides an interface through which the user can interact with the electronic device.
- **Remote Access**- Remote access is the ability to access a computing device that is not in your physical location.
- **Open-Source Software**- Open-source software is software with source code that the end user can inspect, modify and enhance.
- **General Public License (GPL)** - The GNU General Public License (GPL) is a series of widely used free software licenses that guarantee end user the freedom to run, study, share and modify the software.

6.10 CHECK YOUR PROGRESS

Part-A (Fill in the blanks):

- a) CMS stands for
- b) The relational database used by WordPress is
- c) WordPress is written in programming language.
- d) WCMS stands for
- e) is the first page which is displayed after logging into a webpage in WordPress.

Part-B (Descriptive type questions)

- a) What is a content management system? Describe the benefits of CMS?
- b) What is WordPress? Describe the features of WordPress?
- c) What is the use of Quick Draft Section in WordPress dashboard?
- d) What is WordPress post? How a new post is added in the WordPress?
- e) Describe the steps to create a website or blog in WordPress?

Answers- (Part A- Fill in the blanks)

- a) Content Management System b) MySQL c) PHP
- d) Web Content Management System a) Dashboard

6.10 BIBLIOGRAPHY/ REFERENCES

- Manoj Kumar and Asoke Nath (2016), “Web Content Management System “, IJIRAE, Issue 03, Vol. 3, ISSN: 2349-2763.
- K. K. Giri and K. R. Nirgude, “Open-Source Content Management Software: a Comparative Analysis”.
- <http://www.cms.co.uk/types/>

6.10 SUGGESTED READINGS

- Deane Barker. “Web Content Management”, O’Reilly Media.
- Chris Dixon “WordPress Academy: Learn WordPress Step by Step”, Packt Publishing.

UNIT- 7

INTRODUCTION TO SEARCH ENGINE OPTIMIZATION- II

7.1	INTRODUCTION
7.2	OBJECTIVES
7.3	HOW SEARCH ENGINE WORKS?
7.4	UNDERSTANDING CRAWLING
7.5	UNDERSTANDING INDEXING
7.6	UNDERSTANDING RANKING
7.7	SEO– TACTICS AND METHODS
7.8	DESIGN AND LAYOUT
7.9	CHALLENGES OF SEARCH ENGINE OPTIMIZATION
7.10	POINTS TO REMEMBER
7.11	GLOSSARY
7.12	CHECK YOUR PROGRESS
7.13	BIBLIOGRAPHY/ REFERENCES

7.1 INTRODUCTION

Search engines such as Google and Bing use bots to crawl pages on the web, going from site to site, collecting information about those pages and putting them in an index. Next, algorithms analyze pages in the index, taking into account hundreds of ranking factors or signals, to determine the order pages should appear in the search results for a given query.

Search ranking factors can be considered proxies for aspects of the user experience. Our Periodic Table of SEO Factors organizes the factors into six main categories and weights each based on its overall importance to SEO. For example, content quality and keyword research are key factors of content optimization, and crawlability and mobile-friendliness are important site architecture factors.

The search algorithms are designed to surface relevant, authoritative pages and provide users with an efficient search experience. Optimizing your site and content with these factors in mind can help your pages rank higher in the search results.

SEO is a fundamental part of digital marketing because people conduct trillions of searches every year, often with commercial intent to find information about products and services. Search is often the primary source of digital traffic for brands and complements other marketing channels. Greater visibility and ranking higher in search results than your competition can have a material impact on your bottom line.

However, the search results have been evolving over the past few years to give users more direct answers and information that is more likely to keep users on the results page instead of driving them to other websites.

Also note, features like rich results and Knowledge Panels in the search results can increase visibility and provide users more information about your company directly in the results.

This unit will also help to enhance the skills and knowledge in the following terms-

- **Increasing the Significant Traffic:** The optimization of the website can be done properly by creating the keyword targeted content. Good quality content on the website provides ultimate results in very less time. It drives direct traffic from the search engines to your website.
- **Generating E-commerce Sales:** Another objective of SEO is that helps you generate relevant traffic to your e-commerce website which often leads to the generation of sales. Once you have successfully implemented the SEO strategies on your e-commerce website then you can expect extremely high conversion rates.
- **Branding:** The branding is another powerful tool for the application of SEO. The branding is closely related to creating brand awareness and recognition. You must have noticed that the websites which remain at the top of the search engine ranks get more traffic and popularity. These websites use this exposure to bolster the brand recognition and authority of their brand.
- **Reputation Management:** The businesses who are willing to populate the search results with relevant and positive links. The use of SEO enables this process with the help of content creation and its promotion through link building. Reputation management is considered as one of the most challenging tasks of search engine optimization. This practice involves the optimization of pages on different domains. It uses various social media profiles, public relations, press releases, etc for this task.
- **Lead Generation:** Millions of search queries are made every day on the search engines and most of them have commercial intents. You just have to follow the right SEO strategies for maximizing the lead generation on your website. The more often people

would visit your website, the more likely they would trust you. This can only be achieved by improving the ranking of your website through SEO.

7.2 OBJECTIVES

After the successful completion of this unit, you will be able to-

- Know the working of search engines.
- Understand Crawling, Ranking and indexing.
- Define search engine challenges.

7.3 HOW SEARCH ENGINE WORKS?

Search engines have three primary functions:

- (i) Crawl: Scour the Internet for content, looking over the code/content for each URL they find.
- (ii) Index: Store and organize the content found during the crawling process. Once a page is in the index, it's in the running to be displayed as a result to relevant queries.
- (iii) Rank: Provide the pieces of content that will best answer a searcher's query, which means that results are ordered by most relevant to least relevant.

What is search engine crawling?

Crawling is the discovery process in which search engines send out a team of robots (known as crawlers or spiders) to find new and updated content. Content can vary it could be a webpage, an image, a video, a PDF, etc. but regardless of the format, content is discovered by links. Googlebot starts out by fetching a few web pages, and then follows the links on those webpages to find new URLs. By hopping along this path of links, the crawler is able to find new content and add it to their index called Caffeine a massive database of discovered URLs to later be retrieved when a searcher is seeking information that the content on that URL is a good match for.

What is a search engine index?

Search engines process and store information, they find in an index, a huge database of all the content they've discovered and deem good enough to serve up to searchers.

Search engine Ranking

When someone performs a search, search engines scour their index for highly relevant content and then orders that content in the hopes of solving the searcher's query. This ordering of search results by relevance is known as ranking. In general, you can assume that the higher a website is ranked, the more relevant the search engine believes that site is to the query. It's possible to block search engine crawlers from part or your entire site, or instruct search engines to avoid storing certain pages in their index. While there can be reasons for doing this, if you want your

content found by searchers, you have to first make sure it's accessible to crawlers and is indexable. Otherwise, it's as good as invisible.

Crawling

Can search engines find your pages?

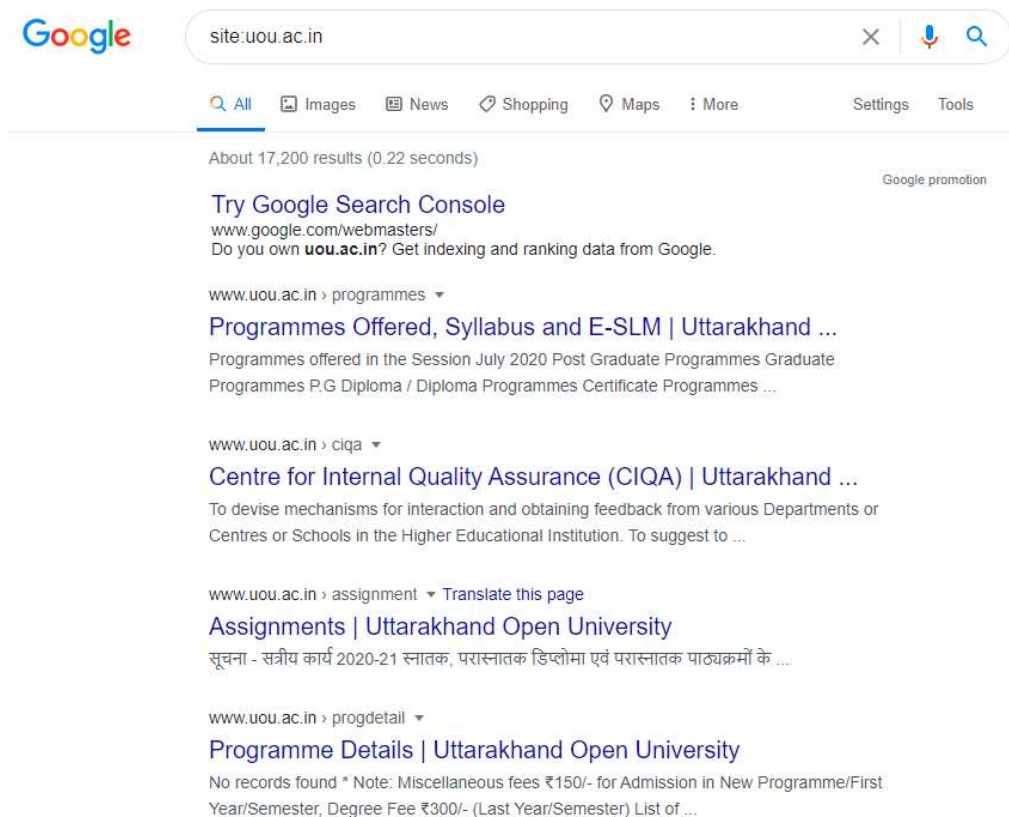
As you've just learned, making sure your site gets crawled and indexed is a prerequisite to showing up in the SERPs. If you already have a website, it might be a good idea to start off by seeing how many of your pages are in the index. This will yield some great insights into whether Google is crawling and finding all the pages you want it to, and none that you don't.

One way to check your indexed pages is "site: yourdomain.com", an advanced search operator. Head to Google and type "site: yourdomain.com" into the search bar. This will return results Google has in its index for the site specified.

7.4 UNDERSTANDING CRAWLING

As you've just learned, making sure your site gets crawled and indexed is a prerequisite to showing up in the SERPs. If you already have a website, it might be a good idea to start off by seeing how many of your pages are in the index. This will yield some great insights into whether Google is crawling and finding all the pages you want it to, and none that you don't.

One way to check your indexed pages is "site: yourdomain.com", an advanced search operator. Head to Google and type "site: yourdomain.com" into the search bar. This will return results Google has in its index for the site specified:



The number of results Google displays (see “About XX results” above) isn't exact, but it does give you a solid idea of which pages are indexed on your site and how they are currently showing up in search results. For more accurate results, monitor and use the Index Coverage report in Google Search Console. You can sign up for a free Google Search Console account if you don't currently have one. With this tool, you can submit sitemaps for your site and monitor how many submitted pages have actually been added to Google's index, among other things. If you're not showing up anywhere in the search results, there are a few possible reasons why:

- Your site is brand new and hasn't been crawled yet.
- Your site isn't linked to from any external websites.
- Your site's navigation makes it hard for a robot to crawl it effectively.
- Your site contains some basic code called crawler directives that is blocking search engines.
- Your site has been penalized by Google for spammy tactics.

Can crawlers find all your important content?

Now that you know some tactics for ensuring search engine crawlers stay away from your unimportant content, let's learn about the optimizations that can help Googlebot find your

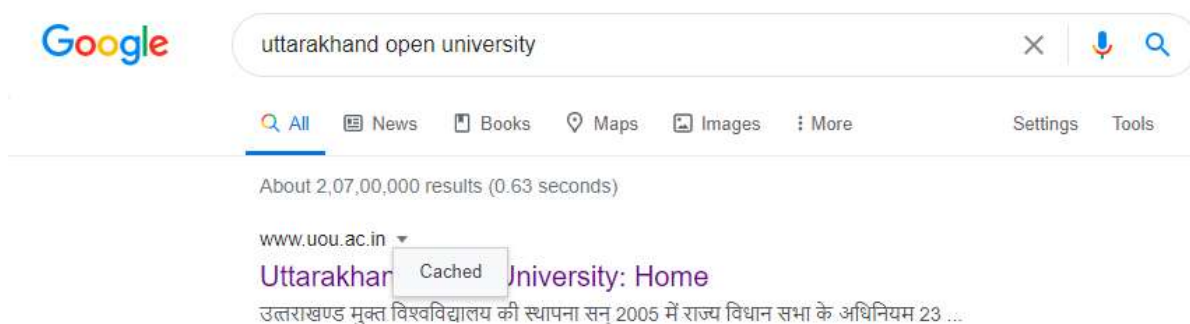
important pages. Sometimes a search engine will be able to find parts of your site by crawling, but other pages or sections might be obscured for one reason or another. It's important to make sure that search engines are able to discover all the content you want indexed, and not just your homepage.

7.5 UNDERSTANDING INDEXING

Once you've ensured your site has been crawled, the next order of business is to make sure it can be indexed. That is right just because your site can be discovered and crawled by a search engine doesn't necessarily mean that it will be stored in their index. In the previous section on crawling, we discussed how search engines discover your web pages. The index is where your discovered pages are stored. After a crawler finds a page, the search engine renders it just like a browser would. In the process of doing so, the search engine analyzes that page's contents. All of that information is stored in its index.

Google crawls and caches web pages at different frequencies. More established, well-known sites that post frequently like <https://www.nytimes.com> will be crawled more frequently than the much-less-famous website for Roger the Mozbot's side hustle, <http://www.rogerlovescupcakes.com> (if only it were real...)

You can view what your cached version of a page looks like by clicking the drop-down arrow next to the URL in the SERP and choosing "Cached":



You can also view the text-only version of your site to determine if your important content is being crawled and cached effectively.

Are pages ever removed from the index?

Yes, pages can be removed from the index! Some of the main reasons why a URL might be removed include:

- The URL is returning a "not found" error (4XX) or server error (5XX) – This could be accidental (the page was moved and a 301 redirect was not set up) or intentional (the page was deleted and 404ed in order to get it removed from the index)
- The URL had a noindex meta tag added – This tag can be added by site owners to instruct the search engine to omit the page from its index.

- The URL has been manually penalized for violating the search engine's Webmaster Guidelines and, as a result, was removed from the index.
- The URL has been blocked from crawling with the addition of a password required before visitors can access the page.

If you believe that a page on your website that was previously in Google's index is no longer showing up, you can use the URL Inspection tool to learn the status of the page, or use Fetch as Google which has a "Request Indexing" feature to submit individual URLs to the index. (Bonus: GSC's "fetch" tool also has a "render" option that allows you to see if there are any issues with how Google is interpreting your page).

Tell search engines how to index your site

[1] Robots Meta directives

Meta directives (or "meta tags") are instructions you can give to search engines regarding how you want your web page to be treated.

You can tell search engine crawlers things like "do not index this page in search results" or "don't pass any link equity to any on-page links". These instructions are executed via Robots Meta Tags in the <head> of your HTML pages (most commonly used) or via the X-Robots-Tag in the HTTP header.

[2] Robots meta tag

The robots meta tag can be used within the <head> of the HTML of your webpage. It can exclude all or specific search engines. The following are the most common meta directives, along with what situations you might apply them in.

[3] index/noindex tells the engines whether the page should be crawled and kept in a search engines' index for retrieval. If you opt to use "noindex," you're communicating to crawlers that you want the page excluded from search results. By default, search engines assume they can index all pages, so using the "index" value is unnecessary.

When you might use: You might opt to mark a page as "noindex" if you're trying to trim thin pages from Google's index of your site (ex: user generated profile pages) but you still want them accessible to visitors.

[4] follow/nofollow tells search engines whether links on the page should be followed or not followed. "Follow" results in bots following the links on your page and passing link equity through to those URLs. Or, if you elect to employ "nofollow," the search engines will not follow or pass any link equity through to the links on the page. By default, all pages are assumed to have the "follow" attribute.

When you might use: nofollow is often used together with noindex when you're trying to prevent a page from being indexed as well as prevent the crawler from following links on the page.

[5] noarchive is used to restrict search engines from saving a cached copy of the page. By default, the engines will maintain visible copies of all pages they have indexed, accessible to searchers through the cached link in the search results.

When you might use: If you run an e-commerce site and your prices change regularly, you might consider the noarchive tag to prevent searchers from seeing outdated pricing.

Here's an example of a meta robots noindex, nofollow tag:

```
<!DOCTYPE html><html><head><meta name="robots" content="noindex, nofollow" /></head><body>...</body></html>
```

This example excludes all search engines from indexing the page and from following any on-page links. If you want to exclude multiple crawlers, like googlebot and bing for example, it's okay to use multiple robot exclusion tags.

[6] X-Robots-Tag

The x-robots tag is used within the HTTP header of your URL, providing more flexibility and functionality than meta tags if you want to block search engines at scale because you can use regular expressions, block non-HTML files, and apply sitewide noindex tags.

For example, you could easily exclude entire folders or file.

```
<Files ~ "\/?no\bake\/*" Header set X-Robots-Tag "noindex, nofollow"></Files>
```

The derivatives used in a robots meta tag can also be used in an X-Robots-Tag. Or specific file types (like PDFs):

```
<Files ~ "\.pdf$" Header set X-Robots-Tag "noindex, nofollow"></Files>
```

7.6 UNDERSTANDING RANKING

How do search engines ensure that when someone types a query into the search bar, they get relevant results in return? That process is known as ranking, or the ordering of search results by most relevant to least relevant to a particular query.

To determine relevance, search engines use algorithms, a process or formula by which stored information is retrieved and ordered in meaningful ways. These algorithms have gone through many changes over the years in order to improve the quality of search results. Google, for example, makes algorithm adjustments every day — some of these updates are minor quality tweaks, whereas others are core/broad algorithm updates deployed to tackle a specific issue, like Penguin to tackle link spam. Check out our Google Algorithm Change History for a list of both confirmed and unconfirmed Google updates going back to the year 2000.

Why does the algorithm change so often? Is Google just trying to keep us on our toes? While Google doesn't always reveal specifics as to why they do what they do, we do know that Google's aim when making algorithm adjustments is to improve overall search quality. That's why, in response to algorithm update questions, Google will answer with something along the lines of: "We're making quality updates all the time." This indicates that, if your site suffered after an algorithm adjustment, compare it against Google's Quality Guidelines or Search Quality Rater Guidelines, both are very telling in terms of what search engines want.

What do search engines want?

Search engines have always wanted the same thing: to provide useful answers to searcher's questions in the most helpful formats. If that's true, then why does it appear that SEO is different now than in years past?

At first, their understanding of the language is very rudimentary - "See Spot Run." Over time, their understanding starts to deepen, and they learn semantics - the meaning behind language and the relationship between words and phrases. Eventually, with enough practice, the student knows the language well enough to even understand nuance, and is able to provide answers to even vague or incomplete questions.

When search engines were just beginning to learn our language, it was much easier to game the system by using tricks and tactics that actually go against quality guidelines. Take keyword stuffing, for example. If you wanted to rank for a particular keyword like "funny jokes," you might add the words "funny jokes" a bunch of times onto your page, and make it bold, in hopes of boosting your ranking for that term:

Welcome to funny jokes! We tell the funniest jokes in the world. Funny jokes are fun and crazy. Your funny joke awaits. Sit back and read funny jokes because funny jokes can make you happy and funnier. Some funny favourite funny jokes.

This tactic made for terrible user experiences, and instead of laughing at funny jokes, people were bombarded by annoying, hard-to-read text. It may have worked in the past, but this is never what search engines wanted.

The role links play in SEO

When we talk about links, we could mean two things. Backlinks or "inbound links" are links from other websites that point to your website, while internal links are links on your own site that point to your other pages (on the same site). Links have historically played a big role in SEO. Very early on, search engines needed help figuring out which URLs were more trustworthy than others to help them determine how to rank search results. Calculating the number of links pointing to any given site helped them do this.

Backlinks work very similarly to real-life WoM (Word-of-Mouth) referrals. Let's take a hypothetical coffee shop, Jenny's Coffee, as an example:

- Referrals from others = good sign of authority

Example: Many different people have all told you that Jenny's Coffee is the best in town

- Referrals from yourself = biased, so not a good sign of authority

Example: Jenny claims that Jenny's Coffee is the best in town

- Referrals from irrelevant or low-quality sources = not a good sign of authority and could even get you flagged for spam

Example: Jenny paid to have people who have never visited her coffee shop tell others how good it is.

- No referrals = unclear authority

Example: Jenny's Coffee might be good, but you've been unable to find anyone who has an opinion so you can't be sure.

This is why PageRank was created. PageRank (part of Google's core algorithm) is a link analysis algorithm named after one of Google's founders, Larry Page. PageRank estimates the importance of a web page by measuring the quality and quantity of links pointing to it. The assumption is that the more relevant, important, and trustworthy a web page is, the more links it will have earned. The more natural backlinks you have from high-authority (trusted) websites, the better your odds are to rank higher within search results.

The role content plays in SEO

There would be no point to links if they didn't direct searchers to something. That something is content! Content is more than just words; it's anything meant to be consumed by searchers there's video content, image content, and of course, text. If search engines are answer machines, content is the means by which the engines deliver those answers.

