# UNIT – I – OTT Platform and Social Media – SVCA5204

# I.     Digital Media content

Digital content is any content that exists in the form of digital data. Also known as digital media, digital content is stored on digital or analog storage in specific formats. Forms of digital content include information that is digitally broadcast, streamed, or contained in computer files. Viewed narrowly, digital content includes popular media types, while a broader approach considers any type of digital information (e. g. digitally updated weather forecasts, GPS maps, and so on) as digital content.



Digital content has increased as more households have accessed the Internet. Expanded access has made it easier for people to receive their news and watch TV online, challenging the popularity of traditional platforms. Increased access to the Internet has also led to the mass publication of digital content through individuals in the form of eBooks, blog posts, and even Facebook posts. Digital media means any media that are encoded in machine-readable formats. Digital media can be created, viewed, distributed, modified, and preserved on digital electronics devices. Digital can be defined as any data represented with a series of digits, and Media refers to a method of broadcasting or communicating information. Together, digital media refers to any information that is broadcast to us through a screen. This includes text, audio, video, and graphics that is transmitted over the internet, for viewing on the internet.

## II.  Digital Media Production and Consumption

Computers were developed in the middle 20th century, and commercialized in the 1960s. Apple and other companies sold computers for hobbyists in the 1970s, and in 1981 IBM released computers intended for consumers.

On August 6, 1991, the internet and World Wide Web, long in use by computer specialists, became available to the public. This was the start of the commercialized Internet that people use today.

In 1999, Friends Reunited, the first social media site, was released to the public. Since then, Myspace, Facebook, Twitter and other social networks have been created. Facebook and Twitter are the top social media sites in terms of usage. Facebook has a total of 1,230,000,000 consumers while Twitter has 645,750,000. Both companies are worth billions of dollars, and continue to grow.

Overall media consumption has immensely increased over time, from the era of the introduction of motion pictures, to the age of social networks and the internet.

## III.  Strategic Implication for Media Companies

Implementation of a marketing strategy can improve business profitability because of implications for all aspects of the company's operations. The marketing strategy focuses company attention on particular target market segments and makes it clear what product characteristics are required for successfully satisfying customer needs. This focus eliminates marginal operations that don't contribute to business growth and promotes a streamlined approach to the company's business.

**Customers**

The main implication of a marketing strategy is the orientation toward meeting customer needs that results in increased customer satisfaction. Once you have identified your target market and the characteristics of your targeted customers through surveys and market studies, you can focus on strategies to serve your customers better than your competition. Customer impressions of your company improve with this focus, and your image in the marketplace becomes more positive. Such a marketing strategy is designed to gain new customers as you build a more favorable reputation.

**Products**

A marketing strategy has important implications for product design and promotion. Once you know what your customers want, you have to ensure that the product features meet their needs or change the design to add corresponding features. Instead of convincing customers to buy the product you have, you offer them the product they need and promote the features they want. A marketing strategy focused on offering products that suit your target market promotes innovation and improves product quality. The marketing strategy then specifies that you run ads promoting the innovative nature and high quality of your products.

## IV.   New Venture Creation in Social Media Platform

Effective use of social media can bring great opportunities for your business, but will require some thought and planning. Moving with fast-paced developments in online technology can help to enhance your brand, boost your profile and perhaps even win new business. However you need a healthy perspective on what your business is able to put into social media, and what's realistic to expect in return.

## New Venture Creation for business

Home computers, laptops, tablets, smartphones, even internet enabled televisions mean people can easily access the web from anywhere at any time. Faster connections, new devices and new online applications have all helped to change the way people work, socialise and shop.

It is now easier than ever for businesses to: directly target customers with marketing campaigns promote new products or services build brand awareness personally interact with existing and potential customers measure referrals from your social media activity to sales Social media can be a cheap and effective way of starting a marketing campaign, with a big impact possible from minimal investment. Your social media strategy should contain a smart mix of engaging content and a friendly and responsive 'persona' can grow a focused community which is interested in your product/service/brand and can recommend your business to others.

Social media should be incorporated into public relations (PR) strategy. PR means getting people to talk and think about your business in a positive way. Social media provides a platform for customers to talk with each other. How you manage that platform and engage with what your customers are saying is an important part of your PR strategy.