Any time someone performs a search, there are thousands of possible results, so how do search engines decide which pages the searcher is going to find valuable? A big part of determining where your page will rank for a given query is how well the content on your page matches the query's intent. In other words, does this page match the words that were searched and help fulfill the task the searcher was trying to accomplish?

Because of this focus on user satisfaction and task accomplishment, there's no strict benchmarks on how long your content should be, how many times it should contain a keyword, or what you put in your header tags. All those can play a role in how well a page performs in search, but the focus should be on the users who will be reading the content.

Today, with hundreds or even thousands of ranking signals, the top three have stayed fairly consistent: links to your website (which serve as a third-party credibility signals), on-page content (quality content that fulfills a searcher's intent), and Rank Brain.

What is RankBrain?

RankBrain is the machine learning component of Google's core algorithm. Machine learning is a computer program that continues to improve its predictions over time through new

observations and training data. In other words, it's always learning, and because it's always learning, search results should be constantly improving.

For example, if RankBrain notices a lower ranking URL providing a better result to users than the higher-ranking URLs, you can bet that RankBrain will adjust those results, moving the more relevant result higher and demoting the lesser relevant pages as a by-product.

7.7 **SEO– TACTICS AND METHODS**

SEO techniques are classified into two broad categories:

- **White Hat SEO** - Techniques that search engines recommend as part of a good design.
- **Black Hat SEO** - Techniques that search engines do not approve and attempt to minimize the effect of. These techniques are also known as spamdexing.

White Hat SEO

An SEO tactic is considered as White Hat if it has the following features:

- It conforms to the search engine's guidelines.
- It does not involve in any deception.
- It ensures that the content a search engine indexes, and subsequently ranks, is the same content a user will see.
- It ensures that a web page content should have been created for the users and not just for the search engines.
- It ensures good quality of the web pages.
- It ensures availability of useful content on the web pages.

Always follow a White Hat SEO tactic and do not try to fool your site visitors. Be honest and you will definitely get something more.

Black Hat or Spamdexing

An SEO tactic, is considered as Black Hat or Spamdexing if it has the following features:

- Attempting ranking improvements that are disapproved by the search engines and/or involve deception.
- Redirecting users from a page that is built for search engines to one that is more human friendly.
- Redirecting users to a page that was different from the page the search engine ranked.
- Serving one version of a page to search engine spiders/bots and another version to human visitors. This is called Cloaking SEO tactic.
- Using hidden or invisible text or with the page background color, using a tiny font size or hiding them within the HTML code such as "no frame" sections.

- Repeating keywords in the metatags, and using keywords that are unrelated to the website content. This is called metatag stuffing.
- Calculated placement of keywords within a page to raise the keyword count, variety, and density of the page. This is called keyword stuffing.
- Creating low-quality web pages that contain very little content but are instead stuffed with very similar keywords and phrases. These pages are called Doorway or Gateway Pages.
- Mirror websites by hosting multiple websites - all with conceptually similar content but using different URLs.
- Creating a rogue copy of a popular website which shows contents similar to the original to a web crawler, but redirects web surfers to unrelated or malicious websites. This is called page hijacking.

Always stay away from any of the above Black Hat tactics to improve the rank of your site. Search engines are smart enough to identify all the above properties of your site and ultimately you are not going to get anything. The website design and layout gives the first impression about your site. There are sites which are too fancy and regular net surfers just reach those sites and come out even without creating a single click.

7.8 DESIGN AND LAYOUT

Search engines are very smart but after all, they are software and not human being, who can read the content of their interest. If you make your site too complicated, then the search engine would not be able to parse the content of your site properly, and finally indexing would not be efficient, which results in a low rank. The actual page content should have a keyword density of about 10% and should weigh in at about 200 words - but there are as many opinions about this as there are SEO experts. Some say, keyword density should be 5% and some say it should be 20%. You can go with 10% which is good enough. Here are a few guidelines that you should keep in mind while designing a web page.

- You should have more text content than HTML elements.
- No frames. They are the enemies of search engines, and search engines are enemies of frames.
- No ads if possible. Because most of the ads use Java-Script which is not advised to be used.
- No JavaScript. If you need JavaScript, call it from an external file rather than dumping the code in the HTML file. JavaScript drop-down menus prevent spiders from crawling beyond your homepage. If you use them, be sure to include text links at the bottom of the page.
- Do not put anything in the page topic that does not fit perfectly.
- No unnecessary directories. Keep your files as close to the root as possible.

7.9 CHALLENGES OF SEARCH ENGINE OPTIMIZATION

- **Need genuine online reviews:** Even though there's a clear-cut difference between local SEO and online reputation management, the latter has a big impact on your local search rankings.
- **Optimize Google my business page:** Setting up your Google My Business page is rather easy but optimizing it? It needs careful work. Moreover, these details like your business address, phone number, and email address must be similar to what's being displayed on your website. For local businesses, it's crucial to have your website display all these contact details clearly.
- **Need a website re-design:** Over 50% small businesses don't even have a website, even when Google search is the new yellow pages and people use online search before purchasing anything. And then there are businesses which have unresponsive, slow and user repelling websites.
- **Need marketing analytics setup:** Many businesses argue that they never plan to use a certain marketing strategy, and hence, never get the analytics setup done for it. But a good business decision would be to set these analytics up so that you don't miss out on precious data. As a part of our local SEO services, we begin with setting up Google Analytics - with proper goal setting, and e-commerce settings (in case of an e-commerce business) and search console setup. We also recommend our clients to opt for Google ads setup, Facebook ads setup, email marketing setup and basic CRM setup to ensure they're growth ready.
- **Need to use localized keywords naturally:** Using keywords with local intent is the biggest challenge faced by organic marketers. Incorporating such keywords on a page's copy for local SEO is the trickiest.
- **You need to optimize local landing pages:** A few years back, SEOs would make multiple landing pages targeting each location. That meant lots of location specific pages, good keyword density and lots of interlinking. However, Google termed such pages as 'doorway pages' calling it spam.

7.11 POINTS TO REMEMBER

- **Keyword Research:** Research the best keywords for your site. Look at what your competitors are using for keywords, and try a few keyword tools. Remember to target your audience and consider all the word that they will type into the Google and Bing search engines.
- **Put your keywords in Bold:** This is an old trick, but is still effective. All you have to do is highlight one or two of your keywords when they first appear on the page. You do not have to keep highlighting the same keyword; you need only do it for its first appearance. You can also use italic.

- **Make your URLs search engine friendly:** Do not name your pages (URLs) with numbers and symbols. Add in some words to make them easier for a human to read. In addition, you should try to make some of those words as descriptive as possible, and adding in a few keywords will help too.
- **Install SSL Certificate:** Websites that are secure using https:// instead of http:// now appear higher in the search results. If you cannot install your own SSL certificate ask your host to do this for you. When it is installed, you have to make sure all your website pages are secure and not with mixed content. Also make sure that all your website version with http:// and with www. all forwarded to your new https:// URL.
- **Organize your website:** You need to make sure that your website and your menus are well organized so visitors can easily find what they are looking for. Add Call To Action and Forms to your pages to make it easy to contact you or shop.
- **Increase the quality:** Google and Bing/Yahoo are optimized to search out high quality content. Their methods for determining quality are fairly crude, but it will not help your case if your content is weak, fluffy, heavily SEOed and has multiple obvious spelling mistakes. Search engines measure how much time people spend on your website after using search. If you have a bad website people will leave it faster.
- **Add a keyword to each page title:** Your page title is a very important piece of text because it tells the reader what the page is about and it tells the search engine what the page is all about. So, you should try to add a keyword or two into the title. Just make sure the title is still easy to read for humans.
- **Be wary of your loading and render times:** The render time is the time it takes for a web page to go from white, to starting to load. A long render time will increase your bounce rate. The loading time is the time it takes from the beginning of the render, to the point where everything is loaded. A long loading time will damage your websites SEO.
- **Optimize your internal linking:** Every page should have at least three internal links on it. Three is the bare minimum, and this includes checkout pages too. Internal links are the ones that link one page to another. External links are the ones where you link your page to one outside of your website.
- **Integrate Social Media:** There are hundreds of widgets that you can add to your website. They will help you to link social media and your website. Do not put the widgets everywhere, but the addition of a few here and there will help your SEO in the long term.
- **Optimize your Images:** Make sure they do not take too long to load, and make sure they have their ALT text filled out. If you are able to give them a title, then you should. You should also name your image files something SEO friendly before you upload them onto your website.
- **Create a Sitemap:** Create an XML sitemap. If you have a WordPress website, you can create a nice XML sitemap with the Yoast SEO tool which will create a dynamic XML

sitemap for you. Then you have to add the URL of your sitemaps to your Google Search Console and Bing Webmaster Tools account.

- **Make Your Website Mobile Friendly:** This is very important because people now do more searches from mobile devices than from desktop or laptop computers. Make sure that your website can be used easily from a cell phone. Contact forms should be easy to fill and submit. All your phone numbers should be clickable.
- **Fill your Meta Description Tag:** This is what may appear on the search engine's results page, and is a nice opportunity to sell the content of your web page. Create this text that will make people to click on your website. You should make sure that it has keywords in it if you want to feel any positive SEO effect.

7.11 GLOSSARY

- **2xx status codes:** A class of status codes that indicate the request for a page has succeeded.
- **4xx status codes:** A class of status codes that indicate the request for a page resulted in error.
- **5xx status codes:** A class of status codes that indicate the server's inability to perform the request.
- **Advanced search operators:** Special characters and commands you can type into the search bar to further specify your query.
- **Algorithms:** A process or formula by which stored information is retrieved and ordered in meaningful ways.
- **Backlinks:** Or "inbound links" are links from other websites that point to your website.
- **Bots:** Also known as "crawlers" or "spiders," these are what scour the Internet to find content.
- **Caching:** A saved version of your web page.
- **Caffeine:** Google's web indexing system. Caffeine is the index, or collection of web content, whereas Googlebot is the crawler that goes out and finds the content.
- **Citations:** Also known as a "business listing," a citation is a web-based reference to a local business' name, address, and phone number (NAP).
- **Cloaking:** Showing different content to search engines than you show to human visitors.
- **Crawl budget:** The average number of pages a search engine bot will crawl on your site.
- **Crawler directives:** Instructions to the crawler regarding what you want it to crawl and index on your site.
- **Distance:** In the context of the local pack, distance refers to proximity, or the location of the searcher and/or the location specified in the query.
- **Engagement:** Data that represents how searchers interact with your site from search results.

- **Google Quality Guidelines:** Published guidelines from Google detailing tactics that are forbidden because they are malicious and/or intended to manipulate search results.
- **Google Search Console:** A free program provided by Google that allows site owners to monitor how their site is doing in search.
- **HTML:** Hypertext markup language is the language used to create web pages.
- **Index Coverage report:** A report in Google Search Console that shows you the indexation status of your site's pages.
- **Index:** A huge database of all the content search engine crawlers have discovered and deem good enough to serve up to searchers.
- **Internal links:** Links on your own site that point to your other pages on the same site.
- **JavaScript:** A programming language that adds dynamic elements to static web pages.
- **Login forms:** Refers to pages that require login authentication before a visitor can access the content.
- **Manual penalty:** Refers to a Google "Manual Action" where a human reviewer has determined certain pages on your site violate Google's quality guidelines.
- **Meta robots tag:** Pieces of code that provide crawlers instructions for how to crawl or index web page content.
- **Navigation:** A list of links that help visitors navigate to other pages on your site. Often, these appear in a list at the top of your website ("top navigation"), on the side column of your website ("side navigation"), or at the bottom of your website ("footer navigation").
- **NoIndex tag:** A meta tag that instructions a search engine not to index the page it's on.
- **PageRank:** A component of Google's core algorithm. It is a link analysis program that estimates the importance of a web page by measuring the quality and quantity of links pointing to it.
- **Personalization:** Refers to the way a search engine will modify a person's results on factors unique to them, such as their location and search history.
- **Prominence:** In the context of the local pack, prominence refers to businesses that are well-known and well-liked in the real world.
- **RankBrain:** the machine learning component of Google's core algorithm that adjusts ranking by promoting the most relevant, helpful results.
- **Relevance:** In the context of the local pack, relevance is how well a local business matches what the searcher is looking for
- **Robots.txt:** Files that suggest which parts of your site search engines should and shouldn't crawl.
- **Search forms:** Refers to search functions or search bars on a website that help users find pages on that website.
- **Search Quality Rater Guidelines:** Guidelines for human raters that work for Google to determine the quality of real web pages.

- **Sitemap:** A list of URLs on your site that crawlers can use to discover and index your content.
- **Spammy tactics:** Like “black hat,” spammy tactics are those that violate search engine quality guidelines.
- **URL folders:** Sections of a website occurring after the TLD (“.com”), separated by slashes (“/”). For example, in “moz.com/blog” we could say “/blog” is a folder.
- **URL parameters:** Information following a question mark that is appended to a URL to change the page’s content (active parameter) or track information (passive parameter).

7.12 CHECK YOUR PROGRESS

Descriptive type questions-

- a) What are the major objectives of search engine optimization?
- b) Explain the search engine index.
- c) What do you mean by web crawling?
- d) What do you mean by indexing in SEO?
- e) What is the role of links in search engine optimization?
- f) Differentiate between white hat and black hat SEO.
- g) What are the major challenges of search engine optimization?
- h) List the crucial SEO ranking factors one need to know.

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UNIT- 8

KEYWORD RESEARCH TOOLS

8.1	INTRODUCTION
8.2	OBJECTIVES
8.3	HOW TO FIND KEYWORD IDEAS?
8.4	HOW TO ANALYZE KEYWORDS
8.5	HOW TO TARGET KEYWORDS
8.6	HOW TO PRIORITIZE KEYWORDS
8.7	ONLINE REPUTATION- TACTICS & METHODS
8.8	BUILDING ONLINE REPUTATION
8.9	BENEFITS OF ONLINE REPUTATION MANAGEMENT
8.10	POINTS TO REMEMBER
8.11	GLOSSARY
8.12	CHECK YOUR PROGRESS
8.13	BIBLIOGRAPHY/ REFERENCES
8.14	SUGGESTED READINGS

8.1 INTRODUCTION

Keyword research is a kind of practice by search engine optimization (SEO) professionals to find and research the “search terms”; those users enter into search engines when looking for products, services or general information on the web. Search engine optimization professionals’ first research keywords (search terms), and then align web pages with these keywords to achieve better rankings in search engines. Once they find a niche keyword, they expand on it to find similar keywords. Keyword suggestion tools usually aid the process, like the Google Ads Keyword Planner, which offers a thesaurus and alternative keyword suggestions. Google's first party data also aids this research through the likes of Google auto-complete or People Also Ask.

Keywords are the foundation of SEO. If nobody is searching for what you're writing about, you won't get traffic from Google, no matter how hard you try. Keyword research is the process of discovering words and phrases that people use in search engines, like Google, Bing and YouTube. Keyword research provides you with specific search data that can help you answer questions like:

- What are people searching for?
- How many people are searching for it?
- In what format do they want that information?

The objective of keyword research is to generate, with good precision and recall, a large number of terms that are highly relevant yet non-obvious to the given input keyword. The process of keyword research involves brainstorming and the use of keyword research tools. To achieve the best SEO results, it is important to optimize a website's content as well as backlinks for the most relevant keywords. It is good practice to search for related keywords that have low competition and still a high number of searches. This makes it easier to achieve a higher rank in search engines which usually results in higher web traffic. The downside of this practice is that the website is optimized for alternative keywords instead of the main keyword; main keywords might be very difficult to rank for due to high competition. There are three essential concepts to consider when conducting keyword research. Good keywords are closely related to the subject of the website. Most search engines use an internal quality system to check website relevance related to possible keywords, a non-relevant keyword is unlikely to rank well for a website. Good keywords that are highly competitive are less likely to rank in the top. Keywords that have no monthly searches are believed to generate little to no traffic and therefore of little value for SEO. Keyword stuffing in a web page should be avoided. Keyword research also helps you to answer questions like:

- How hard will it be to rank for this keyword?
- How much traffic am I likely to get if I rank for this keyword?
- What kind of content should I create to rank for this keyword?
- Are people searching for this keyword likely to become my customers?
- Finding the right answers to these questions will help you pick your battles wisely.

Besides the above raised questions, we will also elaborate the following terms-

- **Increasing the Significant Traffic:** The optimization of the website can be done properly by creating the keyword targeted content. Good quality content on the website provides ultimate results in very less time. It drives direct traffic from the search engines to your website.
- **Generating E-commerce Sales:** Another objective of SEO is that helps you generate relevant traffic to your e-commerce website which often leads to the generation of sales.

Once you have successfully implemented the SEO strategies on your e-commerce website then you can expect extremely high conversion rates.

- **Branding:** The branding is another powerful tool for the application of SEO. The branding is closely related to creating brand awareness and recognition. You must have noticed that the websites which remain at the top of the search engine ranks get more traffic and popularity. These websites use this exposure to bolster the brand recognition and authority of their brand.
- **Reputation Management:** The businesses who are willing to populate the search results with relevant and positive links. The use of SEO enables this process with the help of content creation and its promotion through link building. Reputation management is considered as one of the most challenging tasks of search engine optimization. This practice involves the optimization of pages on different domains. It uses various social media profiles, public relations, press releases, etc for this task.
- **Lead Generation:** Millions of search queries are made every day on the search engines and most of them have commercial intents. You just have to follow the right SEO strategies for maximizing the lead generation on your website. The more often people would visit your website, the more likely they would trust you. This can only be achieved by improving the ranking of your website through SEO.

8.2 OBJECTIVES

After the successful completion of this unit, you will be able to-

- Explore Search Keywords Ideas.
- Prioritize and analyze Search Keywords.
- Define Online Reputation management and benefits.

8.3 HOW TO FIND KEYWORD IDEAS?

Keyword research starts with thinking about how potential customers might be searching for your business or website. You can then use keyword research tools to expand on those ideas and find even more keywords. It's a simple process, but two things need to be true to do it well: (i) You need to have good knowledge of your industry; (ii) You need to understand how keyword research tools work and how to get the most out of them.

In this unit, we'll run through a few actionable ways to improve your knowledge in both those areas and discover potentially winning keywords for your website in the process.

- Brainstorm 'seed' keywords
- See what keywords your competitors rank for
- Use keyword research tools
- Study your niche

Brainstorm ‘seed’ keywords:

Seed keywords are the foundation of the keyword research process. They define your niche and help you identify your competitors. Every keyword research tool asks for a seed keyword, which it then uses to generate a huge list of keyword ideas (more on that shortly). If you already have a product or business that you want to promote online, coming up with seed keywords is easy. Just think about what people type into Google to find what you offer. For example, if you sell coffee machines and equipment, then seed keywords might be:

- coffee
- espresso
- cappuccino
- french press

Note that seed keywords themselves won’t necessarily be worth targeting with pages on your website. As the name suggests, you’ll use them as ‘seeds’ for the next steps in this process. So don’t obsess too much over your seed keywords. It should only take a few minutes to find them. As soon as you have a handful of broad ideas related to your website’s topic, move on to the next step.

See what keywords your competitors rank for:

Looking at which keywords already send traffic to your competitors is usually the best way to start keyword research. But first, you need to identify those competitors. That’s where your brainstormed list of keywords comes in handy. Just search Google for one of your seed keywords and see who ranks on the front page.

cappuccino

en.wikipedia.org › wiki › Cappuccino ▼

Cappuccino - Wikipedia



A **cappuccino** is an espresso-based coffee drink that originated in Italy, an traditionally prepared with steamed milk foam (microfoam). Variations of the
[Definition](#) · [Etymology](#) · [History and evolution](#) · [Preparation](#)

www.bbcgoodfood.com › Recipes ▼

Cappuccino recipe - BBC Good Food



Method · STEP 1 Make around 35ml espresso using a coffee machine and

Use keyword research tools:

Competitors can be a great source of keyword ideas. But there are still tons of keywords your competitors aren't targeting, and you can find these using keyword research tools. Keyword research tools all work the same way. You plug in a seed keyword, and they pull keyword ideas from their database based on that keyword. Google Keyword Planner is perhaps the most well-known keyword tool. It's free to use, and although it's mainly for advertisers, you can also use it to find keywords for SEO. Let's enter a few of seed keywords and see what it kicks back:

🔍

Broaden your search:
 + caffeine
+ beverages
+ hot beverage

▼
Exclude adult ideas
ADD FILTER
Showing 5,198 of 5,205

<input type="checkbox"/>	Keyword (by relevance) ↓	Avg. monthly searches
Keyword ideas		
<input type="checkbox"/>	coffee near me	100K – 1M
<input type="checkbox"/>	best coffee near me	10K – 100K
<input type="checkbox"/>	cafe near me	100K – 1M
<input type="checkbox"/>	coffee shops near me	100K – 1M
<input type="checkbox"/>	barista	10K – 100K
<input type="checkbox"/>	latte	10K – 100K
<input type="checkbox"/>	bulletproof coffee	100K – 1M
<input type="checkbox"/>	macchiato	10K – 100K
<input type="checkbox"/>	irish coffee	10K – 100K
<input type="checkbox"/>	americano	10K – 100K
<input type="checkbox"/>	flat white	10K – 100K

- barista
- macchiato
- irish coffee
- americano
- flat white
- cold brew
- percolator
- turkish coffee
- arabica
- k cups
- frappuccino

You'll notice that Google Keyword Planner is smart enough to show you relevant keyword ideas, even if they don't contain your seed keywords. Take "k cups," for example. Unless you're a hardcore coffee connoisseur, you probably wouldn't know this relates to coffee.

Study your niche:

Everything we've discussed so far is enough to generate an almost unlimited amount of keyword ideas. But at the same time, the process kind of keeps you "in the box." It's limited by your seed keywords and by the size and freshness of your chosen keyword tool's database. Because of this, you'll almost certainly miss some good ideas. You can solve this by studying your niche in more detail. And a good starting point is to browse industry forums, groups, and Q&A sites. This will help you find more things that your prospective customers are struggling with that didn't show up in keyword tools and that none of your competitors bothered to cover.

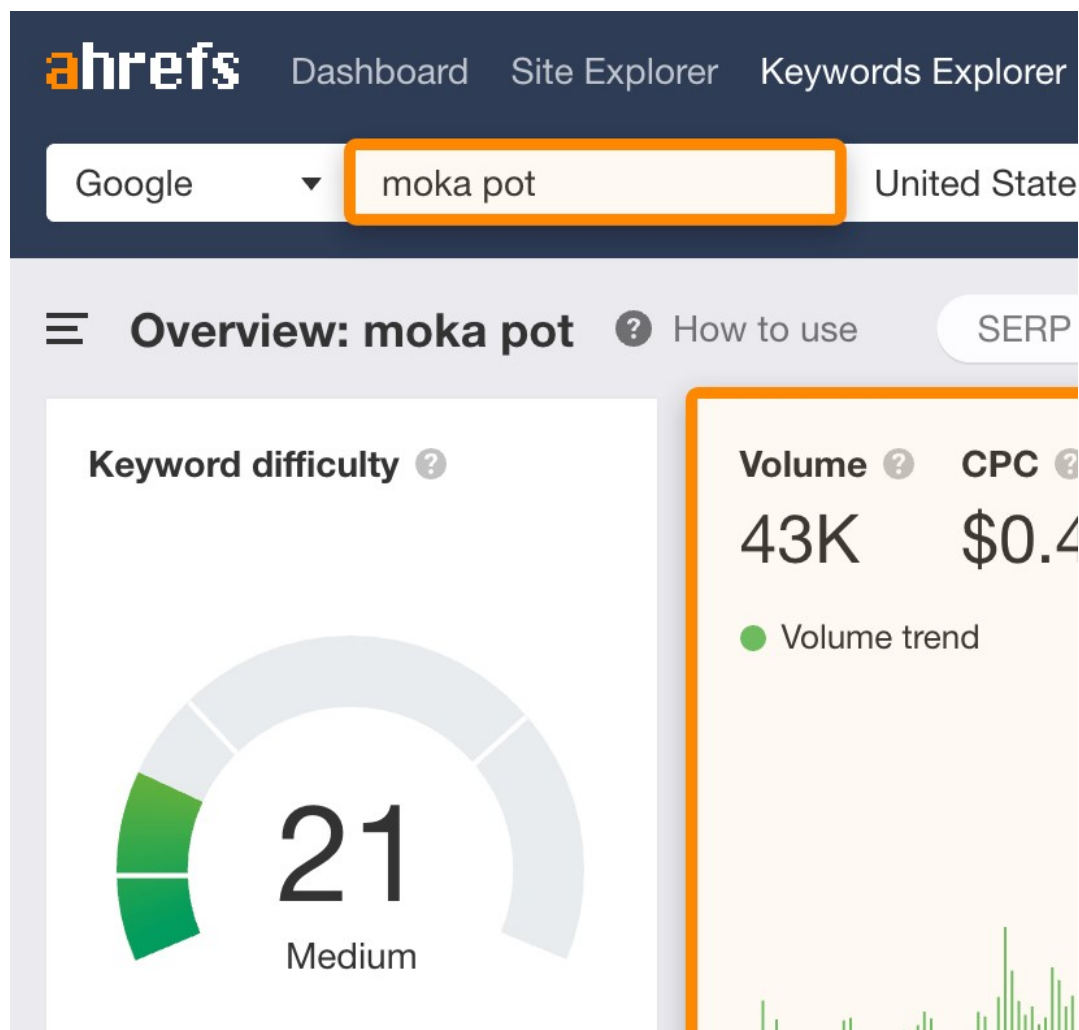
8.4 HOW TO ANALYZE KEYWORDS

Having tons of keyword ideas is all well and good. But how do you know which ones are best? After all, going through them all by hand would be a near-impossible task. The solution is simple: Use SEO metrics to narrow things down and separate the wheat from the chaff before adding them to your content calendar. Let's explore five keyword metrics you can use to do this.

- Search volume
- Clicks
- Traffic potential
- Keyword Difficulty
- Cost Per Click (CPC)

[1] Search volume-

Search volume tells you the average number of times a keyword gets searched per month. For example, "moka pot" has a monthly search volume of 40,000 in the US alone.



There are three important things to note about this number:

1. **It's the number of searches, not the number of people who searched.** There are cases where someone might search for a keyword multiple times a month (e.g., “weather in singapore”). These searches contribute to the search volume, even though it's the same person doing them.
2. **It doesn't tell you how much traffic you'll get by ranking.** Even if you manage to rank number one, your traffic from a keyword will rarely exceed 30% of this number. And that's if you're lucky.
3. **It's an annual average.** If there are 120k searches for a keyword in December and none for the remaining eleven months of the year, it's monthly search volume will be 10k (120k / 12 months).

In Keywords Explorer, you'll see a search volume filter in every keyword ideas report.

The screenshot shows the 'Phrase match' filter selected. Below it, there are four dropdown menus: 'KD', 'Volume', 'Global volume', and 'Word co'. The 'Volume' dropdown is open, showing a search bar with '1000' and a 'Max' option. Below the search bar is an 'Apply' button. The background shows a table with columns for 'Keyword', 'Volume', and 'Global volume'. The first row shows the keyword 'coffee' with a volume of 93 and a global volume of 412K.

This filter is useful for two main things:

Filtering out super high-volume keywords. If your site is new, then you probably don't want to sift through pages of keywords with 100k+ monthly searches because they're likely to be competitive.

Filtering specifically for lower-volume keywords. Perhaps you want to find uncompetitive, low-volume keywords where you can easily suck up additional traffic with short articles. These are known as long-tail keywords.

If you need to see search volumes for a country other than the US, there are 171 countries in Keywords Explorer to choose from. You can also see global search volumes (the sum of search volumes from all countries). Both of these options are useful if you do business internationally for two reasons:

You shouldn't limit yourself to one country. If you sell products worldwide, then the US might only be a small segment of your market. If people are searching for what you offer elsewhere, you need to know about it.

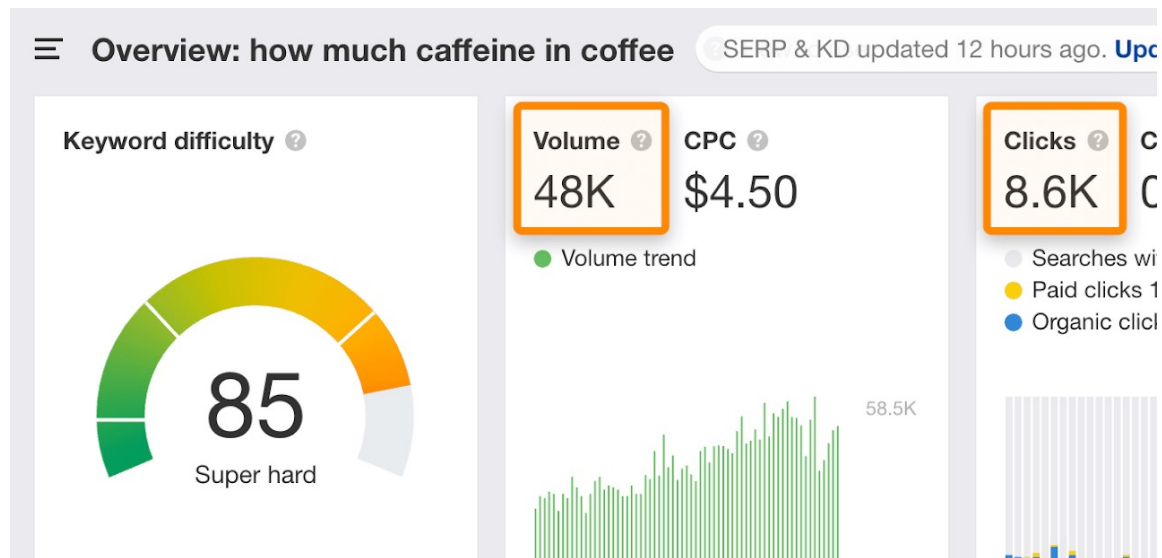
You should consider the "buying power" of countries with search volume. Perhaps you see a promising keyword with 100k monthly searches, but 90% of them come from a country with low GDP. In this case, the keyword might not be a great target as the "buying power" of searchers is probably quite low.

For example, take a look at the keyword, "backlink generator." It has a global search volume of 13,000, but over 70% of those searches come from countries with a low GDP per capita like India, Indonesia, Bangladesh, and Pakistan. So even though you could probably get a lot of

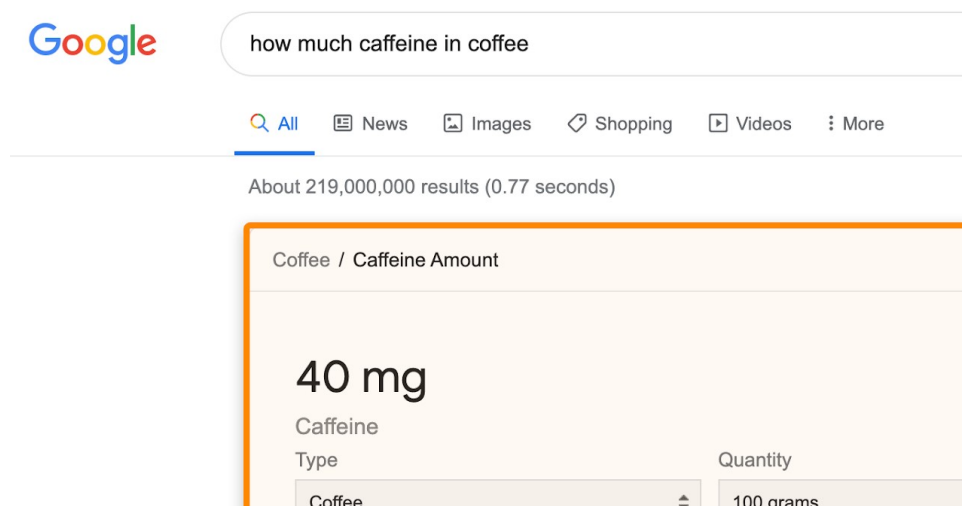
traffic by ranking for this keyword, the ‘business value’ of that traffic would probably be quite low compared to a keyword that gets 70%+ of its searches from the US.

[2] Clicks-

Many people might search Google for something, but that doesn’t mean they all click on search results and visit the top-ranking pages. That’s where the Clicks metric in Keywords Explorer comes in handy. It tells you the average number of monthly clicks on the search results for a keyword. Just take a look at a query like “how much caffeine in coffee.”



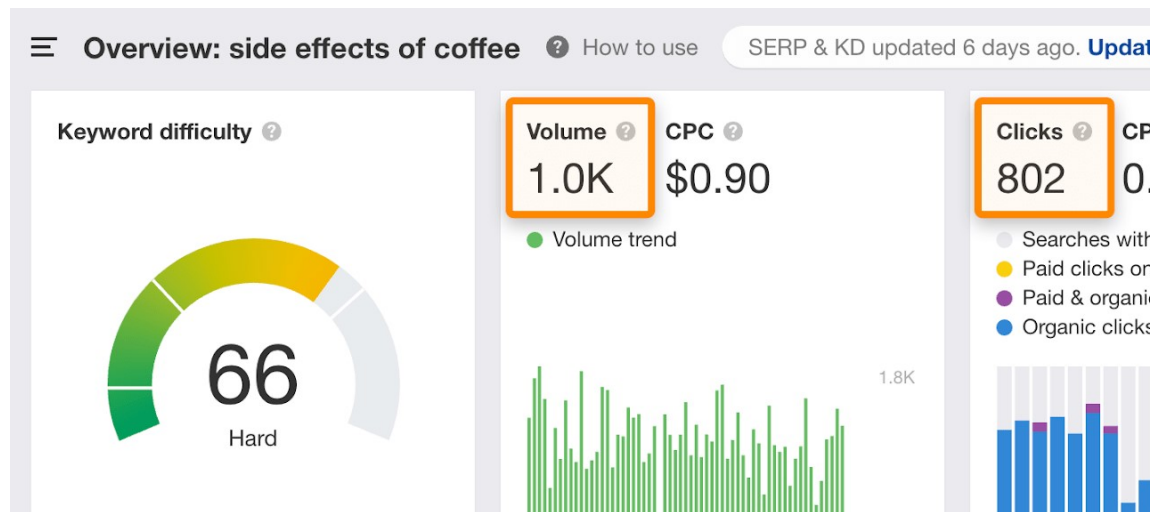
Despite having a monthly search volume of 48,000, it only gets 8,600 clicks. That happens because Google answers the question right in the search results. There’s no need for people to click to find the information they’re looking for.



Google is providing answers in the search results for more and more queries. That’s why the Clicks filter in Keywords Explorer is so invaluable. You can use it to weed out keyword ideas with miserable search traffic potential.

[3] Traffic Potential

Let's say that you're considering a keyword like "side effects of coffee." According to Keywords Explorer, this gets an estimated 1,000 searches and ~800 clicks per month.



However, keep in mind that if you rank for this keyword, your page will probably also rank for all kinds of related keywords and synonyms, like:

- what happens if you drink too much coffee — 450 monthly searches
- effects of drinking too much coffee — 200 monthly searches
- too much coffee side effects — 200 monthly searches
- side effects of drinking too much coffee — 100 monthly searches

Since all these search queries mean roughly the same thing, estimating your potential search traffic from just a single search query is a mistake. It's better to look at how much traffic the current top-ranking pages currently get, which is super easy to do in Keywords Explorer.

[4] Keyword Difficulty

SEO professionals typically gauge the ranking difficulty of a keyword manually. That is, by looking at the top-ranking pages for their target keyword. They account for many different factors to judge how hard or easy it'll be to rank:

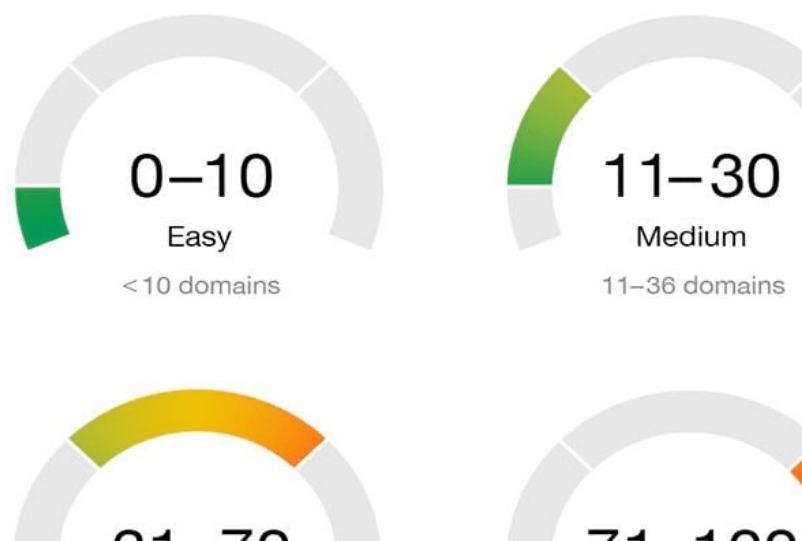
- Number (and quality) of backlinks;
- Domain Rating (DR);
- Content length, relevance, freshness;
- Use of the target keyword, synonyms, entities;
- Search intent;
- Branding;

This process varies from person to person, as there's no consensus on precisely what is and isn't important here. One person might believe that DR is important, and another might think that relevance plays more of a role. This lack of consensus makes life a little difficult for keyword research tool creators, as they each try to distill the ranking difficulty of keywords down to a single actionable score.

After talking to many professional SEOs about the signals that a reliable Keyword Difficulty score should factor in, we realized that everyone agreed on at least one thing: backlinks are crucial for ranking. So, in the end, we decided to base our Keyword Difficulty (KD) score on the number of unique websites linking to the top 10 ranking pages.

Ahrefs' Keyword Difficulty Score

How many referring domains you'll need to rank in Top10 for a keyword



As you can see in the image above, each KD score relates to an approximate number of websites that should link to your page for it to get to the top 10 search results. Knowing how KD works, many people misuse the score by setting the filter from 0 to 30 and focusing solely on the “low-hanging” opportunities. They never bother to cover high-KD keywords on their websites, and that's a big mistake for two reasons:

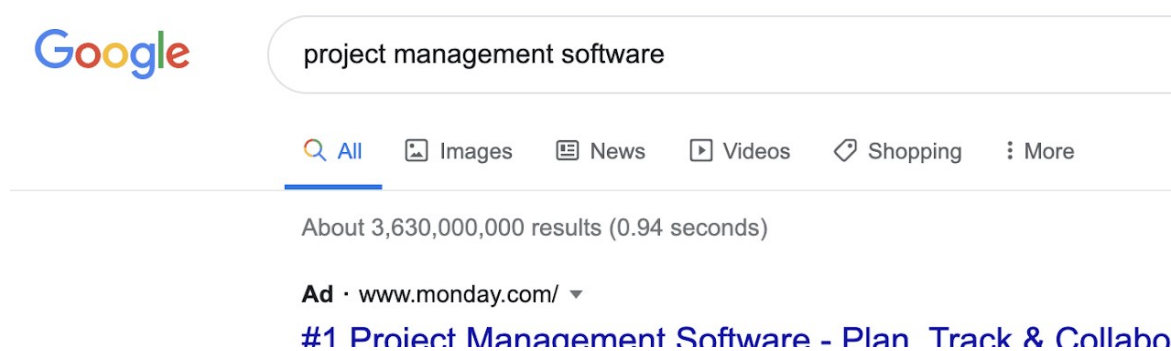
1. You should go after high-KD keywords sooner, not later. As you'll need lots of backlinks to rank, it pays to create your page and begin promoting it as soon as possible. The longer you delay, the bigger head start you give your competitors making it harder to outrank them in the future.

2. You should see high-KD keywords as link opportunities. The fact that the top-ranking pages have lots of backlinks is a sign of a ‘link-worthy’ topic. In other words, if you nail this topic, it might attract a lot of backlinks for you.

The bottom line is this: KD is not there to deter you from targeting specific keywords. It’s there to help you understand what it’ll take to rank for a given query and the ‘link-worthiness’ of the topic. Just know that you should always manually assess keywords before going after them and not rely solely on any tools’ keyword difficulty score to make your final decision. No keyword difficulty score can distill the complexity of Google’s ranking algorithm into a single number. Be wary of tool creators that suggest otherwise.

[5] Cost Per Click (CPC)

Cost Per Click (CPC) shows how much advertisers are willing to pay for each ad click from a keyword. It’s more a metric for advertisers than SEOs, but it can serve as a useful proxy for a keyword’s value.



For example, the keyword “office coffee” has a relatively high CPC of \$12. That’s because most searchers are looking to buy coffee machines for their office, which can cost hundreds or thousands of dollars. But it’s the opposite story for “how to make good espresso.” That’s because most searchers aren’t looking to buy anything. They’re looking for information on how to brew espresso.

However, one important thing to know about CPC is that it’s much more volatile than Search volume. While search demand for most keywords stays roughly the same from month to month, its CPC can change any minute. That means that the CPC values you see in third-party keyword tools are snapshots in time. If you want real-time data, you’ll have to use AdWords.

8.5 HOW TO TARGET KEYWORDS

For every keyword on your list, you need to create the right kind of page and content to address it. Understanding how to do this is a crucial step in the keyword research process. Luckily, you can do it in two simple steps.