## V.    Digital journalism

Digital journalism also known as online journalism is a contemporary form of journalism where editorial content is distributed via the Internet as opposed to publishing via print or broadcast. What constitutes 'digital journalism' is debated by scholars. However the primary product of journalism, which is news and features on current affairs, is presented solely or in combination as text, audio, video and some interactive forms, and disseminated through digital media platforms. Fewer barriers to entry, lowered distribution costs, and diverse computer networking technologies have led to the widespread practice of digital journalism. It has democratized the flow of information that was previously controlled by traditional media including newspapers, magazines, radio, and television. A greater degree of creativity can be exercised with digital journalism when compared to traditional journalism and traditional media. The digital aspect can be central to the journalistic message or not, and remains within the creative control of the writer, editor, and/or publisher.

## VI.    Role of Social Media in News Provision and Participation

**Social media**

Social media are interactive technologies that allow the creation or sharing/exchange of information, ideas, career interests, and other forms of expression via virtual communities and networks.

The rise of the Internet as an influential communication medium has substantially changed the existing models of information and news consumption. The growing number of available information channels and sources, as well as greater possibilities for interaction and co-creation among consumers of information, has fundamentally affected consumption of news. We observe a number of important trends in this context. First, adverse effects on well-established print and broadcast mass media have transpired from loss of advertising revenue and the consequent decline in he quality of their journalistic offerings. Second, new Internet-based media, incorporating voluntary contributions by broad networks of self-selected participants that report, share and distribute news (e.g. blogs, political forums, and social networks), have acquired legitimacy. In addition to co creating news, consumers curate news for their social networks, selecting and sharing those most worthy of attention, and filtering out irrelevant (or not conforming to their views) stories and items. These forms of bottom-up news ''prod usage'', where consumers

collaboratively create and curate news stories, offer a novel socially negotiated informational product that heavily relies on opinions, and substitutes the journalistic ideal of objectivity with that of balance (or ''multi-perspectivality'').

Third, and as a result, an avalanche of information from the soaring number of (frequently unverified) sources floods individual media spaces, potentially causing such negative consequences as information overload, suboptimal knowledge formation, and biased worldview. In connection with these developments, some writers caution against the so-called ''filter bubble'', when those attempting to overcome news information overload and to make better sense of the contemporary events, increasingly rely on information curated by like-minded others populating their virtual social networks. According to this view, an unintended consequence of such ''social filtering'' may ultimately undermine civic discourse by confirming our pre-existing views and limiting our exposure to challenging beliefs.

## VII. Social Media in the Audio-visual Business

In a society engaged with smartphones and connected with 5G and fiber-optic internet, there are few remaining reasons why businesses shouldn't be engaging customers with audiovisual media, but just being pervasive isn't the reason why. The truth is audiovisual media makes your message much more engaging and much easier to remember than other forms of communication.

In order to be successful in marketing audio, video or multimedia program material in today's complex marketplace, the seller must be Internet savvy. He or she should be capable of spreading a targeted story not only about the program being sold, but the production company or band's brand identity as well.

To be successful, any business, band or individual content maker must be able to succinctly describe the uniqueness of its product and clearly identify the targeted audience for it. Words are no longer enough. To sell anything today, one also needs the high-level marketing message on video, the preferred communications medium of the Internet.

In today's visual culture, it takes video to promote and sell any kind of audio-visual content. That's because survey after survey have long found that Internet users watch video far more frequently than they read text. Video is where the eyeballs are.

At the same time, social media, which costs very little to employ, has proven to be one of the most effective ways to sell file-based products. The combination of video and social media allows almost anyone to be a player into today's media.

## Question Bank

### Part A

| S.No | ANSWER ALL THE QUESTIONS | CO(BL) |
|------|--------------------------|--------|
| 1 | What is Digital Media? | 1(1) |
| 2 | List out uses of Digital Media? | 1(4) |
| 3 | Explain Digital Media Productions? | 1(2) |
| 4 | Sketch the Digital Media Consuming? | 1(3) |
| 5 | Explain Social Media? | 1(2) |
| 6 | What is Digital Journalism? | 1(1) |
| 7 | What is the need of Digital Journalism? | 1(1) |

| 8 | Explain YouTube? | **1(2)** |
|---|---|---|
| 9 | Express your thoughts on YouTube in Video Business? | **1(2)** |
| 10 | Illustrate Social Media in Audio & Video Business? | **1(3)** |