Identify the Parent Topic

Identify search intent

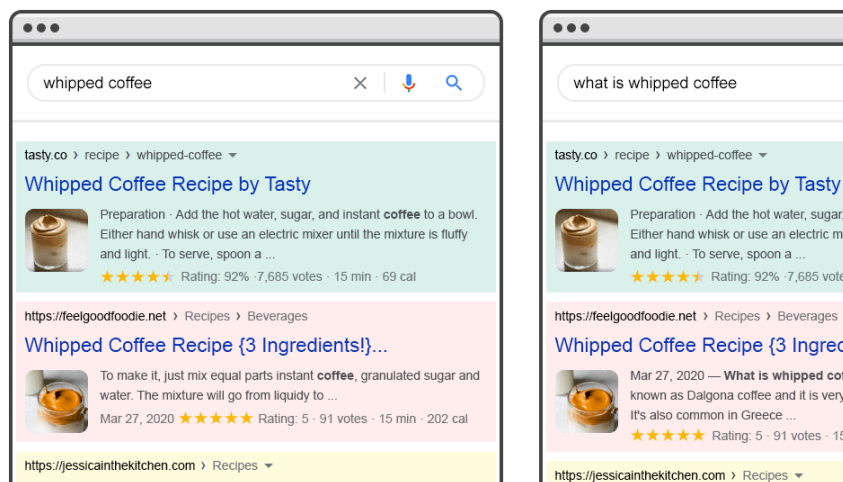
Identify the Parent Topic-

Let's say that you've got these keywords on your list:

- how to make whipped coffee
- what is whipped coffee
- whipped coffee recipe
- how to make whipped coffee without instant
- whipped coffee without sugar

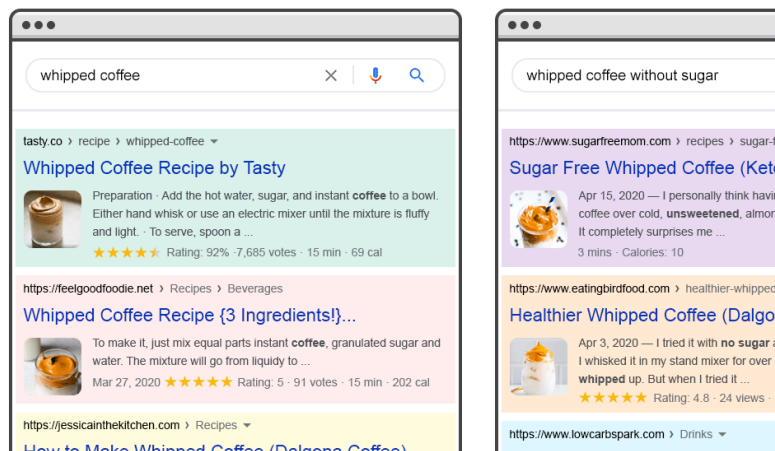
You might be wondering, should you build a different page for each keyword or target all of them on a single page? The answer largely depends on how Google sees these keywords. Does it see them as part of the same topic (i.e., how to make whipped coffee)? Or does it see them all as individual topics? For example, we see some of the same pages ranking for “how to make whipped coffee” and “what is whipped coffee.”

Google Ranks the Same Pages Both of These Keywords



That seems to indicate that Google views both of these keywords as part of the same topic. We also see that most of the results for both searches are posts about making a whipped coffee. That tells us that “what is whipped coffee” is a subtopic of the broader topic of how to make a whipped coffee. For that reason, it would probably make more sense to target both of these keywords on a single page than to create two separate pages. However, if we look at the results for “whipped coffee without sugar,” we see the opposite:

Google Ranks Entirely Different for These Two Keywords



Almost all of the results are specifically about making a sugar-free, healthy whipped coffee, not just any old whipped coffee. That tells us that “whipped coffee without sugar” isn’t part of a broader topic of making a whipped coffee (even though a whipped coffee without sugar is, in fact, still a whipped coffee). So we’d probably need to write a separate guide to rank for this keyword.

The problem with this approach is that it’s very manual and slow, so if you have many keywords to analyze, it can take quite some time. In Keywords Explorer, our solution to this problem is to show a “Parent Topic” for each keyword. It tells you whether we think you can rank for your target keyword while targeting a broader topic instead. To identify the “Parent Topic,” we take the top-ranking page for each keyword and find the keyword that sends the most traffic to the page.

Identify search intent

Let’s say that you have these keywords on your list:

- coffee grinder
- latte vs cappuccino
- single cup coffee maker
- arabica coffee
- how to brew cold brew coffee
- manual burr coffee grinder

If you run an online store with a blog, you need to understand which to target with blog posts vs. product pages. For some keywords, this is obvious. You wouldn’t create a product page for “how to brew cold brew coffee” because that doesn’t make sense. Searchers want to know how to make cold brew coffee, not buy brewing equipment.

But what about a keyword like “manual burr coffee grinder?” Should you target this with a blog post about the best burr coffee grinders or an ecommerce category page showing all the burr coffee grinders you sell? From here, you can analyze what we like to call the three C’s of search intent to learn how best to target the keyword:

- Content type
- Content format
- Content angle

Content type: Content types usually fall into one of five buckets: blog posts, product, category, landing pages, or videos.

Content format: Content format applies mostly to ‘informational’ content. Typical examples are how-tos, listicles, news articles, opinion pieces, and reviews.

Content angle: Content angle is the main selling point of the content. For example, people searching for “how to make latte” seem to want to know how to do it without a machine or any special equipment.

8.6 HOW TO PRIORITIZE KEYWORDS

Keyword prioritization isn’t exactly the final step in the keyword research process. It’s more something that you should do as you go through the steps above. As you’re looking for keywords, analyzing their metrics, and grouping them, ask yourself:

- What is the estimated traffic potential of this keyword?
- How tough is the competition? What would it take to rank for it?
- Do you already have content about this topic? If not, what will it take to create and promote a competitive page?
- Do you already rank for this keyword? Could you boost traffic by improving your rank by a few positions?
- Is the traffic likely to convert into leads and sales, or will it only bring brand awareness?

That last point is a particularly important one. While search volume, traffic potential, difficulty, and search intent are all important considerations, you also need to consider what traffic from that keyword will be worth to your business. How to gauge the “business potential” of your keyword ideas

Many content marketers and SEOs judge the ‘value’ of keywords by mapping them to the buyer’s journey. That’s the process people go through before making a purchase. Conventional wisdom says that the earlier people are in their journey, the less likely they are to buy. How do people do this? The most popular method is to group keyword ideas into three buckets: TOFU, MOFU, and BOFU. Here are some examples of TOFU, MOFU, and BOFU keywords for Ahrefs:

- Top of the Funnel (TOFU): online marketing, what is SEO, how to grow website traffic.

- Middle of the Funnel (MOFU): how to do keyword research, how to build links, how to do website audit.
- Bottom of the Funnel (BOFU): ahrefs vs moz, ahrefs reviews, ahrefs discount.

Generally speaking, TOFU keywords have the highest traffic potential, but visitors aren't looking to buy anything just yet. And MOFU and BOFU keywords will bring you less traffic, but those people are closer to becoming your customers. we think that this concept is limiting and perhaps even misleading.

Here are three reasons why:

First, it doesn't take into account that you can take someone from the top of the funnel who's searching for some general thing like "online marketing" and walk them through all stages of the buyer's journey on one page. That is what direct response copywriters are known for. They don't create their ads based on TOFU/MOFU/BOFU. They create one ad that takes the reader from barely understanding their problem to buying your solution.

Second, it's quite challenging to assign each keyword a definitive TOFU, MOFU, or BOFU label because things aren't always that clear cut. For example, "link building tool" could be a MOFU or BOFU keyword for us. It depends on how you look at it.

Third, some marketers broaden their definition of TOFU to such a degree that they end up covering unrelated topics.

The role links play in SEO

When we talk about links, we could mean two things. Backlinks or "inbound links" are links from other websites that point to your website, while internal links are links on your own site that point to your other pages (on the same site).

Links have historically played a big role in SEO. Very early on, search engines needed help figuring out which URLs were more trustworthy than others to help them determine how to rank search results. Calculating the number of links pointing to any given site helped them do this.

Backlinks work very similarly to real-life WoM (Word-of-Mouth) referrals. Let's take a hypothetical coffee shop, Jenny's Coffee, as an example:

- Referrals from others = good sign of authority; Example: Many different people have all told you that Jenny's Coffee is the best in town
- Referrals from yourself = biased, so not a good sign of authority; Example: Jenny claims that Jenny's Coffee is the best in town
- Referrals from irrelevant or low-quality sources = not a good sign of authority and could even get you flagged for spam; Example: Jenny paid to have people who have never visited her coffee shop tell others how good it is.
- No referrals = unclear authority; Example: Jenny's Coffee might be good, but you've been unable to find anyone who has an opinion so you can't be sure.

This is why PageRank was created. PageRank (part of Google's core algorithm) is a link analysis algorithm named after one of Google's founders, Larry Page. PageRank estimates the importance of a web page by measuring the quality and quantity of links pointing to it. The assumption is that the more relevant, important, and trustworthy a web page is, the more links it will have earned. The more natural backlinks you have from high-authority (trusted) websites, the better your odds are to rank higher within search results.

The role content plays in SEO

There would be no point to links if they didn't direct searchers to something. That something is content! Content is more than just words; it's anything meant to be consumed by searchers there's video content, image content, and of course, text. If search engines are answer machines, content is the means by which the engines deliver those answers.

Any time someone performs a search, there are thousands of possible results, so how do search engines decide which pages the searcher is going to find valuable? A big part of determining where your page will rank for a given query is how well the content on your page matches the query's intent. In other words, does this page match the words that were searched and help fulfill the task the searcher was trying to accomplish?

Because of this focus on user satisfaction and task accomplishment, there's no strict benchmarks on how long your content should be, how many times it should contain a keyword, or what you put in your header tags. All those can play a role in how well a page performs in search, but the focus should be on the users who will be reading the content.

Today, with hundreds or even thousands of ranking signals, the top three have stayed fairly consistent: links to your website (which serve as a third-party credibility signals), on-page content (quality content that fulfills a searcher's intent), and RankBrain.

What is RankBrain?

RankBrain is the machine learning component of Google's core algorithm. Machine learning is a computer program that continues to improve its predictions over time through new observations and training data. In other words, it's always learning, and because it's always learning, search results should be constantly improving. For example, if RankBrain notices a lower ranking URL providing a better result to users than the higher-ranking URLs, you can bet that RankBrain will adjust those results, moving the more relevant result higher and demoting the lesser relevant pages as a by-product.

8.7 ONLINE REPUTATION- TACTICS & METHODS

Online reputation determines how others perceive your business when they search for or stumble upon it online. Consequently, online reputation management (ORM) proactively influences what information people will find. For instance, various techniques and strategies can help you push damaging and harmful content further down the Google search engine results pages (SERPs) by ranking your own or third-party more desirable material above it. Why is this important? Because the top five listings in Google's search results receive about two-thirds

of all clicks. ORM is not only about managing content in search engines, though. It's also about managing negative business reviews and encouraging happy clients to contribute more positive feedback. The importance of your online personal and professional reputation can't be understated. Here are the four distinct digital marketing channels involved in ORM, channels also referred to as the PESO Model.

Paid Media: Paid media includes all marketing efforts that require payment to feature your business on external websites and networks. This includes PPC advertising with Google AdWords, display ads on Facebook, and sponsored posts on industry/influencer blogs. Paid media extends your reach and drives traffic to your web properties by building new relationships with partners and customers.

Earned Media: Earned media describes the coverage of your business on external web entities for which you didn't pay. It requires you to stand out from your competition with great content, products, or services that users consider worth sharing, mentioning, reposting, and reviewing.

Social Media: Pages and profiles on social media are "an extension of your brand and create additional avenues for people to interact." When it comes to social properties, it's important to dedicate the resources to stay active on them by engaging in conversations and publishing fresh content regularly. As a general rule: not having a profile on a certain network is better than having an inactive one.

Owned Properties: Your business websites and blogs are properties owned by you, which means you have full control over them. Of course, the more properties you own, the higher your chances to effectively build your digital presence. At the same time, you don't want to cause confusion by establishing properties that can't be distinguished from one another.

8.8 BUILDING OLINE REPUTATION

Here's how to use these digital marketing channels to start building and managing a healthy online reputation for your business.

Decide What You Want Your Online Reputation to Be

With ORM, the first step is to decide what you want your online reputation to be. Do you want to be perceived as an industry authority? To adopt the position as the market leader? Or be known for your responsiveness and excellent customer service?

Assess Your Current Online Reputation

You can begin by determining what your actual reputation is. Ask friends, family, clients, business partners, and stakeholders what comes to mind when they hear your business's name. What do people already think about you? Does your digital presence match your reputation in your offline network? Listed below are five tools that will help you research and evaluate your digital reputation.

The Brand Grader: The Brand Grader (from Mention) provides an understanding of your brand's online presence for free. It will identify the most influential blogs and news websites that have published content featuring your business in the last 30 days and also show recent mentions from social sources. The tool also gives you a score that helps you identify strengths and weaknesses of your business's reputation.

Go Fish Digital's Complaint Box: Go Fish Digital has designed a free tool that lets you browse more than 40 different complaint websites at once and provides you with a list of negative reviews. Although there's no guarantee of completeness, using the complaint box is a convenient way to get first impressions of any negative reviews or comments you've received online.

Mention: Mention is a platform that scans more than 1 billion sources from social media networks and forums to blogs and many other web properties. You can use it to track your brand, competitors, and customers by using different search criteria.

Google Alerts: With the help of Google Alerts, you can keep track of new content published about your business. In addition, you can monitor industry news and follow your competitors. This helps you identify new guest blogging and commenting opportunities.

To set up an alert, all you need to do is search for a certain keyword and decide how often you want to receive notifications about new content via email. You can also define content sources such as news websites, blogs, or videos, and choose a preferred language and geographic region.

Talkwalker Alerts: Talkwalker Alerts calls itself a "Google Alerts alternative." With the free help of Talkwalker, you can monitor everything online regarding your brand and track your competitors' activities, recent events, and so on.

Craft a Social Media Policy that Supports Your Reputation Goals

The next step for building an A+ online presence is to have an effective social media policy in place. Social media policy refers to how a company and its employees interact online. Here are a few key points to keep in mind when creating your policy:

- Don't allow staff members to freely post whatever comes to mind, particularly if the content is associated with your business. One reason for that is to protect your reputation. The other reason is liability. To keep things simple, you could tell your employees to label all of their posts as "personal" or create a pre-approval process for content, if necessary.
- Sensitive data should never be shared with the public, including financial, legal, and private client information.
- A captivating online reputation is all about professionalism. This also applies to publishing content on social media.

- Reserve the right to edit or delete potentially harmful content.

Design a Social Media Content Strategy to Promote Your Desired Reputation

A social media content strategy outlines the subjects and topics your business or brand wants to focus on, the use of keywords and media types (articles, video, podcasts), and who's responsible for content creation and implementation, which doesn't necessarily have to be the same person. Here are some key points for your social media content strategy.

- Identify Your Social Media Goals
- Decide Which Social Platforms Will Help You Reach Your Ideal Customer and Attain Your Goals
- Consider Your Competitors' Social Presence and Social Platform Demographics When Integrating Social Platforms
- Research Content Ideas
- Establish a Content Publication Schedule and Assign Tasks
- Respect Your Audience
- Monitor Results

Enhance Your Reputation with Blog Posts (Owned Media)

The key to success articles that rank high on Google, generating additional traffic with high engagement is to consistently publish content that provides value. Thorough keyword research and high-quality content increase your chances to push undesirable content further down on the SERPs. Here are a few tips and tools to help you publish quality content that supports your reputation.

- Use Relevant Keywords
- Strengthen Your Headlines
- Write for Readability, Not Search Engines
- Include Images
- Analyze User Metrics

Pursue and Manage Your Online Reputation

Now that you have the basics in place, it's time to execute. Engage on social media, publish appropriate content on your blog, and use the tools from Step #2 to continually check in on how your brand is perceived online.

8.9 BENEFITS OF ONLINE REPUTATION MANAGEMENT

Due to the invention of the internet, most businesses are investing in online presence. Some businesses are purely run online and entirely depend on online traffic for their existence. A crucial factor that most online businesses should consider to protect their business's future is

their online reputation. It enables businesses or brands to attract or retain clients. Here are common reasons why every online business should maintain online reputation management:

- **Reputation Builds Credibility:** Most people prefer buying from brands that they can trust. In most cases, a negative word spoken about your business may spread faster than a positive one. This is why a negative comment needs to be addressed on time before it can lead to more future problems. Therefore, brand owners need online reputation management software to track their company's mentions and feedback. An online reputation strategy can fix a reputation issue before it gets out of hand.
- **Builds a Brand Image:** An effective online reputation management strategy can build the perfect brand image after a piece of negative information has been shared about it. Monitoring responses made about your business or brand can contribute to a positive brand image.
- **Boosts Sales:** Most customers have to search online before deciding to buy a product or service. Before a potential client decides to purchase from a specific brand, they first read online reviews to see how people valued its product. A business or product with the most positive reviews attracts most prospective customers, while most people skip past products or services with many negative reviews. This is why every online business should make an effort to have a positive online review as possible. It also allows business owners to keep track of every negative or positive review.
- **Builds Trust:** Trust is a crucial factor that enables any business to thrive. Therefore, every business must implement a way of building trust with their clients. Since most online users depend on other people who have bought the same product, brands with a high online reputation get more trust from potential clients. A business owner should ensure the content posted is accurate and consistent. Inconsistent content and false information can affect user credibility.
- **Improves Search Engine Rankings:** If a positive review or news about a specific brand or product would go viral, it attracts a lot of attention. Having a positive recommendation online or having many people talking about your product naturally increases your business's web traffic.
- **Cost-effective Marketing Tactic:** A professionally done online reputation management attracts positive recommendations to other people who will likely search for your business online. This can be termed as a free marketing technique for your business. The more customers visiting your site, the higher the profit your business gains.
- **ORM Attracts Employees:** A business that has established professional staff is a foundation for a successful workforce. Most people tend to send applications to

companies with a good reputation. Qualified applicants do their research about the company before they can accept any job positions.

- **Increases Positive Returns:** Most investors, banks, and other organizations go online to research your business before doing business with your company. They will more likely rely on customer feedback about the company. This is why having a strong online reputation is of big help to your business.
- **Offers a chance for High Ranking:** The best platform for your product to be seen is through Google search. There are thousands of people looking for information on Google sites, but most online users don't go past the first Google search page. A business with positive reviews and customer satisfaction tends to appear on the first page of Google search results. This leads to increased customer traffic, which generates sales for your business.
- **Risk of low Reputation:** Reputation is significantly linked to Directly impacting sales and revenue. Companies with low customer feedback and negative comments tend to lose their reputation online. No company wants to risk having a low reputation online because of the potential damage it can incur on a business. That's why online reputation management services are required. This helps any business struggling with a low reputation make the necessary adjustments, whether on their services or products, to ensure customer satisfaction.

8.10 POINTS TO REMEMBER

- Keyword research is a kind of practice by search engine optimization (SEO) professionals to find and research the "search terms"; that users enter into search engines when looking for products, services or general information on the web.
- Search keywords are the foundations of SEO.
- The objective of SEO is to help you to generate relevant traffic on your website which often leads to the generation of sales/services. Once you have successfully implemented the SEO strategies on your website then you can expect extremely high conversion rates.
- The objective of keyword research is to generate, with good precision and recall, a large number of terms that are highly relevant yet non-obvious to the given input keyword.
- The optimization of the website can be done properly by creating the keyword targeted content.
- Online Reputation Management (ORM) is considered as one of the most challenging task of search engine optimization. This practice involves the optimization of pages on different domains. It uses various social media profiles, public relations, press releases, etc for this task.

8.11 GLOSSARY

- **SEO:** Search Engine Optimisation is the practice of optimizing a website or webpage to increase the quantity and quality of its traffic from a search engine's organic results.
- **Cost per Click:** Cost Per Click (CPC) refers to the actual price you pay for each click in your pay-per-click (PPC) marketing campaigns.
- **Reputation Management:** Online reputation management (ORM) means taking control of the online conversation. Its techniques and strategies ensure that people find the right materials when they look for you on the Internet. The purpose of online reputation management is to create balance, counteract misleading trends, and allow you to put your best foot forward.
- **Google Adwords:** Google AdWords is one of the services advertisers use for online promotion of their content, brand, website, etc through certain defined keywords to achieve traffic or leads. It is a form of brief advertising copy with keywords that are displayed on Google web pages and partner websites (called publishers) after matching their content with the keywords.
- **Paid Media:** Paid media is marketing that you pay for. Paid media includes TV ads, print advertising, sponsorships, and other types of media. In digital marketing, paid media includes pay-per-click (PPC) ads, paid social media ads, and search engine marketing (SEM).
- **Earned Media:** Earned media is promotion and coverage awarded by outside agencies or publications. Some brands will pitch news to publications about a campaign they're running so they can gain earned media in the form of a news story. Awards are another way brand can gain earned media.
- **Social Media:** Social media refers to the means of interactions among people in which they create, share, and/or exchange information and ideas in virtual communities and networks. The Office of Communications and Marketing manages the main Facebook, Twitter, Instagram, LinkedIn and YouTube accounts.
- **Google Alerts:** Google Alerts are a free notification service provided by Google that sends emails to subscribers that summarize the search activity around search terms.

8.12 CHECK YOUR PROGRESS

Descriptive Type Questions-

- a) What do you mean by search engine optimization?
- b) What are the objectives of Search engine optimisation?
- c) What is keyword research? Explain any Keyword Research tools.
- d) What are the qualities of good keywords?
- e) What is Online Reputation Management? How it helps in Business expansion?
- f) What are the benefits of online reputation management?

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UNIT- 9

EMPLOYABILITY PROSPECTS IN DIGITAL PUBLICITY WORLD

9.1	INTRODUCTION
9.2	OBJECTIVES
9.3	DIGITAL PUBLICITY: AN OVERVIEW
9.4	NEED OF DIGITALIZATION
9.5	PROMOTIONAL TOOLS
9.6	TYPES OF EMPLOYABILITY IN DIGITAL ERA
9.7	EMPLOYMENT AND EMPLOYABILITY CHALLENGES IN DIGITAL ERA
9.8	FUTURE PROSPECTS: EMPLOYMENT, SKILL AND TRENDS
9.9	POINTS TO REMEMBER
9.10	GLOSSARY
9.11	CHECK YOUR PROGRESS
9.12	BIBLIOGRAPHY/ REFERENCES
9.13	SUGGESTED READINGS

9.1 INTRODUCTION

In the beginning of Internet reform and economic growth by country, end user expectation and need have formed a shape where comfort and delight services has become vital criteria for product choice. Several brands in the market keep working to evaluate the changing needs of consumers, developing appropriate product and finding a marketplace to reach the proper customer. This digital reform has covered a new marketplace on the Internet, where everything and anything is available to explore and review and have a virtual feel. India is a growing economy country and has been considered different trends of digital marketing and publicity. So, the objective of this unit is to learn about digital publicity in the digital world, found digital publicity features and scope in the digital world as an employment for new generations. This unit will bring insights into the scope of different digital trends and future scope.

9.2 OBJECTIVES

After the successful completion of this unit, you will be able to-

- Understand about the digital publicity.
 - Needs of digitalization for e-governance
 - Know about the different types of tools for digital publicity.
 - Explore the various digital tools for digital publicity.
 - Scope in digital world as an employment for new generations
-

9.3 DIGITAL PUBLICITY: AN OVERVIEW

Publicity is the notice or attention given to someone or something by the media. Publicity is also a way of mass communication. It is not a paid form of mass communication that involves getting favourable response of buyers by placing commercially significant news in mass media. Publicity is not paid for by the organization. Publicity comes from reporters, columnists, and journalists. It can be considered as a part of public relations. Publicity involves giving public speeches, giving interviews, conducting seminars, offering charitable donations, inaugurating mega events by film actors, cricketers, politicians, or popular personalities, arranging stage show, etc., that attract mass media to publish the news about them.

Publicity is undertaken for a wide range of purposes like promoting new products, increasing sales of existing product, etc. It also aimed at highlighting employees' achievements, company's civic activities, pollution control steps, research and development successes, financial performance, its progress, any other missionary activities, or social contribution. Publicity has been defined as:

William J. Stanton: "Publicity is any promotional communication regarding an organization and/or its products where the message is not paid for by the organization benefiting from it."

Philip Kotler: "Non-personal stimulation of demand for the product or service, or business unit by placing commercially significant news about it in public media or obtaining favourable presentation of it upon radio, television, or stage that is not paid for by the sponsor."

In today's media marketplace your brand needs digital media and social media exposure along with your public relations campaign. 70% of online readers prefer to buy products they read about in articles vs. a digital ad? If your brand isn't getting social on Instagram, you may be missing out on building key relationships within the health, wellness and lifestyle influences. A top public relations team of innovative social media strategists and event planning publicists can help convey your brand's social voice to get, the more digital value delivered to awareness of your brand. So-

Digital publicity is the practice of delivering promotional content to users through various online and digital channels. It leverages mediums such as social media, email, search engines,

mobile apps, affiliate programs and websites to show advertisements and messages to audiences.

Characteristics of Digital Publicity

Key characteristics of digital publicity have been briefly described in following part:

- **Meaning:** Publicity is not a paid form of mass communication that involves getting favourable response of buyers by placing commercially significant news in mass media. It involves obtaining favourable presentation upon radio, newspapers, television, or stage that is not paid for by the sponsor.
- **Control of Producer:** The company has no control over publicity in terms of message, time, frequency, information, and medium. It comes through mass media like radio, newspapers, television, etc. It is given independently by the third party. It is presented as a news rather than propaganda.
- **Credibility/Social Significance:** Publicity has a high degree of credibility or reliability as it comes from mass media independently. It is given as news for social interest. It has more social significance compared to other means of market promotion.
- **Part of Public Relations:** Publicity is a part of broad public relations efforts and activities. Public relations include improving, establishing, and maintaining direct relations with all publics. Publicity can help improve public relations.
- **Costs:** Publicity can be done at much lower cost than advertising. The company needs to spend a little amount to get the event or function publicized.
- **Effect:** Publicity message is more likely to be read, viewed, heard, and reacted by audience. It has a high degree of believability as it is given by the third party.
- **Importance of Publicity:** Like advertising and sales promotion, sales can be increased by publicity, too. Publicity carries more credibility compared to advertisement. Publicity is cost free; it doesn't involve direct cost. Publicity offers a lot of benefits to the producers and distributors.

Importance of digital publicity-

- Digital publicity is the practice of delivering promotional content to users through various online and digital channels.
- The credibility level of publicity is much higher than advertising and other means of market promotion. People express more trust on what the third party independently says. It appears directly through newspapers, magazines, television, or radio by the third party. It is free from bias.

Difference between publicity and advertising

Publicity is not advertising, since you do not pay for time or space, nor is it public relations. Public relations are a broader task, which includes publicity, but involves promotion, public affairs, advertising, and opinion making as well.

- Advertising is paid form of ideas, goods and services while publicity is not paid by the sponsor.
- Advertising comes from an identified sponsor while publicity comes from a neutral and impartial source.
- Advertising is controllable by the organization while publicity is not controllable because it comes from a neutral source.
- Advertising is less credible in comparison to the publicity while publicity is more credible because it comes from an impartial source.
- Advertising always carries a positive message about your organization because it is the content you pay for but publicity can be positive or negative because it comes from an impartial source.
- In advertising you have a full chance to show your creativity, but in publicity creativity is limited because it comes from a non-paid source.
- Advertising is targeted to the particular audiences by the sponsor while in publicity it is not focused

9.4 NEED OF DIGITALIZATION

Today's consumer is tech savvy, socially empowered, information rich and lacking time. At the same time, technology is quickly evolving and embracing the needs resulted from new consumer motivations. Digitalization has played a crucial role in the fast advancement of the global economy. In developed markets, Digital market is one of the most prominent and established platforms. Digitalization is maintaining its impressive growth in all markets, whether big or small.

In 2019, there are 1.92 billion online buyers in the world, accounting for a quarter of world population with 4.39 billion users on the Internet and 3.48 billion users active on social media to increase of 9% YOY. India, with world's second highest population, is a developing country where 627 million users are active on Internet with active buying at 273 million and with a growth rate of 20% increase for online buyers.

There are growing concerns that the increased use of various digital technologies will lead to job losses as human work is replaced by automation and AI. Many studies have tried to assess the possible impact, based on different methodologies and covering various geographical areas and time periods. Most of them focus on the risks of job losses without considering the fact that new jobs will emerge in connection with digital disruptions. Similarly, as digitalization is more likely to affect specific tasks than full occupation, the real impact may not be reflected so much in terms of job losses as through changes in the nature of work. Predicting what the

employment impact of digitalization will be is extremely difficult, and opinions vary. Overall estimates also vary widely.

A major, still open question is whether this time will be different from previous technological revolutions due to the rapid pace of technological change, which may make the transition period more painful.¹⁰⁶ The net outcome is likely to be highly contextual, depending on different factors, such as the level of development, production and labour market structures, skills and technological capacities, as well as the social characteristics of each country.

The current technological revolution need not become a race between humans and machines, but rather an opportunity for work to truly become a channel through which people recognize their full potential. To ensure that we achieve this vision, we must become more specific and much faster in understanding the changes underway and cognizant of our collective responsibility to lead our businesses and communities through this transformative moment.

9.5 PROMOTIONAL TOOLS

The 4Ps of marketing are product, price, place and promotion. All four of these elements combine to make a successful marketing strategy. Promotion looks to communicate the company's message across to the consumer. The four main tools of promotion are advertising, sales promotion, public relation and direct marketing.

Advertising-

Advertising is defined as any form of paid communication or promotion for product, service and idea. The advertisement is not only used by companies but in many cases by museum, government and charitable organizations. However, the treatment meted out to advertisement defers from an organization to an organization. Advertising development involves a decision across five Ms Mission, Money, Message, Media and Measurement.

Mission looks at setting objectives for advertising. The objectives could be to inform, persuade, remind or reinforce. The objective has to follow the marketing strategy set by the company. Money or budget decision for advertising should look at stages of product life cycle, market share and consumer base, competition, advertising frequency and product substitutability. A message's development further is divided into four steps, message generation, message evaluation and selection, message execution, and social responsibility review.

Once the message is decided the next step is finalizing the media for delivering the message. The choice of depends on reach of media, frequency of transmission and the potential impact on the customer. Based on this choice of media types are made from newspaper, television, direct mail, radio, magazine and the internet. After which timing of broadcast of the message is essential as to grab attention of the target audience. Checking on the effectiveness of communication is essential to the company's strategy. There are two types of research, communication effect research and sales effect research.

Sales Promotion-

Promotion is an incentive tool used to drive-up short-term sales. Promotion can be launched directed at consumer or trade. The focus of advertising to create a reason for purchase the focus of promotion is to create an incentive to buy. Consumer incentives could be samples, coupons, free trial and demonstration. Trade incentive could be price off, free goods and allowances. Sales force incentives could be convention, trade shows, competition among sales people.

Sales promotion activity can have many objectives, for example, to grab attention of new customer, reward the existing customer, increase consumption of occasional users. Sales promotion is usually targeted at the fence sitters and brand switchers. Sales promotional activity for the product is selected looking at the overall marketing objective of the company. The final selection of the consumer promotional tools needs to consider target audience, budget, competitive response and each tool's purpose. Sales promotion activity should undergo pretest before implementation. Once the activity is launched it should be controlled as to remain within the budget. Evaluation program is a must after implementation of the promotional scheme.

Public Relations-

Companies cannot survive in isolation, they need to have a constant interaction with customers, employees and different stakeholders. This servicing of relation is done by the public relations office. The major function of the public relations office is to handle press releases, support product publicity, create and maintain the corporate image, handle matters with lawmakers, guide management with respect to public issues. Companies are looking at ways to converge with functions of marketing and public relation in marketing public relation. The direct responsibility of marketing public relation (MPR) is to support corporate and product branding activities. MPR is an efficient tool in building awareness by generating stories in the media. Once the story is in circulation MPR can establish credibility and create a sense of enigma among sales people as well as dealers to boost enthusiasm. MPR is much more cost-effective tool than other promotional activities.

Direct Marketing-

The communication establishes through a direct channel without using any intermediaries is referred to as direct marketing. Direct marketing can be used to deliver message or service. Direct marketing has shown tremendous growth in recent years. The internet has played a major part in this growth story. Direct marketing saves time, makes an experience personal and pleasant. Direct marketing reduces cost for companies. Face to face selling, direct mail, catalogue marketing, telemarketing, TV and kiosks are media for direct marketing. Advertisement, Promotional activity, Public relation and direct marketing play an essential role in helping companies reaches their marketing goals.

E-Promotional TOOLS:

When preparing a promotional campaign, electronic tools are used to achieve your online promotional objectives. There is a plethora of tools available to facilitate promotional activities and eMarketing, the companies must use such facilities as per the marketing campaign. A promotional plan can be part of a traditional marketing campaign, or function as a standalone online marketing campaign. These tools, as follows:

Search Engine Optimization: Organic search

AdWords

Analytics

Social Media

Search Engine Optimization:

Search engine optimization (SEO) is the process of optimizing your online content so that a search engine likes to show it as a top result for searches on a certain keyword. In simple terms, it means the process of improving your site to increase its visibility for relevant searches. Essentially, SEO is an umbrella term that describes any technique used to move your website higher in search results for keywords related to your business. Effective search engine optimization can help your brand, build trust and credibility in the eyes of Google, which can lead to more traffic. Here are some advantages of SEO, which can help your business promote:

- There are people searching for your products or services on search engines
- SEO is more cost-effective than paid advertising
- SEO will help you gain market share
- SEO will increase your social media followers, blog traffic and email newsletter subscribers.



- SEO builds trust and credibility
- SEO can decrease your cost per acquisition

Adwrods:

Google AdWords is one of the services, advertisers use for online promotion of their content, brand, website, etc. through certain defined keywords to achieve traffic or leads. It is a form of brief advertising copy with keywords that are displayed on Google web pages and partner websites (called publishers) after matching their content with the keywords.

Analytics

Taking data-driven decisions are the key to successful marketing. Choosing the right marketing analytics tools, measuring your data correctly and optimizing your marketing efforts by it, will make the difference between failing to reach your marketing goals and completely crushing them. Marketing analytics tools, like Mixpanel, track the behaviours of individuals within the product so teams can monitor channel activity, tie activities back to revenue, gather insights, and test new ideas.

Social Media

In the era of Facebook, WhatsApp, Twitter, and Instagram, social marketing has evolved as an integral part of promotional strategy. It is all most impossible to think of a promotional strategy without taking into account the importance of social media. Adopting some form of online promotion through social media has become essential for all business houses. In an industry where trends are changing in faster than light, adoption of social network is very vital for companies to survive in that race. Every company, big or small, young or established, needs to have an active presence on such social media.

9.6 TYPES OF EMPLOYABILITY IN DIGITAL ERA

As digitization continues across industries, companies across the world from start-ups to established corporates are seeking digital professionals with relevant experience. Digital titans such as Google and Airbnb are always on the lookout for new talent, particularly in the area of emerging technologies as artificial intelligence becomes more mainstream and offers scalability. In terms of customer value using AI can help drive personalization and response times to queries using technology such as chatbots. The digital economy is embedded in every corner of our lives, and it's not going anywhere. There's a solid budget going into digital marketing now as opposed to traditional marketing.

What types of digital jobs?

There is a wide range of digital marketing jobs out there meaning there are a huge variety of career options.

- Video/audio production.
- Interactive technology (such as AI).

- Mobile marketing.
- Search engine optimization (SEO).
- Search engine marketing (SEM).
- Social media.
- E-commerce.
- Email marketing.
- Marketing automation.
- Content management and creation.
- Web development.
- Web design.
- Copywriting and editing.
- Analytics.
- Business/marketing strategy.

Career in Digital World

As technology continues its rapid ascension into all aspects of public and private life, an increased demand for digital careers has emerged. New sectors, industries, and career paths have been created in the blink of an eye meaning that many of today's most in-demand careers barely existed a decade ago.

A lot of today's business exist almost exclusively online. Of those which still maintain a brick-and-mortar presence, a strong digital footprint is required to be successful and present new opportunities for graduates pursue.

However, not all of these career paths are created equally. In order for educators to better understand the effect technology has had on ushering in the age of digital careers, it is helpful to examine which of these paths' students are gravitating towards. There has been a rise in demand for digital skills amongst graduates and working professionals and the education sector needs to respond accordingly. Let's examine some of the roles which are most sought after and explore their ambitions and what they need to get there.

Major Roles in Digital Career-

- **Digital Marketing Manager or Digital Director:** The Digital Marketing Manager/Director looks after the overall marketing development, devising strategies that will drive more traffic, undertaking digital marketing campaigns, making improvements in website and updating it regularly etc.
- **Web Developer & Web Designer:** As a web developer/designer, you'll be responsible for designing, coding and modifying websites making it appealing and user-friendly. Prior knowledge of JavaScript, JQuery, HTML, CSS and web programming is required to get into this role.

- **Social Media Executive and Social Media Manager:** As a social media executive/manager you are required to keep a check on the latest social media trends and plan strategies accordingly, co-ordinate with the content team and client servicing team on regular basis, creating quality content or video etc. Knowledge about all the social media platforms and a lot of creativity are a must for this job role.
- **SEO Executive/Expert:** SEO executives are responsible for getting traffic on the website and improving the Google rankings. They have to make sure that the content on the website is search friendly, conduct keyword research, research about SEO tools, build sitemaps and submit them etc.
- **PPC/SEM Expert:** As a PPC/SEM expert, you are supposed to manage PPC keywords, split ad groups, refine landing pages, generate reports, provide suggestions for ad copies and graphics, etc.
- **Content Marketer:** If you think that you can write better than what is already there on the web then you are perfect for this role. Responsibilities of a content marketer include creating content that has all the qualities of going viral, making sure that the content is promoted well through SEO, coordinating with other teams and incorporating their inputs in content, following content trends, etc.
- **Other Roles:** There are many other roles or designations in Digital marketing that depend upon the company and their requirements. Some of them are: Analytics Manager, CRM Manager (Customer Relationship Management), Email Marketing Manager, E-Commerce Manager, Digital Agency Account Director, Creative Director, UX Specialist, Mobile App Developer, Interactive Marketing Manager, Head of Digital, Chief Experience Officer, etc.

9.7 ***EMPLOYMENT AND EMPLOYABILITY CHALLENGES IN DIGITAL ERA***

Employment and employability are two major challenges for in the world especially in India. Employability is a word that can be used in different contexts and with different meanings. In this course, we are discussing employability as it relates to higher education, so we will use the following definition. Employability is:

“a set of achievements – skills, understandings and personal attributes – that makes graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy.”

Employability skills are the essential skills, personal qualities and values that enable you to thrive in any workplace. Most of the young generation worries about the employment opportunities in his or her country. Even the white collared jobs have been disappearing at a rapid pace.

Studies show that only 40 per cent is employable based on attributes of employability, such as domain knowledge, communication skills, numerical and logical attributes and vertical thinking. Skill-building policies and strategies need to be made more demand-driven and responsive to the needs of the industry, whose participation in the entire skill-building process will have to be proactive than has been the case at present.

For the past two decades, the new jobs have been created in IT, telecom, retail and pharmaceutical industries. E-Commerce has been the other major employer in India as more and more Indians are getting comfortable going online. Currently the top five companies of the world (Apple, Alphabet, Microsoft, Amazon, Facebook) are tech companies. Their combined market value stands at \$3.5 trillion. The entire stock market in India stands at \$2.3 trillion. Elsewhere in the world, just two companies Tencent and Alibaba have a combined market cap of \$1 trillion.

Now days we do banking, pay our taxes, get training, and apply for basic services on the Internet. Put simply, digital skills are essential to live, work and participate in a rapidly growing digital economy. But according to an AICTE reported 60% of the 8 L engineers graduating from technical institutions across the country every year remain unemployed. So there will be a big opportunity to get a job in the information or digital fields. But that brings students to the next challenge – how to build employability. A number of government figures show that an enormous gap exists between skills and employability

Here are some points which can help in making employability in the digital environment. Awareness of digital trends: With technology, developing at an unbelievable rate, professionals who are up-to-date on digital trends avoid being run over by rapid change. Learn Social media skills: Social media platforms are now an integral part of building a business. Navigating social media have become a required skill for everyone. A strong online presence and personal brand can help you grow your professional network and make you attractive to potential employers.

Understanding how data are ethically used and shared:

Understanding how materials available online can be used properly without stealing or committing plagiarism is an essential skill. This includes being well-versed about Open Educational Resources, copyright laws, and licensing systems or movements (for example, Creative Commons and other licensing systems).

Content creation:

This is the ability to create materials that are appropriate for the office or online use. This skill requires an understanding of how audiences receive and use information and the types of materials they consume. It includes being able to create PowerPoint presentations, flyers, reports, posters and others. It also means knowing how to package information in manageable

chunks, making use of hyperlinks and multimedia, producing and editing infographics, video, and audio and being able to post them in the appropriate platforms, among others.

Curation and research skills:

This is the ability to find, assess and verify reliable, accurate and usable data. It is also weeding out fake, misleading or false information. It involves knowing how to navigate search engines efficiently, understanding online content and having critical thinking skills to evaluate information.

Fluency in choosing and using the right devices and software:

This is the ability to use the right software to create faster and better outcomes.

9.8 FUTURE PROSPECTS: EMPLOYMENT, SKILL AND TRENDS

Today, we are at the beginning of a Fourth Industrial Revolution. Developments in genetics, artificial intelligence, robotics, nanotechnology, 3D printing and biotechnology, to name just a few, are all building on and amplifying one another. This will lay the foundation for a revolution more comprehensive and all-encompassing than anything we have ever seen. Smart systems—homes, factories, farms, grids or cities will help tackle problems ranging from supply chain management to climate change. The rise of the sharing economy will allow people to monetize everything from their empty house to their car.

During the Industrial Revolution many challenges like- recession will also come but such types of up and downs comes in every movement. Every Recession has presented numerous challenges for every country, making it difficult for industries to survive and strive, but they have also ushered an era of opportunities for new-age industries to sprout and shape consumer behaviour for decades. The digital revolution will fundamentally change the way humanity works, and socialises, for years to come. The various digital tools and programming like YouTube, amazon and AI will be a catalyst to unprecedented changes in every industry. Every industry will be forced to reform and restructure in order to transform into the new realities that will emerge.