## Part B

| S.No | ANSWER ALL THE QUESTIONS | CO(BL) |
|---|---|---|
| 1 | Categorize different New Venture Creation in Social Media Platform? | **1(4)** |
| 2 | Explain in details about Strategic Implication for Media Companies? | **1(5)** |
| 3 | Illustrate origin and history of Digital Media Content Production and Consumption? | **1(3)** |
| 4 | Sketch the Role of Social Media in News Provision and Participation? | **1(3)** |
| 5 | Explain in details about the Social Media in the Audio & visual Business? | **1(5)** |

**SCHOOL OF SCIENCE AND HUMANITIES**

**DEPARTMENT OF VISUAL COMMUNICATION**

# UNIT – II – OTT Platform and Social Media – SVCA5204

## I.    OTT

OTT stands for "Over The Top" and refers to any streaming service that delivers content over the internet. The service is delivered "over the top" of another platform, hence the moniker.



In previous years, a consumer would take out a cable subscription and their cable TV provider would be responsible for the supply and availability of programming. In the modern era, users can sign up for services like Netflix or Spotify and access their offerings over the internet. The cable provider now only provides the internet connection and has no ability to control what you consume. This separation has big implications for advertising.

**Important of OTT**

Because OTT is a relatively new phenomenon, there is a huge amount of growth potential. Lots of companies are entering the OTT space, leading to a wide variety of options for consumers, and increasing quantities of ad inventory for marketers. As more people cut the cord and move towards online-only media consumption, the way to reach these consumers will increasingly be via OTT services. How marketers can take advantage of these platforms remains, widely, to be seen.

**OTT providers**

The type of OTT service most users probably interact with most regularly is video OTT. Services like Netflix, Hulu or Disney+HotStar are video OTT services, which provide users with a number of programming options, both in terms of a licensed library of TV shows and films, as well as original programming.

Another major OTT market is audio, with services such as Spotify now almost synonymous with music streaming. Users can access a massive library of recording artists and podcasts via an internet connection.

Remember text messages? Most users now use OTT messaging services like WhatsApp, Telegram or Signal, which allow them to use their internet connection to share information.

Similarly, voice OTT services, like Skype or WhatsApp, are increasingly common instead of phone calls.

## II.    Direct to consumers from content originators

Direct-to-consumer (DTC) refers to selling products directly to customers, bypassing any third-party retailers, wholesalers, or any other middlemen. DTC brands are usually sold online only and specialize in a specific product category: Casper, Warby Parker, Everlane, Harry's, Outdoor Voices, AWAY, and Dollar Shave Club. Some direct-to-consumer brands have opened a limited number of physical retail spaces in adjunct to their main e-commerce platform in a clicks-and-mortar business model.

Today's consumers want to find a company that can deliver an excellent and unique experience that sets them apart from other brands. Marketers are turning to first-party data and data onboarding as a way to maximize the consumer experience and focus on high-value consumers. Building a robust first-party data collection process is vital for direct-to-consumer brands so marketers can focus on delivering messages to the right consumers to maximize their investment in marketing. In the simplest terms, data onboarding is the process of taking offline data to an online environment and integrating it with a demand-side platform for digital advertising campaigns.

## III. Internet TV Delivery Platforms



OTT platforms/streaming services have seen outrageous growth in India as well as other parts of the world over the past few years. They are close to overtaking cable and satellite pay-TV. According to reports, the video streaming service market size could balloon up to Rs 4,000 crore by the end of 2025. As of July 2020, India had as many as 29 crores OTT platform users.

## IV. Video Streaming Protocols

A protocol is a set of rules governing how data travels from one communicating system to another. These are layered on top of one another to form a protocol stack. That way, protocols at each layer can focus on a specific function and cooperate with each other. The lowest layer acts as a foundation, and each layer above it adds complexity.

The Real Time Streaming Protocol (RTSP) is a network control protocol designed for use in entertainment and communications systems to control streaming media servers. The protocol is used for establishing and controlling media sessions between endpoints. Clients of media servers issue VHS-style commands, such as play, record and pause, to facilitate real-time control of the media streaming from the server to a client (Video On Demand) or from a client to the server (Voice Recording).

Online video delivery uses both streaming protocols and HTTP-based protocols. Streaming protocols like Real-Time Messaging Protocol (RTMP) enable speedy video delivery using dedicated streaming servers, whereas HTTP-based protocols rely on regular web servers to optimize the viewing experience and quickly scale. Finally, a handful of emerging HTTP-based technologies like the Common Media Application Format (CMAF) and Apple's Low-Latency HLS seek to deliver the best of both options to support low-latency streaming at scale.