In the current era of global value chains, many companies are locating different job functions and categories in different geographic locations to take advantage of the specific strengths of particular local labour markets. The following three factors will lead the transformation of every industry:

(i) Agility: (Planning and Execution)- Agility will be about making quick changes by the organization leadership, and communicating the same decisively to the organization, partner ecosystems, and customers.

(ii) Digital Transformation: (Products and Services)- Digital technology will help to explore the canvass of opportunities presented by cloud, big data, analytics, AI (Artificial Intelligence), IoT (Internet of Things), and other emerging realities that are shaping a new wave of customer behaviour. The end goals of business continuity and profitability, stakeholder's value and customer satisfaction will drive this transformation.

(iii) Trend to Work from Remote: (People and Process)- Due to increasing the technology on every field, the "Work from Remote" Culture will play an important role, for Government and Organization and industry to save trillions of dollars. In many cases, it's priceless.

9.9 POINTS TO REMEMBER

- Publicity is undertaken for a wide range of purposes like promoting new products, increasing sales of existing product, etc.
 - In today's media marketplace your brand needs digital media and social media exposure along with your public relations campaign.
 - Digital publicity is the practice of delivering promotional content to users through various online and digital channels.
 - The credibility level of publicity is much higher than advertising and other means of market promotion.
 - The 4Ps of marketing are product, price, place and promotion.
 - Search engine optimization (SEO) is the process of optimizing your online content so that a search engine likes to show it as a top result for searches on a certain keyword.
 - As digitization continues across industries, companies across the world from start-ups to established corporates are seeking digital professionals with relevant experience.
 - Employment and employability are two major challenges for in the world which can be addressed by upskilling and keen market orientation, planning and policy.
-

9.10 GLOSSARY

- Analytics: The discovery of how data is performing. In digital advertising, analyzing your information helps predict and improve your business.
- AI: Artificial Intelligence
- CRM- Customer Relationship Management
- CSS- Cascading Style Sheets.
- HTML- Hypertext Markup Language
- Google AdWords- is an online advertising service developed by Google to help marketers reach their customers instantly.
- PPC: Pay Per Click.
- ITes- Information Technology enabled Services.
- SEM Expert: Search Engine Marketing

- SEO: Search engine optimization

9.11 CHECK YOUR PROGRESS

Descriptive type questions-

- What is employability and why is it important??
- “The current technological revolution need not become a race between humans and machines but rather an opportunity.” Justify this statement.
- What are the differences between Marketing and Publicity?
- What are the 4 Ps of marketing? Explain about the various promotional tools.
- Define briefly the role and publicity in the digital world.
- Explain how the digital technologies play the major role in unemployment?

Objective type questions-

[1] ‘Value-added services’ means

- | | |
|-------------------------------|--------------------------------|
| (a) Better value at a premium | (b) Costlier services |
| (c) Additional services | (d) Better value at a discount |

[2] Computers manipulate data in many ways, and this manipulation is called

- | | |
|---------------|----------------|
| (a) Upgrading | (b) Processing |
| (c) Batching | (d) Utilizing |

[3] Web marketing involves-

- | | |
|-------------------------|------------------------|
| (a) Selling web cameras | (b) Web advertisements |
| (c) E-mail chatting | (d) Browsing the web |

[4] Digital Marketing is similar to

- | | |
|----------------------|---------------------|
| (a) Online marketing | (b) Cold calling |
| (c) Web designing | (d) Market forecast |

[5] Modern styles of marketing are

- | | |
|-------------------|-------------------|
| (a) Telemarketing | (b) Web marketing |
| (c) E-mails | (d) All of these |

[6] Web marketing involves

- | | |
|-------------------------|------------------------|
| (a) Selling web cameras | (b) Web advertisements |
| (c) E-mail chatting | (d) Browsing the web |

[7] Internet marketing means

- | | |
|--------------------------------|---------------------------------|
| (a) Marketing to oneself | (b) Marketing to the core group |
| (c) Marketing to the employees | (d) None of these |

Answer (Objective Type Questions)-

[1] c [2] a [3] b [4] a [5] d [6] b [7] d

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UNIT- 10

E-REPOSITORIES AND USEFUL E-RESOURCES

10.1 INTRODUCTION

10.2 OBJECTIVES

10.3 E-REPOSITORIES: AN OVERVIEW

10.4 PLANNING AND IMPLEMENTATION OF INSTITUTIONAL REPOSITORY

10.5 GENERAL STRUCTURE OF AN E- REPOSITORY SYSTEM

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10.1 INTRODUCTION

The advent of Internet has considerably changed the scenario of people and every domain of the world. If we are talking about the libraries and its functions, it has led to incredible change in the way libraries function and offer services to their users. In today's scenario, the libraries actively obtain, organize, display and issue e-forms of books, journals, newspapers, theses and dissertations.

This is also due to revolutionize in information seeking behavior of users. The modern era of users prefers online resources as they want all information at the click of a mouse. The e resources have certain inherent characteristic features that offer convenience to the users. This lesson discusses the concept and importance of e-resources. It deals with different types of e-resources, their advantages and disadvantages. We will also discuss electronic resources such as E-Books, E-Journals, E-Databases, etc., their maintenance problem and solutions.

10.2 OBJECTIVES

After the successful completion of this unit, you will be able to-

- Know about e-repositories and e-resources.
 - Define types of e-resources.
 - Explore the various e-repositories/ platforms.
 - Managing e-resources.
-

10.3 E-REPOSITORIES: AN OVERVIEW

The meaning of the term ‘digital repository’ or e-repository is widely debated. Contemporary understanding has broadened from an initial focus on software systems to a wider and overall commitment to the stewardship of digital materials; this requires not just software and hardware, but also policies, processes, services and people, as well as content and metadata.

Repositories must be sustainable, trusted, well supported and well managed in order to function properly (Abbott, 2006). The first joint initiative of the National Science Foundation (NSF), Department of Defense Advanced Research Projects Agency (ARPA) and the National Aeronautics and Space Administration (NASA) in 1994, funded six digital library and e-repositories development projects for a period of four years, among six academic institutions.

Definitions of Institutional Repositories- There are many definitions described by different experts, some of them are mentioned below-

[1] According to Crow 2002, “an Institutional repositories are a digital collection for capturing and preserving the intellectual output of a single or multi-university community” (Crow, 2002).

[2] An Institutional Repository is a digital collection of a university’s scholarly/ creative output. IRs are collected, preserve, and make accessible the knowledge generated by academic institutions. IRs also forms part of a larger global system of repositories, which are indexed in a standardized way and searchable using one interface, providing the foundation for a new model of scholarly publishing Drake, 2004).

[3] An institutional repository is a web-based database of scholarly material which is institutionally defined (as opposed to a subject based repository), cumulative and perpetual (a collection of record), open and interoperable (i.e., Using OAI compliant software) and thus collects, store and disseminates (is a part of the process of the scholarly communication) (Ware, 2004).

Types of Institutional Repositories-

Institutional repositories generally can be classified into the following three categories.

[1] Institutional Repository: An institutional repository target to host and provide access to the resources related to or produced by a specific department or Organization. Institution

specific repositories can handle all the outputs and resources owned by and related to the institution itself.

[2] Discipline Institutional Repository: An Institutional repository that hosts the resources deals with a subject or a specific type of resource. Such types of Institutional Repositories are confined to specific subject field of interest.

[3] Aggregator: A repository that collects the resources from other institutional repositories.

Some examples of Institutional Repositories in Indian context are-

a) Shodhganga: Shodhganga is a joint venture of UGC and INFLIBNET. INFLIBNET takes an active role in making it mandatory to submit the electronic copy of a thesis whenever the research scholars submit their thesis to the respective university or institutions for the PhD degree in India.

b) INFLIBNET's Institutional Repository: INFLIBNET Centre develops INFLIBNET's Institutional Repository by using DSpace software. It hosts Press and Media related documents, Annual Reports, Convention Proceedings, Special Seminar, newsletters, etc. related with INFLIBNET.

c) EPrints@IISc: EPrints@IISc repository collects, preserves and disseminates in digital format the research output created by the IISc research community.

d) EPrints@CMFRI: is the Open Access Institutional Repository of Central Marine Fisheries Research Institute.

Activities of e-repositories:

- Any digital content may be deposited, whether by the content creator, owner or third party.
- The repository architecture can manages content as well as metadata.
- The repository offers a minimum set of basic services e.g., put, get, search, access control
- An academic repository allows students, teachers, researchers and academic staff to easily keep their digital documents. In this way, stored content becomes available to people who want to read it, either inside or outside the university.

What type of contents digital academic repositories store?

Digital repositories may store the following types of content:

- Derived or raw research data.
- Full-text preprint scholarly research papers.
- Full-text peer-reviewed final drafts of journal and conference proceedings papers, such as- Electronic journals/ articles, e-Books and e-book chapters, Theses, dissertations, etc.
- Full-text original publications (institutional or departmental technical reports).

- Other learning objects, such as-Audio / video / multimedia materials, Photographs / images, Convocation addresses, Programs / software's, Annual reports / manuscripts / maps, Newspaper clippings / articles, etc.
- Corporate records (staff and student records, licenses, etc.).
- Bibliographies, Unpublished reports, Data sets resulting from research projects.

Benefits of using digital repositories-

- Digital repositories need not have any physical margin, it is available throughout the world due to internet connection only.
- Enables both metadata and the intellectual object to be stored in the same place, in a persistent manner.
- Preservation and conservation are the most important aspect of the digital repositories.
- The Digital Library brings the library to the user.
- Digital library improved access such as searching and browsing.
- Information can be shared more easily in digital library.
- In digital library it is easier to update information quickly.
- Information is always available 24x7.
- Allow collaboration and exchange of ideas.

Limitations of Digital Repositories-

The computer viruses, lack of standardization of digitized information, quick degrading properties of digitized material, different display standard of digital product and its associated problem, etc. makes digital repositories at times handicap.

- Digitization violates the copyright law easily.
- Speed of access decreases due to a number of connections are increasing.
- The infrastructure cost of digital repositories is very high.
- Digital repositories need high band for transfer of multimedia resources.
- Finding the authenticate material is very difficult.

10.4 PLANNING AND IMPLEMENTATION OF INSTITUTIONAL REPOSITORY

Institutional Repositories (IR) are developed primarily for collecting, preserving and disseminating the intellectual output of an institution. For the successful set up of an Institutional Repository, strategic planning is required with a predetermined goal and scope as well. Institutional Repositories (IR) are developed primarily for collecting, preserving and disseminating the intellectual output of an institution. The basic objective of the segment of this unit is to discuss the steps to provide a roadmap for setting up an institutional repository in an academic institution.

[1] A strategic plan for setting up an Institutional Repository: To achieve success in any project perfect planning is a must. A planned scheduling is required before developing the digital institutional repository for any institution. The major factors focused are the financial background of the institution and the library as well, manpower, infrastructural requirements of the project, policy decisions to be considered, management team of the project, preparing an activity chart for the project and monitoring the implementation etc.

[2] Deciding the Objectives: Before scheduling with the project, the broad objectives of forming an Institutional repository have to be decided. The objectives decided for MES's IMCC Digital Institutional Repository are:

- To acquire and preserve the teaching and learning material in digital format, generated by the faculty members and make it accessible to the users.
- To capture and save the research projects and related contents in digital form, and make it available on Intranet to the students and faculty members on the Institutional campus.
- To serve as mediator between the digital research content and the users through the Intranet Institutional Repository.
- To develop manpower of library for providing better digital library services.

[3] Framing the Policies: The most important factors are determined before actually starting the project work. The factors such as management of the repository, the system support, customization and services provided through the repository system must be correctly framed. Further the strategic decision regarding the workflow of submission process has to be decided.

[4] Initial approach: Preliminary study is likely to reveal a series of following questions:

- What is the target content of the repository?
- Are all content types to be managed in a single repository, or more than one?
- What other systems and services might the repository be required to share information with?
- Does the budget support the requirement?

A key factor in cost considerations is not which software, but how it is delivered and support. There may be various types of IR software like D-Space, EPrints, Fedora are OSS (Open-Source Software). However, some of the software may be Commercial/Proprietary Software like- CONTENTdm, SirsiDynix Portfolio™. In Preliminary phase, it is significant to choose the IR Platform. It may be that numerous vendors can choose the open-source software. Because, these are free to download, install and use, but there is an ongoing cost to implement and maintain the repository, depending on the complexity and facility to configure it for use. Some technical consideration may also require like platform needs, server operating system, Content Organization & Control, Interoperability, Accessibility, programming requirements and administration to manage or control of software etc.

Further, the end user reaction is taken through the discussion. A relative study of the various software's should be conducted with the help of the technical expert. The decision of selecting software, taken after the long committee discussions based on the conducted study.

[5] Installation of the software: People often think that installing software on a computer is one of the easiest things you can do. They are partly right. It is easy, but not as easy as pressing next-next to install. Many people choose to ignore precautions before installing software. Some precautions that should consider at the installation of the software are:

- Do you have enough disk space or resources to run this software?
- Is there any conflicting software on your computer?
- Always create a System Restore Point.
- Always select Custom installation.
- Install to the default directory.
- Update System Configuration Files.

[6] Collection Building of the IR

The collection building and development of IR is a crucial element and it requires careful selection of the documents. This includes selecting the sources for digitization. It is necessary to see that the documents which are selected for the digitization are free from copyright issues as well as if the material is in-house it must be permitted for digitization. The collection policy scope of the collections, selection criteria and responsibilities, editorial rights, and are some issues in collection development of IR.

[7] Repository Policies

Approval as well as support of the organization is required for building up and maintaining the Institutional repository collection. It requires long-term dedication for the sustainability in a continuous manner.

10.5 GENERAL STRUCTURE OF AN E- REPOSITORY SYSTEM

An electronic repository is a focused collection of digital objects includes text, visual, material, stored as electronic media formats. Here this segment of unit highlights technological architectural components, how the e-repositories software works, flow, and handle with various tools to carry out the e-repositories in a defined purpose and highlights the technological understanding and issues involving in creating e-repositories. Digital repositories are a very complex system. It is an integrated system that allows gathering, storing, preserving, protecting and retrieving information at the right time to the right user. Digital repositories provide a user document with a systematic way to focus collection of digital objects that can include text, video, numbers stored as electronic media formats, along with means for organizing, storing, retrieving the file and the other media content in the e-repositories collection.

Digital Library Components:

With the advancement of information retrieval, the systems to retrieve of any document require advanced level tools. E-repositories furnish information to the user, but it's not in a simple way. The workflows of E-repositories are conducted with mainly four steps. The components of workflows are- User Interface, Repository, Handling system, and Search System.

[1] User Interface

The user interface is the design of computers, appliances, devices and software application focus on the user communication. A well user interface is an interface that connects between the user and the machine, which provide valuable information. An E-repository must give a single point of access like a portal to a huge quantity of digitized information that is available to a diversity of kind patrons with a different psychological, academic, social backgrounds and information needs over the Internet. In educational e-repository system, three possible users may exist and these act as information sources or final recipients of data and information. They interact with the system with various roles, namely, administrator: a person assigned system administration roles to control and monitor users and content submitted into the repository; authors: include faculty, students, and researchers who interact with the system when they submit their scholarly materials into the repository; and viewers: all persons who visit the repository for reading the contents. The end-users and even a user from remote area will be able to access the same user interface of the E-repositories and its collection and another user interface for the administrators who manage and build the collection. In general, the user interface is written in Java and made available to the user through the use of an Apache/Tomcat server.

User interface design principles: The principles of user interface to designed to improve the quality of user interface. All the user of the E-repositories is not equal psychology to access the information from the interface. By considering the various patron requirement, the designers have to follow the designing principle that is discussed below-

- **Simple-** The digital library user interface should be simple and straightforward. A well-organized simple user interface can easily provide the information that a user wants.
- **Access-** The E-repositories, the user interface can access the material easily and minimal keystroke.
- **Prevent Errors-** The user interface should be design in such a way that patrons cannot make errors. The interface should provide a technique to detect the error and give simple instruction that user could understand.
- **Multimedia Support-** In the present day, E-repositories are not only offers the textual information but also multimedia information. Therefore, the user interface should support the multimedia information.

[2] Repository

In general, repository refers to a storage location and often for preservation. In E-repositories, repository stores digital contents and its metadata. The interface to repository called the Repository Access Protocol (RAP). In the E-repository, the information's are stored in a database as a digital form. The database is at the heart of a digital repository, the repository also needs to include software to retrieve information from the database, format it and present it to the user in an easy-to-understand way. Most repositories are run on a relational database such as Oracle, Microsoft SQL, PostgreSQL, or MySQL. In the relationship database data is organized into tables, which have relationships linking them together.

[3] Handling System

E-Repository is a service to gather, supervise, protect and make accessible the information of the intellectual output of the research faculty. The intellectual output includes articles, monographs, audio/visual presentations, working papers, Journal articles, conference papers, poster, theses etc. There are many techniques to locating anything in the earth, such as by name or any attributes of the things. The same technique follows by libraries to locate and retrieve any document. The library allocates a call number and an accession number to each document so that the document can be easily located and retrieved when needed. In this way, digital resources should have unique locator or an identifier to retrieve from the web environment. It is the same way as ISBN for books and ISSN for journals, to search the item in the library.

[4] Search System

The 'Search' is a systematic examination of information in a database, aiming in view to identify the items or objects, which satisfy particular preset criteria. In other way, searching means the operation of locating a specific object in a given sequence of 'n' objects. Here the amount of time required to locate a specific object called 'search-time'. It is also needed to say that each item contains within itself a piece of information is termed as 'key' and a given key in a search is referred to as 'search-key'. In retrieval process, one can search to match for a given key using a particular retrieval algorithm. There are dozens of algorithms, algorithmic techniques and approaches, which provides an ideal framework for the application to information retrieval, such as- Soundex Algorithm, Metaphone Algorithm, Phonex Algorithm, Stemming Algorithm, etc.

However, each algorithm has some issues of limitations. To cope with those issues, digital e-Repository should investigate the efficient search algorithms for providing an effortless way to perform most effective search results from digital repositories.

10.6 TYPES OF INSTITUTIONAL REPOSITORIES (IR)

In recent decades various platforms used in IRs with more updated features. The repository administrator has to play key role in identifying and selecting the IR platforms. There are various software packages available for IR, e.g., commercial, open source. Here we will discuss the various types of IR and its features which enabling the repository manager to understand which features of which platform will best suit his requirement and facilitate the success of the IR.

Classification of IR Software:

Open-Source Software (OSS): OSS is free, expandable and downloadable. But It usually requires some level of proficiency to implement and maintain. DSpace, EPrints, Fedora, Greenstone are some of the widely known OSS.

DSpace:

DSpace is the free software chosen by the academic, non-profit and commercial institutions for developing open digital repositories. DSpace was developed collaboratively by the MIT library and HP. The installation of DSpace is very easy and complete customization can be done according to the needs of any organization. DSpace preserves and easily manage all types of digital content, including text, images, video, audio and data sets, etc. Table 1 is showing the specifications of the DSpace software.

Table-1 Specification of DSpace	
Package Type	Digital Repository
Starting Year	November, 2002
Developed By	MIT and HP Labs
Web Site	http://dspace.org/
Operating System	Linux, Mac, Windows
Technologies Used	Tomcat
Programming Language	Java
Database	MySQL

EPrints:

As maintained to the its official website, it is one of the first IR software packages. This digital repository software was initially developed by the university of Southampton. The unique characteristics of the software are that is given a link to the SHERPA/RoMEO database. SHERPA's most notable service is RoMEO, is a database aggregating publisher archiving policy which allow researchers quick access to copyright and self-archiving policies.

Table-2 Specification of EPrints

Package Type	Digital Library
Initial Year	2000
Developer	University of Southampton
License	GPLv3
Development Status	3.3.11 / 31 January 2013
Operating System	Linux, Mac
Technologies Used	Apache
Programming Language	Perl
Database	MySQL

Fedora:

Researchers at Cornell University mutually with University of Virginia Library, originally developed Flexible Extensible Digital Object and Repository Architecture (FEDORA). Fedora provides web-based repository services with well-defined APIs. Beside this, Fedora provides a number of supporting features and technologies, including search, OAI-PMH, messaging, administrative clients, and more to publish, share and preserve digital contents.

Table-3 Specification of fedora	
Package Type	Digital Repository
Initial Year	May 16, 2003
Developer	Dura space (http://dspace.org/)
License	Apache 2.0
Platform	Linux, Mac, Windows
Technologies Used	OAI, Tomcat
Programming Language	Java
Database	MySQL, Oracle, PostgreSQL

Commercial/Proprietary IR Software

The proprietary software demands payment for the software, any additional subscription, consultation and for the software up-gradation. Clients can assure full support and annual maintenance support from the software vendor. Some commercially developed software are mentioned below:

CONTENTdm

CONTENTdm was acquired by OCLC in 2006 which was originally developed by the Center for Information Systems Optimization (CISCO), at the University of Washington in 1999. The software contains provision for acquiring or creating, storing and managing the collection and provision for display, publish and retrieval of the contents.

Table-4 Specification of CONTENTdm

Package Type	Digital Collection Management Software
Year of Starting	1999
Developers	CISO, University of Washington
Hosted by	OCLC
Platform	Window
Technologies Used	Unicode, Z39.50, Qualified Dublin Core, VRA, XML

Digi Tool

It is a developed by Ex Libris Group in the 1986 for the management of digital contents in academic environments.

Package Type	Digital Asset Management Software
Initial Year	1986
Developer	Ex Libris Group
Operating System	Window
Technologies Used	MARC, Dublin Core, Metadata Object Description Schema (MODS) Transmission Standard (METS)

VITAL:

VTLS Company invented VITAL Digital Asset Management System in 2004. VTLS give various facilities such as metadata conversion, digitization of content, and customization of Web interfaces etc.

Package Type	Digital Asset Management Software
Initial Year	2004
Developer	VTLS
Technologies Used	OAI-PMH, Dublin Core, MARCXML

10.7 E- REPOSITORY PROTOCOLS AND STANDARDS

Protocols and Standards are the key features of a digital library. There are different protocols and standards like Communication protocols, bibliographic standards, record structure standards, encoding standards, information retrieval standards and digital preservation standards. All these protocols play a key role in making an e-repository efficiently. These relevant standards make by following institutions and organizations-

- The Digital Library Federation (DLF), (<http://www.diglib.org>).
- Council on Library and Information Resources (<http://www.clir.org>).
- The Library of Congress (<http://www.loc.gov>).
- The International Federation of Library Associations and Institutions (IFLA) Communication Protocols.

Transmission Control protocol / Internet protocol (TCP / IP), Hypertext Transfer Protocol (http) and file Transfer protocol (FTP) are some major protocols used by the internet for linked a communication between clients and servers in an e-repository and digital library. Http is the most significant protocol used on the World Wide Web (www). The file Transfer protocol (FTP) is a protocol that is worked for transferring files from one computer to another over LAN, MAN, WAN or internet.

Bibliographic Standards

Machine Readable Catalogue (MARC), Dublin core, BIB-1, TEXT Encoding Initiative (TEI), Electronic Archival Description (EAD), Metadata Encoding and transmission Standard (METS) Metadata Object Description Schema (MDDS) are some of the protocols used for bibliographic description. Bibliographic standards are related with the description of contents as well as the physical attributes of documents and non-documents in a repository.

Information Retrieval Standards

Such protocols allow a client machine to search databases on a server machine and get back records that identified as output of search. Following are some examples of information retrieval standards- Z39.50 or ISO23950 Search / Retrieve Web Service (SRW) and Search / Retrieve via URL (SRU), Open Archives Initiatives, Metadata Harvesting Protocol (OAI-PMH) etc.

Record Structure

Record Structure of a database means the physical and logical arrangement of the record, which contains the data. ISO2709 ISO 2709 is an ISO standard for bibliographic descriptions, titled Information and documentation.

Formats and Media

Text based contents of an Organizational repository can be stored and display as ASCII (American Standard code for Information Interchange), SGML or HTML or XML, PDF format whereas image format can be as .TIFF, .PDF, .JPEG, etc. format.

Preservation Standards

Preservation Metadata implementation Strategies and open Archival Systems are the preservation Standards.

10.8 CHALLENGES FOR E-REPOSITORIES

Presently, all institutional libraries are equipped with electronic resources such as E-Books, E-Journals, E-Databases, etc. Preservation of electronic resources in libraries safely is becoming a challenging task for librarians. So, we stored it in a central location in which data is stored and managed, that is called repositories. Because it is an electronic medium so it is called e-repositories. So, an e-repository is a repository where digital content such as computer files,

Electronic journals/ articles and Book and Its chapters can be stored. It can also understand as it is an information system that ingest, store, manage, preserve, and provide access to digital content. Copyright and the other legal and regulatory aspects of maintaining a repository service will be a big issue of future in e-repository. Copyright and the other legal and regulatory aspects of maintaining a repository service may be a big issue of future in e-repository guaranteeing quality of service means that the service needs to be responsive to researcher needs is also a major challenge for the future e-repository. Poor cyber metrics of the online platform, low response rate of uploaded input, difficulty to get copyrights for older studies, lack of repository manager are some other challenges and obstacles for the digital repository, that should be resolve in future.

10.9 POINTS TO REMEMBER

10.10 GLOSSARY

- Archiving- Preserves the scholarly record over time.
- Copyright Statement - Depositors are all required to agree to the copyright statement
- Deposit- A deposit represents a bundle of submitted information. Typically, a deposit consists of descriptive metadata, access conditions and copyright information, and any relevant uploaded files. This entire set of saved information is the deposit record.
- Depositor- A depositor is the creator of a deposit record, who submits digital items and associated data for review, approval and upload to the repository.
- Digital Preservation- The process of ensuring that a digital object is accessible over the long term.
- Digital Repository- An online, searchable, web-accessible database containing works of research deposited by scholars, professional staff, Ph.D's and students
- Institutional Repository- A type of digital repository that is designed to collect the work of a particular institution
- Open Access- The scholarly communication reform movement that aims to make scholarly literature freely available on the public web.
- Persistent ID- A unique identifier for an object
- URL- Universal resource locator.

10.11 CHECK YOUR PROGRESS

Descriptive type questions-

- a) What is e-repository? What are the benefits of e-repository?
- b) What are the steps to be followed to build a new Institutional Repository?
- c) Define the digital library protocols and standards.
- d) Define the general structure of a e- repository system.

e) Explain the various Institutional e-repository software systems.

Objective type questions-

[1] What is Dspace?

- (a) An Open-source software (b) A System Software
(c) An Automation software (d) A Commercial software

[2] Who built DSpace?

- (a) IBM (b) Microsoft (c) MIT and Hewlett-Packard (d) HP

[3] Identify the following Institutional Repositories available as free Project

- (a) e-print (b) Open DOAR (c) Both A and B (d) None of the above.

[4] LOCKOSS (Software) is an international community initiative by:

- (a) MIT Libraries (b) Stanford University
(c) University of Waikato (d) University of Southampton

[5] Resource sharing is a part of

- (a) Library cooperation (b) Library administration
(c) Library management (d) Library cataloguing

[6] Which one is a full text e-Resource?

- (a) JCCC (b) ISID (c) Science finder scholar (d) ACS

Answer (Objective Type Question)-

[1] a [2] c [3] c [4] b [5] a [6] d

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UNIT- 11

FUTURE PROSPECTS OF DIGITAL MARKETING AND MANAGEMENT- II

11.1 INTRODUCTION

11.2 OBJECTIVES

11.3 DIGITAL MARKETING AND MANAGEMENT: AN OVERVIEW

11.4 5Ds OF DIGITAL MARKETING AND MANAGEMENT

11.5 IMPORTANCE AND BENEFITS OF DIGITAL MARKETING AND MANAGEMENT

11.6 SWOT ANALYSIS OF DIGITAL MARKETING AND MANAGEMENT

11.7 CHALLENGES OF DIGITAL MARKETING AND MANAGEMENT

11.8 FUTURE OF DIGITAL MARKETING

11.9 POINTS TO REMEMBER

11.10 GLOSSARY

11.11 CHECK YOUR PROGRESS

11.12 BIBLIOGRAPHY/ REFERENCES

11.13 SUGGESTED READINGS

11.1 INTRODUCTION

In today's world of social media digital Marketing and Management has played a very important role in the fast advancement of world's economy. It becomes a very important tool in the marketing area for big and small brands. Digital Marketing is the avenue of electronic communication which is used by the marketers to endorse the goods and the services towards marketplace. In the developed global markets, it is one of the most leading, well known and established platforms. In the current era of digitalization, it makes brand enable to remain where the customers of the brand stay i.e., Instagram, Quora, Facebook, YouTube, Twitter and other social media applications. The digital channels include mobile, display, search, social, and video. Referred to as "Inbound marketing" digital allows you to interact with advertise and

connect back to the advertisers. It is maintaining its spectacular growth in global markets; no matter they are big or small. Big markets are those countries which are always going to be e-commerce because of their size, and the small markets are encouraging markets where prospective matters along with size. Digital market becomes the important platform to sale, promote, endorse and launch new products which gives high exposure in low cost. Digital Marketing can be understood as a well-targeted, conversion-oriented, quantifiable, and interactive marketing of products or services by utilizing digital innovation to achieve the customers, and transform them into clients in a sustainable fashion. The whole concept and functionalities of Digital Marketing are more competent, effective, result-oriented and measurable, which make it very different from traditional marketing.

11.2 OBJECTIVES

After the successful completion of this unit, you will be able to-

- Understand the concept of digital marketing.
- Understand the role of digital Marketing and Management for smart administration.
- Define the importance of digital Marketing and Management.
- Understand the difference between traditional and digital marketing.
- Explore 5Ds of digital Marketing.
- Do SWOT analysis of digital marketing.

11.3 DIGITAL MARKETING AND MANAGEMENT: AN OVERVIEW

The term Digital Marketing was first used in the 1990s while internet search traffic increased in 2006. In 2010s, digital marketing became more sophisticated as an effective way to create a relationship with the consumer that has depth and relevance. Digital marketing is a subset of traditional marketing. It promotes your brand or products using digital channels such as the internet, emails and mobile phones, as opposed to more traditional media such as print, radio, TV or billboards. Finding new customers is the primary aim of digital marketing. It has the advantage over traditional marketing techniques because online programs such as Google Analytics exist which enable you to analyze your marketing campaigns in real time. This is much faster than any non-digital or traditional technique. It is the strategy and processes that connect advertisers with their audiences across digital channels. An advertisement itself is a piece of creative shared via digital inventory- the space a publisher makes available for advertisements on its platform. In this overview of digital marketing, we will summarize their key points and discuss how they are inextricably interlinked and how a great campaign cannot have done without the others.

Search Engine Optimization (SEO): It is a process which aims to improve the position of your website in organic search engine results. One of the ways it does this is by utilizing

keywords. Google gives the following examples of keyword stuffing: As- (i) Lists of phone numbers without substantial added value, (ii) Blocks of text listing cities and states a webpage is trying to rank for repeating the same words or phrases so often that it sounds unnatural. Another effective way that SEO increases the organic rankings is through link-building. This is the process of getting links to your website from other websites.

Social Media Optimization (SMO): It is a type of SEO. It involves engaging in social media in order to increase your organic search ratings. The aim is to develop highly active social media accounts with a large audience, where you post content and links from your sites in order to draw users from there, and where you post content that is unique to social media in order to broaden your audience so that a large number of people can feel your presence there.

Online Reputation Management (ORM): It's maximized your positive presence on the internet while minimize any negative discussions. It is mandatory for all businesses to ensure that someone Googling their brand or company name will not be inundated with negativity. It is harmful for a business to let go their single buyer. The most important point to remember about managing your online reputation is that if you only start doing it when you have been bombed by something negative, you are starting too late. You should begin monitoring your online presence as soon as you can, using a program such as Google Alerts or something more online options.

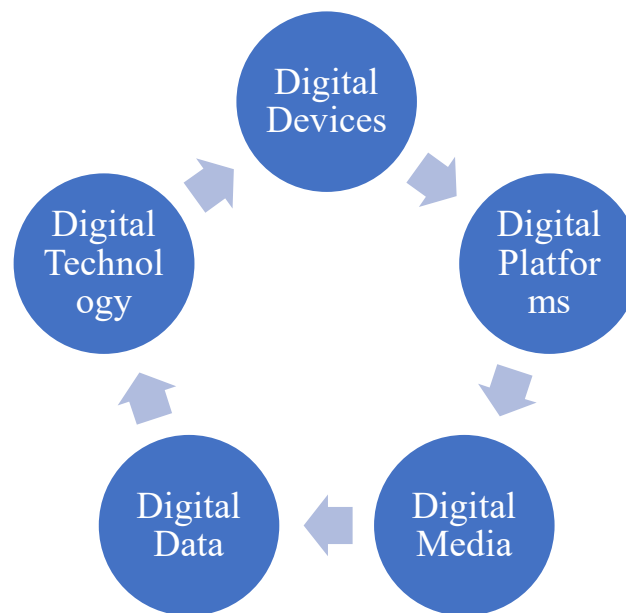
Pay Per Click (PPC): It is a type of paid advertising through which you can influence your website's standing in paid search results. You would sign up to a service such as Google's free AdWords program and set up your campaign there. Every time a user clicks on your advert, you pay your search engine a small fee. In order to ascertain the top spot on the advertising areas, AdWords gives every advert a quality score. The score depends on factors such as picking great keywords, the amount you pay Google, and the quality of your landing page. It is vital to have a well-presented page which gives the user all the information that they need. Users consider speed and ease of use to be vital in their choices, so won't take kindly to being directed to a homepage and having to do the navigation themselves. You are also likely to lose potential customers if your website is not optimized for the main browsers or mobile phones.

Conversion Rate Optimization (CRO): It uses an analytics program such as Google Analytics to find out how your site is affecting a variable you find important. The first step of CRO is discovering your current conversion rate using Google Analytics. Next you would look at other factors given to you by Google Analytics, such as bounce rate. These would help you to discover potential flaws in your site. Whether you want to make a big change like an entire page redesign or just change the size of the call-to-action button, all the essential changes required can be made and tested simultaneously with the original version, and the results seen on Google Analytics. It is very important to test these factors out for you and not to copy other businesses. Their conversion optimization may not have been carried out rigorously, and

therefore their result may not be genuine. So, digital marketing is the interweaving of these and other strategies in order to find and retain new customers, and promote your brand. It is often carried out by specialized digital marketing agencies, but individuals and businesses can also handle their own.

11.4 5Ds OF DIGITAL MARKETING AND MANAGEMENT

Digital marketing revolves around these 5Ds, as- (i) digital devices, (ii) digital platforms, (iii) digital media, (iv) digital data, (v) digital technology.



- a) Digital devices: It mainly focuses on the target audience's interaction and engagement on websites and mobile applications using a combination of connected devices. These devices may include smart phones, tablets, desktop computers, TVs, and gaming devices.
- b) Digital platforms: It involves the analysis of the preferred platforms or services of the target audience. Most engagements using popular platforms such as Facebook, Instagram, Google, YouTube, Twitter, Snapchat and LinkedIn.
- c) Digital media: It refers to paid, owned, and earned communications channels utilized to build engagement with the target market through several ways such as advertising e-mails, messaging, search engines, and social networks.
- d) Digital data: It normally consists of audience profiles and engagement patterns with businesses, while digital technology focuses on building interactive experiences across a wide range of platforms, from your websites and mobile apps to your in-store kiosks.
- e) Digital technology: the marketing technology or companies use to create interactive experiences from websites and mobile apps to in-store kiosks and email campaigns. It uses websites and mobile apps to achieve the goals of digital marketing.

All 5Ds are essential to gaining an unparalleled edge in digital marketing campaigns. Optimizing the benefits and becoming an expert in the 5Ds of digital marketing are considered a step in the right direction in today's highly competitive era.

11.5 IMPORTANCE AND BENEFITS OF DIGITAL MARKETING AND MANAGEMENT

The main objective of digital marketing is attracting consumers and allowing them to interact with the brand through digital media. Digital marketing is taking over the traditional marketing channels is because the internet has enabled businesses to interact with targeted audiences in real time. The importance of digital marketing is increasing day by day because:

- It reaches to people on that place where they spend their time & money.
- It levels the playing field for small business.
- It is more targeted compared to the traditional marketing.
- With email marketing, yet another important part of digital marketing, you can target almost down to the individual level.
- With digital marketing you could know whether users actually saw your advertisement, like it, lingered on it or shared it with a friend.
- It is easy to scale & adapt than traditional marketing.
- Integrates Marketing with Mobile Technology.

There are many benefits of digital marketing because of which business and companies are moving towards it. Digital marketing allows you to build awareness of your brand and drive sales. We can understand them with following list-

- a) It lets you effortlessly reach current and new audiences- With digital marketing, you can reach audiences on a global scale. You can market your products and services locally, nationally, or internationally for a little to no cost compared to traditional marketing means. Many digital marketing strategies enable you to reach more people interested in your products or services, as well as new markets and undiscovered interested audiences. You can target people locally to internationally, allowing you to expand your market.
- b) It reaches people at the start of the buying journey- Whenever someone visits the site, you can greet them with targeted offers initially at the point of starting of their buying journey. The more they buy from you, the more you can refine your customer profile and market effectively to them. Getting involved with social media and managing it carefully, you can build customer loyalty and create a reputation for being easy to engage with. Which attracts your customer every time they start to buy a new plan or product?
- c) The power to make changes whenever you want- It is a very big opportunity in the field of digital marketing. This advantage was never available in traditional marketing. Once we published or print something in traditional marketing in the form of posters etc it will

remain same as always it is but on digital platform, we have power to improve the quality of our content always on our fingertip. It affects the number of our target customer and allows us to show the better and improving side of our product.

- d) It is cost-effective- Digital marketing costs much less when compared to many traditional marketing strategies. We'll dive into more detail on this later, but overall, running digital marketing strategies is more cost-effective than traditional media. With many digital marketing strategies, such as content marketing, social media marketing, and search engine optimization, you can implement them for free if you're willing to spend some time and put in the effort. Even online paid advertising methods (such as social media advertising or pay-per-click (PPC) advertising) are much cheaper compared to advertising traditionally. Advertising online with digital marketing lets you pay per person who clicks on your advertisement. Combine that with the far-reaching, advanced audience targeting that digital marketing allows, and you'll be getting the most out of your advertising budget.
- e) It is measurable- When you invest in digital marketing, you can easily track and measure the results of your campaign. Digital marketing allows you to track a wide variety of real-time data such as clicks, dwell time, devices, and more. You can access programs like Google Analytics, where you can track all these metrics in one place. Access to this data enables you to see the results of your digital marketing efforts. Using the data, you can measure how well your digital marketing is performing against your marketing goals. Additionally, you can adapt and optimize your strategy as needed. By tracking your results, you can quickly figure out what works well and what doesn't, which allows you to make changes as you need.
- f) It improves the conversion rate- Digital marketing provides a seamless conversion process for visitors. Users on the Internet often find making a purchase easier, quicker, and more convenient online than through traditional mediums, which means that, due to your digital marketing, you'll have a greater percentage of users who are highly likely to convert using your website.
- g) It allows to target ideal customers- Digital marketing enables you to create personalized content that you can tailor to your audience. With digital marketing, you don't have to create one piece of marketing to try and appeal to everyone. Instead, you can create multiple pieces that are tailored to people with different interests. You can also personalize the content you create to hit your audience's interests and helps solve their problems. Every time you interact with someone, you can continue to gather information to better match their preference.

Digital marketing also has a wide variety of content types you can personalize to match individuals in your audience. For example, you can craft as- (i) Personalized ads based on

search history, (ii) In-depth content based on commonly asked questions, (iii) Engaging social media ads based on likes and interests, and (iv) Unique email marketing campaigns based on shopping behavior.

Difference Between Digital Marketing and Traditional Marketing-

Traditional marketing and Digital marketing have a huge difference though digital marketing is a subset of traditional marketing. Traditional marketing comprises print, broadcast, direct mail, and telephone while Digital marketing includes online advertising; email marketing, social media affiliate marketing, text messaging, search engine optimization, pay per click. The other differences are as following-

S. No.	Traditional Marketing	Digital Marketing
1	No interaction with the audience.	Interaction with the audience
2	Expensive and time-consuming process.	Reasonably cheap and rapid way to promote the products or services.
3	Results are easy to measure.	Results are to a high extent, i.e., easy to measure.
4	Success of traditional marketing strategies can be celebrated if the firm can reach large local audience.	Success of the digital marketing strategies can be celebrated if the company can reach some certain number of local audiences.
5	Limited reach to the consumer due to limited number of consumer technology.	Wider reach to the consumer because of the use of various consumers technology.
6	One campaign prevails for a long time.	Campaigns can be easily changed with expertise and innovations can be introduced within any campaign.
7	24/7 year-round exposure is not possible and no ability to go viral.	24/7 year-round exposure is possible and ability to go viral.
8	One-way conversation.	Two-ways conversation.
9	Marketing advertising campaigns are planned over a long period.	Advertising campaigns are planned over short period of time.
10	Needed much staff and efforts.	Needed good platforms and efforts.

These are few differences which show us that any business can target audience anywhere in the world from one digital marketing campaign. Digital marketing brings the greatest advantage for the consumers by allowing them to make comparison among products or services while traditional marketing have limited options.

11.6 SWOT ANALYSIS OF DIGITAL MARKETING AND MANAGEMENT

Strengths and Opportunities are positive factors while Weaknesses and Threats are negative factors. Strengths and Weaknesses can be controlled by the firm itself. On the other hand, Opportunities and Threats are part of external environment.