## V.    OTT technologies and strategies for broadcasters

Over-the-top (OTT) technology is shifting the way broadcasters distribute content. By bypassing the constraints of traditional media networks, OTT platforms offer better access to the content audiences want and allow them to access at their leisure.

OTT broadcasting amplifies the power of media delivery by giving professional broadcasters the unprecedented ability to interact with live audiences. OTT video on demand also represents a unique opportunity to reach a growing user segment becoming less interested in traditional media outlets.

In this post, we are going to cover everything you need to know about OTT broadcasting. We will start by defining OTT and describing what OTT broadcasting is used for. From there, we'll break down some different types of OTT broadcasting, including live streaming and VOD.

As communications and entertainment needs have gone mobile and social, consumers have increasingly embraced internet-delivered video for viewing TV shows and movies. If broadcasters and programmers are to reach this audience, they themselves must embrace a new set of video-delivery techniques. One of these is over-the-top (OTT) video delivery: digital video programming via the open internet rather than over the air or through a facilities-based service provider that can be sent to any connected-consumer electronics device, regardless of location.

Online delivery to so many types of consumer devices means that video programmers must produce multiple internet-streaming formats that use different types of security and different ways of inserting ads. This report explains the technical details of the various format and delivery types.

Other considerations include the need for maintaining high video quality despite external factors and choosing from among multiple architectural approaches to optimize delivery.

Broadcasters and other content producers should keep in mind that content is still king; their programming represents their primary value to consumers, so OTT is not just an added expense. Broadcasters should view OTT delivery as both an additional channel of distribution and an added revenue opportunity for video-programming producers.

Because younger consumers want the delivery and pricing models of OTT, video programmers, pay-TV operators, and consumer device makers are all racing to enable them. Although programmers fear new devices and inadequate security, advances in security technologies and the finalization of OTT technical standards will mitigate these concerns over time.

## VI.    OTT and multiscreen technologies

The consumer viewing experience has shifted rapidly from a time when the only option was watching video content on one linear screen, in one fixed place, and at one scheduled time. Today, content offerings have expanded to multiple screens and are targeted to viewers in many places, on their schedules and we are barreling towards a world of personalized viewing moments that are built for one, on any screen, at any time and in any way an individual viewer chooses.
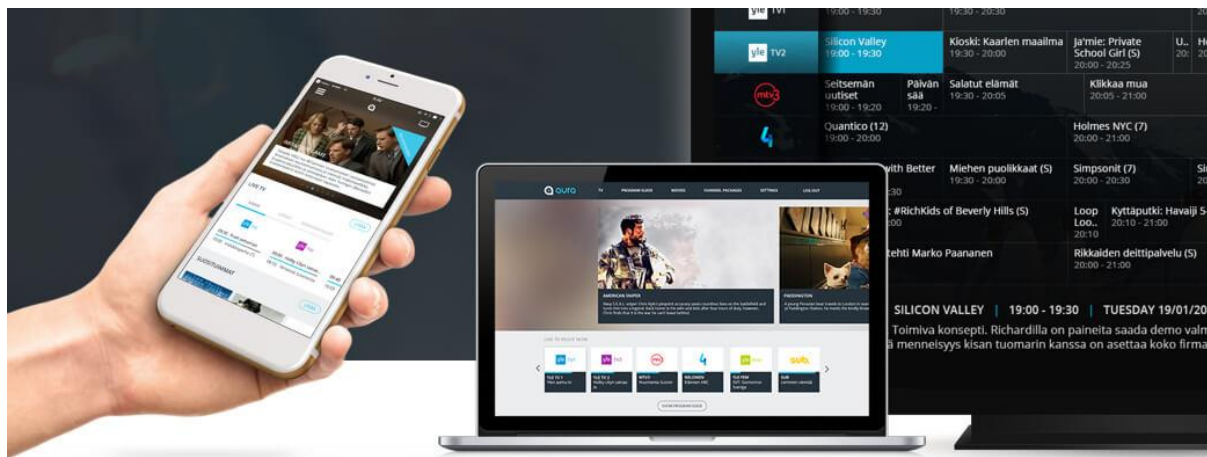


The following five perspectives are important to securing a successful, modern video service:

1.Multi-screen Consumer

2.Multi-platform Framework

3.Personalization

4.Continuous Service Evolution

5.Application Lifecycle

## 1. The Multiscreen Consumer

Given the new trend that "The first screen is no longer automatically the TV", device-shifting is one of the main attributes of the Multi-screen Consumer, who will typically use multiple screens to consume video throughout the day. While still spending time viewing longer-form content on bigger screens, many users are consuming the majority of their online video on their mobile device. Multi-screen behavior is proving to be a real value-add for consumers, even helping to reduce churn. Therefore, we will see more and more services launching with this capability, making it all the more important.