To gauge strengths, a complete 360-degree view is required. This includes how the customers, competitors, and stakeholders view the market. To improve the digital strength, we need to

discover more about the market and customers, we require more experience and exploration. We need to promote, find and talk about the strategies. While to identify weakness we need to know that which internal processes need improvement? What the customers say needs improvement? What factors contribute to loss of sale? What do competitors view on firm's weaknesses? And what are the activities to avoid? Basically, the weakness of digital marketing is no priority, no time and no knowledge which a firm needs to remove

To find Opportunities we must need to know that Are there any interesting trends that we can benefit? Are there any good opportunities lined up? Opportunities can appear in different ways for example, a government policy that might help our industry. Change in population, economic and social patterns and in lifestyle. The opportunities of digital marketing are visibility, credibility and preferability which we need to grab from digital neighborhood market places, and to find threats we need to find out the barriers, any technology change that can make the product obsolete or a government regulation that can hurt the business. We also need to know about the competitors who working on a better product or service and one of the most important fact to know about Cash-flow or bad debt issues. Ignorance of ability brings disability so we should use available resources and expert guidance to keep constantly upgrade and to stay away from threats.

Once after finishing the digital marketing SWOT analysis, we need to translate these into short- and long-term strategies. These findings are just the tip-of-iceberg. The real work starts after this.

11.7 CHALLENGES OF DIGITAL MARKETING AND MANAGEMENT

Although a large number of firms are practicing digital marketing, it is not an easy job as there are number of problems which digital marketing may face. They are as following-

- Expertise and Knowledge with Digital Marketing.
- Target Market Engagement.
- Reaching Target Audience.
- Effective Social Media Management.
- Educating Stakeholder about Digital Marketing.
- Lack of Resources.
- Achieving brand awareness.
- Working with the right digital agency.
- Keeping updated on latest technology.
- Creating relevant and rich content.
- Showing Return on Investment.
- Building a good website to understand audience.

- Getting new leads and creating, promoting content.

Thus, digital marketing is a clear concept to understand the mindset of customer by their browsing history on social media platforms and application. Marketers make use of digital portfolio as a platform to promote a professional brand. Presently it becomes a very important platform in the field of marketing.

11.8 FUTURE OF DIGITAL MARKETING

The future of digital marketing is so vast and wide in area. Presently From banners to big data, digital marketing has continuously adapted to meet the needs of customers and brands alike. Today, with increased connectivity and established digital infrastructure, changes are happening much faster. Below we highlight the future prospectus of digital marketing-

Paid media- Paid search, or search engine marketing, is the marketing practice of generating web traffic by buying advertisements on search engines. A probable distribution to this traditional method of paid media is programmatic advertising, a type of paid media that employs to automatically buy advertising space, using data, to determine which audience the ads should target.

SEO (voice optimization)- As consumers adapt and begin to use voice assistants more and more, marketers working with SEO should consider optimizing their websites to recognize voice search. As the popularity of the technology rises, it is likely this number will increase, and the idea of a permanent, hands-free assistant will begin to feel like second nature.

Content (Personalization and video come to the forefront)- Following from SEO and voice search optimization, conversational content that feels personal and authentic remains key to engaging customers in future. As customers are drawn to experiences that reflect their preferences, determining what content will be most relevant to an individual is key to customer's satisfaction and loyalty in future. It will influence the society and create more opportunities in digital marketing.

Influencer marketing system get updated- Influencer marketing has become the equivalent of word-of-mouth marketing today. As people generally trust people more than brands, hearing positive information or feedback about a product or experience from an influencer often holds more weight and credibility than when it comes from the brand itself. Appealing to an individual with conversational, speech accessible, and visually engaging content are key trends informing the way brands are going to position themselves in the near future. In an industry often saturated with sensationalist talk around technology, this should provide marketers and brands with an idea of practical and actionable improvements that technology can provide to their existing digital strategies.

11.9 POINTS TO REMEMBER

- Digital marketing is a subset of traditional marketing.

- SEO, SMO, ORM, PPC and CRO are the key points of digital marketing.
- 5Ds of digital marketing are digital devices, digital platforms, digital media, digital data, and digital technology.
- Digital marketing is easy to scale & adapt.
- Digital marketing is different in many fields from traditional marketing.
- SWOT analysis of digital marketing finds the strength, weakness, opportunity and threat of it.
- There are so many challenges in digital marketing which makes it a competitive platform.

11.10 GLOSSARY

- Search traffic:- refers to the number of all accesses that have been made via search engines.
- Inbound- Towards a particular place
- Substantial- Considerable
- The tip of iceberg- Small part of a problem
- Content marketing- A type of marketing that involves the creation and sharing of online material that does not explicitly promote a brand but is intended to stimulate interest in its products or services
- SEO- Search Engine Optimization
- ORM- Online Reputation Management
- SMO- Social media optimization
- CRO- Conversion Rate Optimization
- PPC- Pay Per Click
- Googling- search for information about (someone or something) on the internet using the search engine Google.
- Big data- Extremely large data sets that may be analyzed computationally to reveal patterns, trends, and associations, especially relating to human behaviour and interactions.

11.11 CHECK YOUR PROGRESS

Descriptive type questions-

- a) What do you understand by the term digital marketing?
- b) What are the 5Ds of digital marketing?
- c) Mention few benefits of digital marketing.
- d) What is the difference between traditional marketing and digital marketing?
- e) What are the future prospects of digital marketing?

Objective type questions-

- a) Digital marketing improves the conversion rate (True/False).
- b) Digital marketing has limited reach to the consumer due to limited number of consumer technology (True/False).
- c) Digital marketing is a two-way conversation (True/False).
- d) CRO means conversion rate optimization (True/False).
- e) Digital marketing revolves around the 5Ds (True/False).
- f) Influencer marketing system is a future prospectus of traditional marketing (True/False).

Answers (Objective type question)-

(a) True (b) False (c) True (d) True (e) True (f) false

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UNIT- 12

DIGITAL MARKETING AUTOMATION AND NEW AGE SKILLS

12.1 INTRODUCTION

12.2 OBJECTIVES

12.3 DIGITAL MARKETING AUTOMATION AND NEW AGE SKILLS: AN OVERVIEW

12.4 BENEFITS OF DIGITAL MARKETING AUTOMATION TOOLS

12.5 COMMON FUNCTIONALITIES OF A MARKETING AUTOMATION SYSTEM

12.6 CHALLENGES FACED BY MARKETING PROFESSIONALS IN THE DIGITAL AGE

12.7 DIFFERENCE BETWEEN EMAIL MARKETING AND MARKETING AUTOMATION

12.8 SKILLS REQUIRED FOR DIGITAL MARKETING

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12.10 GLOSSARY

12.11 CHECK YOUR PROGRESS

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12.13 SUGGESTED READINGS

12.1 INTRODUCTION

Digital Marketing is living a revolution. In the last decade, new practices appeared and transformed the way marketers do their job. This transformation is in working order and is supported by the improvement of information and communication technologies. Cloud computing, Social Networks etc. delivered the foundation of a new paradigm for marketing in the digital era. Digital marketing is often confused with online marketing. Digital marketing is the process of promoting a brand, service or product on the internet. Put simply, Digital marketing differs from traditional marketing in that it involves the use of online channels and

methods that enable businesses and organizations to monitor the success of their marketing campaigns, often in real time, to better understand what does and doesn't work.

Multiple systems were developed in order to answer the constantly changing requirements of digital marketing. Marketing Automation tools were created to automate daily marketing tasks such as connecting with people via email. Digital marketing automation has become big business in recent years; especially as the amount of marketing technologies on the market continue to rise. We will see that this industry is generating a lot of revenue. Billions are spent every year by companies to acquire new marketing platforms. Platforms that help them to reach potential customers, generate sales leads, and at the end generate more revenue for those companies. In this chapter we will study about the digital marketing automation and 21st century new age skills which are required in market to generate revenue.

By definition, Digital marketing automation refers to software platforms and technologies designed for marketing departments and organizations to more effectively market on multiple channels online (such as email, social media, websites, etc.) and automate repetitive tasks.

12.2 OBJECTIVES

After the successful completion of this unit, you will be able to-

- Define digital marketing automation.
- Know the common functionalities of a marketing automation system.
- Define new age skills for digital marketing.
- Find out the challenges faced by digital marketing industry.
- Differentiate between email marketing and marketing automation.
- Explain the skills required for digital marketing.

12.3 DIGITAL MARKETING AUTOMATION AND NEW AGE SKILLS: AN OVERVIEW

As the Fourth Industrial Revolution or the New Machine Age takes off in 2020, only graduates who are highly accomplished in the new technologies, will find jobs, Cloud computing, algorithms, automation. Artificial Intelligence (AI), and analytical reasoning have emerged as the next generation technologies in which high quality jobs will replace existing ones. Jobs will be created to increase profits in a digital economy by working with a handful of employees as in Amazon, Google, Face book and Instagram using technology and data imaginatively. Employees will be expected to use critical thinking to develop automation for decision-making or develop applications for easily available data (on Cloud) and creatively exploit technology to provide entertainment. For instance, the arts (such as paintings and symphonies) can be creatively produced with machines by highly imaginative employees, and sold on portals in large numbers at little cost. It is required to learn the new age skills for digital marketing automation.

In simple words we can say that Digital marketing is any form of marketing products or services that involves electronic devices. There is a need for action in the area of basic compulsory education, which should improve its promotion of social skills. Although there no 'one size fits all' approach to teaching social intelligence, there is general agreement that a greater focus on group and project work, interviews and presentations is likely to help.

12.4 BENEFITS OF DIGITAL MARKETING AUTOMATION TOOLS

There are several company-wide benefits to using a marketing tool. These types of tools allow marketers to automate and simplify client communication by managing complex omni-channel marketing strategies from a single tool. Marketing Automation tools assist digital marketers in areas such as Lead Generation, Segmentation, Lead nurturing and lead scoring, Relationship marketing, Cross-sell and upsell, Retention, Marketing ROI measurement.

- Reduced staffing costs. You won't need as many employees on staff helping out with marketing activities if everything can be managed from one platform.
- Better ROI. Marketing automation tools are capable of automating cross-sells, upsells and follow ups which can boost revenue and deal size.
- Clearly defines processes and points out bottlenecks. Having all of your processes clearly laid out makes it easier for marketing and sales teams to hold each other accountable for specific tasks.
- Boosts effectiveness. Marketing automation saves you a lot of time that would otherwise be spent doing mundane tasks.
- More room for creativity. Because you no longer have to repeatedly do the same manual tasks, your time is freed up to work on more varied creative work.
- HubSpot, Pardot, LeadSquared etc. are some digital marketing automation tools by using which one can spend his time and attention focusing on other efforts that will increase company's success.

12.5 COMMON FUNCTIONALITIES OF A MARKETING AUTOMATION SYSTEM

- **Lead Scoring:** Scoring of the potential of a person to become a future customer. Each time a visitor does an action such as visiting a page, downloading a document or reading an email, he gets a certain score. This score is an indication of his potential of becoming a future customer. Any automation software should have a complete lead nurturing process where it will handle lead information to lead scoring to lead assigning. It should allow marketing and sales teams to work together to gain more leads, nurture leads effectively and increase the lead to customer ratio.

- **Tracking:** Capturing user information across multiple online channels (website, email, social channel etc.). Every single interaction with any touch point is tracked into the system. Conversion tracking measures and tracks how consumers are interacting with your digital marketing, and more importantly, whether you are “converting” a visitor into a customer, or at least, someone who takes an action after learning about your offer, product or service
- **Contact Management:** It is management of all the user information collected in a central database. Digital contact management is not only is valuable for email campaigns, but also for other forms of communication. If a salesperson needs to call an existing or potential client, he or she can quickly access your contact database to freshen up on key facts. Likewise, your database can help you adjust other forms of advertisement like print mailers or ads. With an overview of your clients’ background and interests, you can focus on messaging in the right area and avoid fruitless and costly advertising where it isn’t effective.
- **E-mail Design:** To create WYSIWYG emails with a simple editor tool. Structure your emails to help draw people into reading your content. it’s important that your email campaigns are aligned with the colors, fonts and branding you use across all your other customer touch points. This helps ensure your subscribers know the campaign is coming from you, and helps create a level of trust and credibility in your campaign that reassures people it’s safe to click through. Nobody wants to open or interact with an email that feels foreign.
- **Analytics and reporting:** Giving an overview of the marketing funnel and performance of marketing campaigns. Export data and generate reports. Compiling, organizing and comparing data means that you know exactly how well your campaigns are performing. In order to optimize the performance of your digital marketing campaigns, you’ll need to know what to do with all of that data. This data and reports help to make marketing strategies better.
- **Automation of marketing campaigns:** Creation of workflows that will send the appropriate information (personalized information) on the appropriate channel (email/web/social/SMS) based on the behavior of the user. These types of tools allow marketers to automate and simplify client communication by managing complex omni-channel marketing strategies from a single tool. Marketing Automation tools assist digital marketers in areas such as Lead Generation, Segmentation, Lead nurturing and lead scoring, Relationship marketing, Cross-sell and upsell, Retention, Marketing ROI measurement.

The features above are the core features. Any marketing automation system needs to provide at least these features in order to be considered from this category.

12.6 CHALLENGES FACED BY MARKETING PROFESSIONALS IN THE DIGITAL AGE

Marketers in today's world are constantly inundated with fresh ideas, new platforms for promoting their businesses, and new technologies to take advantage of. While these innovations are often exciting and beneficial, keeping up with the changes can quickly become overwhelming for marketers. Companies, as well as employees and training institutions, also face major challenges in tackling the changes brought about by automation and digitalization. Some are as follows-

- **Creating Consistent Branding-** Branding is one of the most important aspects of marketing. With so many messages tossed in consumers' faces day after day, it's crucial to create a recognizable, relevant brand. Without consistent branding, your business becomes just another faceless name in a sea of ads.
- **Not getting lost in the volume-** The digital world is booming and almost every business out there has taken its products/services online to reach out to the masses. While it is a fact that at least some of your products/services might be similar to what another business has to offer, there is definitely a small aspect that is unique to you. Discover the USP of your product/service and find ways to convey the same.
- **Generating Traffic and Leads-** Generating traffic and leads seems to get harder instead of easier as more platforms become available. To get people interested in what you have to say, you first need to create content your audience truly wants.
- **Driving relevant traffic to the website-** Continuing on the point above, marketers today are consistently facing a challenge when it comes to spreading brand awareness in the right target market. This also makes it harder for them to drive the ideal traffic to their business websites. Take into consideration the content you're producing, the channels you're presenting it on, the social media channels that you're actively present on and the paid/unpaid campaigns you are possibly running. Make use of robust analytics to understand which of them work the best for you and optimize your efforts simultaneously. But it is important to measure your analytics at modest intervals of time to give each of your efforts enough span to work over.
- **Managing Your Website-** It's no surprise managing websites is one of the biggest obstacle's modern marketers face. You need your website to attract, nurture, and convert leads. Otherwise, it's nothing more than a shiny golden toilet: a necessity you've thrown money into that's gone to waste and not serving its purpose.
- **Securing an Effective Budget-** To justify spending money on marketing, you need to prove that what you're doing works. Track your ROI and don't be afraid to try new things when the old ones no longer deliver results. If you work with a marketing agency, ask for reports near the end of the year to demonstrate how your money is going to good use.

- Understanding Tools and Technology- Deciding on the right tools, technology, and software for your business can be difficult, to say the least. Whatever you decide to go with, just be sure your team uses it consistently and takes advantage of all its uses.
- Creating the Right Content- One need to consider the type of content modern consumers wants. Blog posts versus videos, for example. Videos and social media posts are consumed more times than any other types of content. For even more success, consider working video into your other pieces of content.
- Finding the Best Marketing Talent- A major problem for a lot of business owners and marketing managers is finding the right people to join their team. Just like with web design, the best bet for your business may be to partner with a marketing agency. These organizations employ the best pros for every area of marketing. From writing great content to managing social media and beyond, they've got you covered. Social media sites mostly Facebook, Twitter, LinkedIn, Instagram and other similar platforms provide lucrative opportunities to promote your brand. The best thing about social ads is that you know your targets well and can propose your brand message.
- Determining Your Marketing ROI- Measuring the ROI (return on investment) of your marketing projects is the most efficient way to determine the effectiveness of each campaign you launch. It's also a sure-fire way to obtain a larger marketing budget. To best measure ROI, you need to close the loop between marketing activities and sales results.
- Training Your Team- Every employee you hire should be adequately trained, and your marketing team is no exception. If you choose to hire a full- or part-time marketing staff, it's crucial to provide thorough training even if they're experts in their field. To do this, begin by evaluating the levels of expertise, strengths, and weaknesses of each team member. Next, have your team members set personal growth goals for each quarter. These goals might include getting certifications in their area of expertise, reading a new marketing book, or watching a webinar.
- Facilitating Increased Customer Engagement- All too often, marketers are forced to spend so much time and energy on obtaining new leads that they accidentally neglect existing customers. This is a huge mistake since existing customers have the potential to provide additional sales and referrals. Implement a customer engagement plan that can be easily automated while simultaneously providing perks for loyal customers.
- Targeting the right audience effectively- One of the first and foremost thing that an effective marketer does, is to identify their target audience in the market. With the number of internet users increasing by the day and their needs changing almost every second, targeting the right audience has become one of the biggest challenges for marketers. Look at the general demographics of the market that you want to reach out to.

Identify their needs and create customer personas taking into consideration their online behavior and possible future needs.

12.7 DIFFERENCE BETWEEN E-MAIL MARKETING AND MARKETING AUTOMATION

It is important to understand the difference between email marketing and marketing automation. Even though the differences can be sometimes thin. To make it simple, Email marketing is only about sending mass email and tracks open rates and clicks. When marketing automation goes beyond and adds on top of it the features described before. Just as there are stark differences between email as a form of communication and email marketing, there are also stark differences between email marketing and marketing automation. While both tools use email as the primary channel to engage with your audience, email marketing tracks only the actions taken by recipients of your email blasts.

Marketing automation software, on the other hand, monitors every digital interaction a lead has with your business. It also compiles all that data into an activity history that gives a 360-degree view of your leads and their digital breadcrumbs. Marketing Automation allows you to automate email workflow, track user behavior on different channels and score them. When the goal of Email Marketing is to facilitate the email communication between a company and a mass of users, Marketing Automation goal is to nurture the user with relevant information and drive qualified leads to sales. Later in the document, email marketing vendors will be as well study as they start providing automation features for small businesses.

12.8 SKILLS REQUIRED FOR DIGITAL MARKETING

In this new era of digital automation, one needs to know basic and advanced skills of digital marketing to be competitive in the market. Here is a list of few digital marketing skills, across various functions of digital marketing:

- Learn how to compress and resize images.
- How to use inspect element and change the HTML content on the page.
- Learn how to create SEO friendly URLs, canonicals and no follows.
- Run a simple SQL query on your database.
- Know the difference between HTML, CSS & JavaScript and how they work together.
- Install, configure and implement Word Press themes and plugins.
- Design a small wireframe in Photoshop or sketch.
- Learn how to use regular expressions.
- How to create and edit a short video?
- Organization and project management skills.
- Implement conversion pixels in Google Tag Manager.
- Difference between Title, Description, H1 and Meta tags on a page.

- Learn to create a basic form in one programming language.
- Code a small macro in excels.
- Know the difference between UI and UX.
- Voice search SEO.
- Configure an experiment in an A/B testing tool.
- Bypass CSS, HTML with Short Codes!
- Ability to analyze data and draw insights.
- Knowledge and appreciation of automation.
- Create and edit screen captures & GIFs.
- Advanced social media knowledge.

Apart from the above skills a person needs to be spontaneous tomorrow's marketers need to go beyond just posting occasionally on social. Rather, they need to understand paid advertising on social, social chatbots, and how to build engaging communities on social. For example, social paid advertising continues to grow with hundreds of options for placements. As digital marketing continues to expand, the best marketers will be life-long learners who are hungry to develop new skills.

12.9 POINTS TO REMEMBER

- Digital marketing automation refers to software platforms and technologies designed for marketing departments and organizations to more effectively market on multiple.
- Common functionalities of a marketing automation system are lead scoring, tracking, contact management, analytics and reporting, email design and automation of marketing campaigns.
- Branding is one the most important aspect of digital marketing.
- Email marketing and marketing automation both are different thing.
- Digital marketing skills are required to gain revenue in the market.

12.10 GLOSSARY

- One size fit all- One process applies to all.
- SEO- Search Engine Optimization.
- UI- User Interface.
- ROI- Return on investment.
- UX- User experience.
- CSS- Cascading Style Sheets.
- WYSIWYG- what you see is what you get.

12.11 CHECK YOUR PROGRESS

Descriptive Type Questions-

- a) What is digital marketing automation?
- b) What are challenges faced by marketing professionals in digital marketing automation?
- c) What is the difference between email marketing and marketing automation?
- d) What are the new age skills required for digital marketing?
- e) Explain data stealing and hacking in your own words.
- f) What is demographic segmentation? Explain the bases of segmentation according to you.

Objective Type Questions-

- a) Multiple systems were developed in order to answer the constantly changing requirements of digital marketing (True/False).
- b) Lead scoring is an indication of customer's potential of becoming a future customer (True/False).
- c) Branding is not an important aspect of marketing (True/False).
- d) Email marketing and marketing automation are same (True/False).
- e) Marketing Automation goal is to nurture the user with relevant information and drive qualified leads to sales (True/False).

Answers (Objective Type Question)-

[a] True [b] True [c] False [d] False [e] True

12.12 BIBLIOGRAPHY/ REFERENCES

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