## 2. Multi-platform Framework

Make sure you select software partners that have a proven track record of delivering true multi-platform solutions. This recommendation is true for both the client-side development, as well as the video delivery platform.

## 3. Personalization

Personalization of content today focuses on two broad types: Demographic-based and 1-to-1. In the former, content is data- or editorial-driven, such as in customized home pages for different audience segments. Much of the industry's focus today, however, is on 1-to-1 personalization, where content appealing to the individual user is shown and other content is hidden.

## 4. Continuous Evolution

The rapid technology evolution of the platforms in the OTT space has further applied pressure to video service providers. End-users of these platforms are used to frequently receiving updates and refinements to the user experience as well as underlying application optimization. Most service providers will not have a budget comparative to that of Netflix with its 65 million subscribers, yet

consumers still expect a great and continuously improved user experience during the lifetime of the service.

5. Application Lifecycle

Once a service provider decides to launch a multi-screen video service, there will soon be numerous application versions, application profiles, application updates for both native- and web-enabled devices.

Establishing an Efficient Application Lifecycle requires the service provider to secure a professional way of handling all application provisioning by using cloud solutions for dynamic application profiling and thus securing maximum application flexibility with limited costs.

## VII.  Video Security
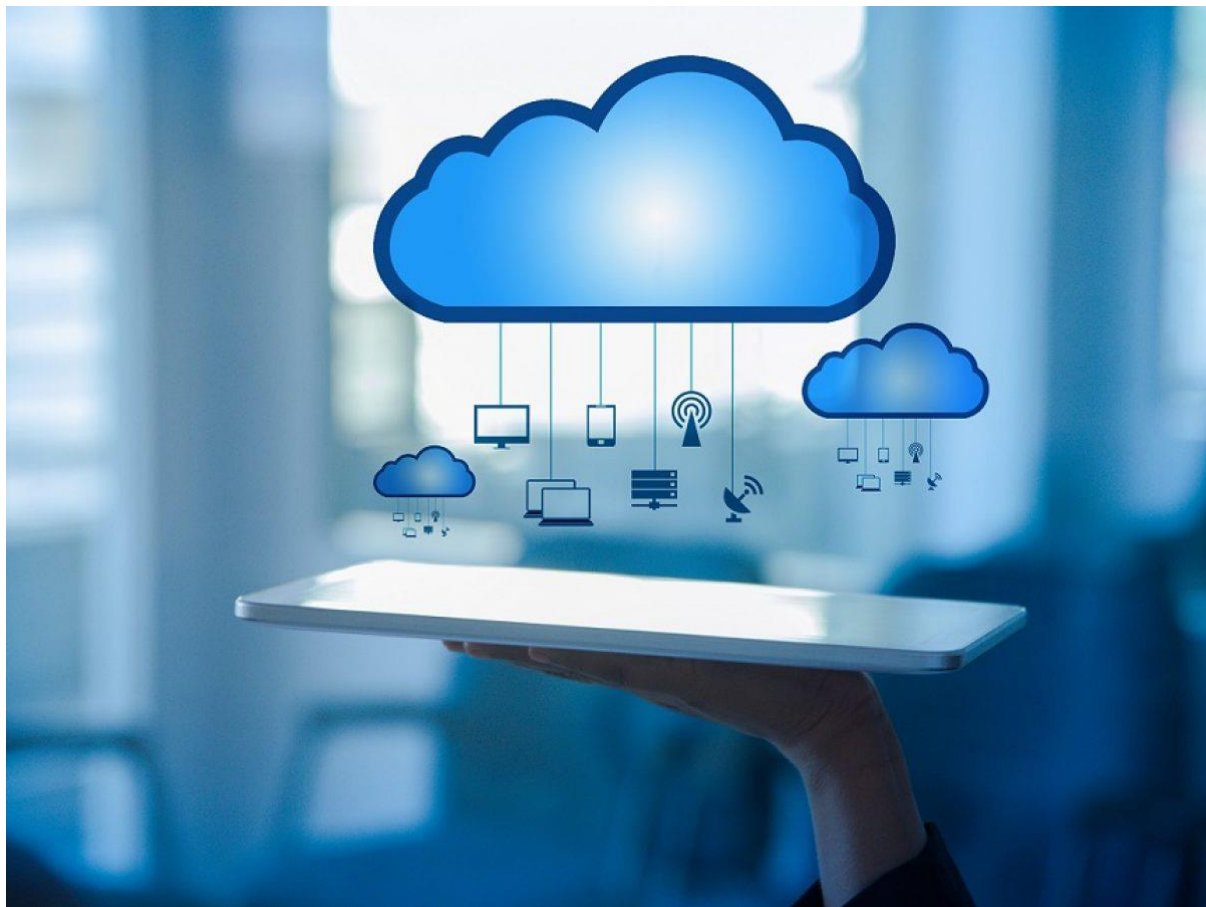
A video security system is a surveillance system capable of capturing images and videos that can be compressed, stored or sent over communication networks. Video surveillance systems can be used for nearly any environment.

## VIII.  Ad insertion
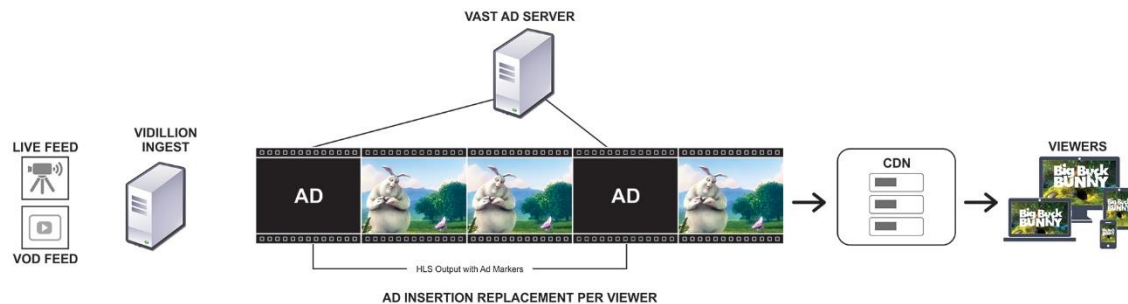


Ad insertion is a technology that allows advertisers to swap out ad creatives in linear, live or video-on-demand, content. Rather than just serving the same ad to each consumer, this makes it possible for advertisers to actually leverage the deep audience insights that are available through a modern video ad server, targeting each viewer specifically.

## IX.  OTT Changing the Movie Business

We're living in a time when the conventional methods are shattering whether it is a job, meeting, or releasing a movie. Before Covid-19, OTT platforms were best known for their catalogues and producing new series, movies. But, Gulabo Sitabo changed everything as the movie went straight for an OTT release on Amazon Prime.

The movie was released worldwide (with subtitles) on a single day expanding its reach to audiences across the globe. In the traditional method, it was not possible to release a small budget movie to release worldwide because of financial constraints and risks involved with it. But, with

the new methods, a production house can release the movie worldwide with zero risks because they don't have to care about the rate of return as they're being paid a fixed amount, irrespective of the movie's performance.

**<u>The risk is low</u>**

There's no denying the fact that box office collections contribute to the entire revenue of a movie which is about 60-70%, the rest of the revenue is collected by satellite and music rights. Star-studded movies produced by big banners have the potential to earn a significant amount of money from theatres but small budget movies don't have that privilege. They work on a high-risk model, can' even speculate the box office collections; it's a hit or miss kind of situation.

We continuously read about movies entering the 100 crore club, but we don't hear about the great movies because they can't earn from the box office. A low budget movie will always be a high-risk situation in theatres whereas, on the OTT platforms, the situation is contrary. OTT is changing the cinema industry, promoting small budget movies and eliminating the risk involved by paying them a fixed amount of money, which would cover their expenses. The money paid by these platforms doesn't have anything to do with the movie's performance on the platform. It might do well or bad, so now the risk of the production houses has been transferred to the OTT platforms. But, we must consider the fact that OTT is a niche, and subscribers do prefer a content-oriented product rather than gibberish and cacophony of mainstream cinema.

- The demand for high-quality content is increasing every day as the common person is able to access OTT platforms from their home.

- The OTTs will find newer ways to make advertising profitable as movie watching becomes more common and cheaper for everyone with a subscription.

- Already, several production houses have a collection of their content available for platforms like YouTube, but soon they will reach out to other rising OTT platforms of preference in India including Hotstar, Sony LIV, Hoichoi, Eros Now and Sun NXT.

- Theatres will soon become an exclusive or luxury experience as audiences can watch the hot new releases as well as the classics on a combination of OTT and DTH from the comfort of their own homes at the fraction of the price.

- More movies will hit the popular OTT platforms like Prime Video, Netflix, Disney+ and Eros Now after their initial release in their theatres.

- Many movies and TV shows will rake more profit on the digital platforms following the footsteps of Trolls World Tour and some might release exclusively for OTT platforms like Manhunt, Ghost Stories and Guilty.

# Question Bank

**Part A**

| S.No | ANSWER ALL THE QUESTIONS | CO(BL) |
|------|--------------------------|--------|
| 1 | What is OTT? | 2(1) |
| 2 | Summarize Internet TV? | 2(2) |
| 3 | Explain about Video Streaming? | 2(5) |
| 4 | List out any five OTT Platform in India? | 2(4) |
| 5 | Define Ad insertion? | 2(1) |
| 6 | Explain about Video Security? | 2(2) |

| 7 | Explain multiscreen technologies? | **2(2)** |
|---|---|---|
| 8 | List out uses of OTT in Direct to consumers? | **2(4)** |
| 9 | Which is the world top OTT? | **2(1)** |
| 10 | Which is the India's first OTT? | **2(1)** |

**Part B**

| S.No | ANSWER ALL THE QUESTIONS | CO(BL) |
|---|---|---|
| 1 | List out the advantages of Direct to consumers from content originators? | **2(4)** |
| 2 | Explain in details about Video Streaming Protocols? | **2(5)** |
| 3 | Illustrate OTT technologies and strategies for broadcasters? | **2(3)** |
| 4 | Categorize different perspectives of OTT and multiscreen technologies? | **2(4)** |
| 5 | Sketch the advantages of OTT and Changing the Movie Business? | **2(3)** |

# UNIT – III – OTT Platform and Social Media – SVCA5204

# l. OTT functions
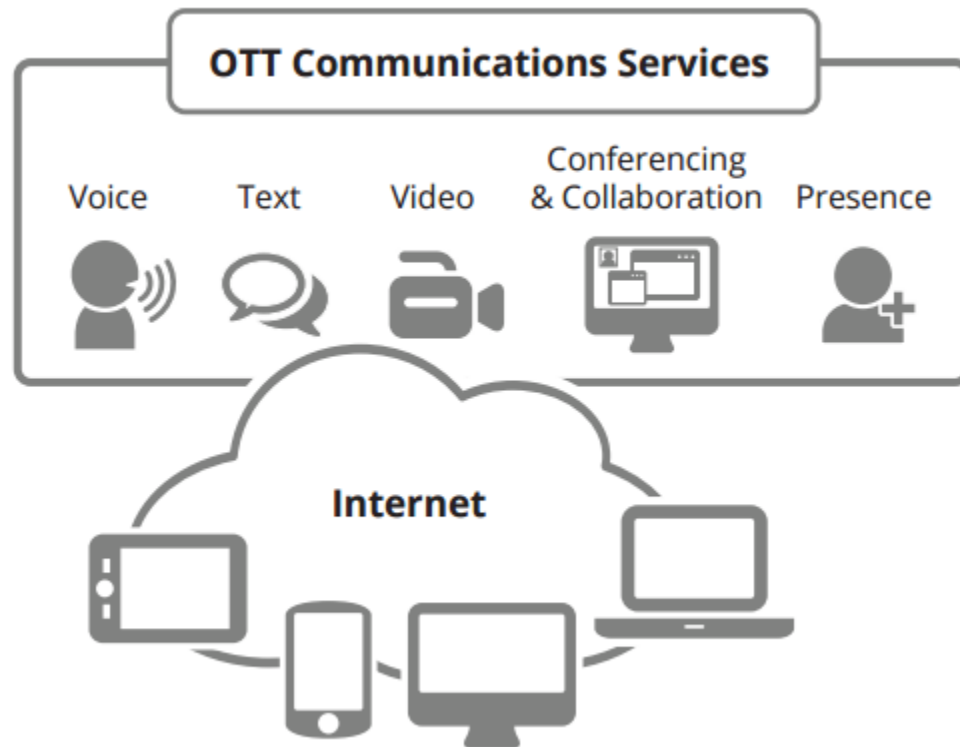


Edge Computing and CDNs: Content is delivered to devices through CDNs, which act as the cache for the content. Edge computing uses the power of the cloud and takes computing power close to the end device. This is the first layer of logic that interacts with devices, and it links the request to the appropriate API within the services architecture. It also provides the abstraction layer to the mid-tier services.

Load Balancing:  This helps the streaming service manage peaks in the load by implementing throttling mechanisms that reject the extra incoming requests and diverting them to other servers when the traffic crosses a threshold.

Microservices: The entire backend application is split into hundreds of independent services. These services implement specific business logic, hence encapsulating one service from another. This enables the entire service to function without the risk of one flaw bringing the whole application down to its knees. These services provide functions such as authentication, licensing, playback, artwork, etc.

Encoding and Content Delivery:  Every media file is broken into chunks and transcoded into different bit rates. This is done to provide the best possible quality to different devices at varying bandwidths. Every

media content demands its quality standards. A fast-moving video will require transcoding at a higher quality than a video, which is relatively slow-moving. Adaptive streaming is used to push the most appropriate bit rate segment of the video. Local caching is used to serve subscribers. Push fill methodology is used to load the content in a regional CDN based on the popularity of the content in that region.

## II.     HTTP adaptive bitrate streaming technology

Adaptive bitrate streaming is a technique used in streaming multimedia over computer networks. While in the past most video or audio streaming technologies utilized streaming protocols such as RTP with RTSP, today's adaptive streaming technologies are almost exclusively based on HTTP and designed to work efficiently over large distributed HTTP networks such as the Internet. It works by detecting a user's bandwidth and CPU capacity in real time and adjusting the quality of the media stream accordingly.  It requires the use of an encoder which can encode a single source media (video or audio) at multiple bit rates. The player client switches between streaming the different encodings depending on available resources. "The result: very little buffering, fast start time and a good experience for both high-end and low-end connections."
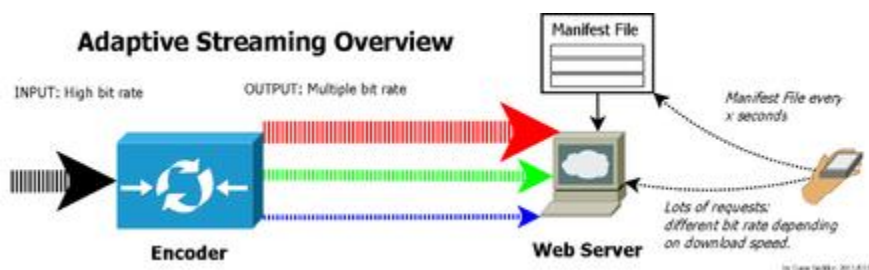


More specifically, adaptive bitrate streaming is a method of video streaming over HTTP where the source content is encoded at multiple bit rates. Each of the different bit rate streams are segmented into small multi-second parts. The segment size can vary depending on the particular implementation, but they are typically between two and ten seconds. First, the client downloads a manifest file that describes the available stream segments and their respective bit rates. During stream start-up, the client usually requests the segments from the lowest bit rate stream. If the client finds that the network throughput is greater than the bit rate of the downloaded segment, then it will request a higher bit rate segment. Later, if the client finds that the network throughput has deteriorated, it will request a lower bit rate segment. An adaptive bitrate (ABR) algorithm in the client performs the key function of deciding which bit rate segments to download, based on the current state of the network. Several types of ABR algorithms are in commercial use: throughput-based algorithms use the throughput achieved in recent prior downloads for

decision-making (e.g., throughput rule in dash.js), buffer-based algorithms use only the client's current buffer level (e.g., BOLA in dash.js), and hybrid algorithms combine both types of information.

## III.    Video codec

A video codec is software or hardware that compresses and decompresses digital video. In the context of video compression, codec is a portmanteau of encoder and decoder, while a device that only compresses is typically called an encoder, and one that only decompresses is a decoder.

**What Is Video Encoding?**

Video encoding refers to the process of converting raw video into a digital format that's compatible with many devices. When it comes to streaming, videos are often compressed from gigabytes of data down to megabytes of data. Encoding can occur on a digital camera, via a stand-alone appliance, as part of a computer software, or in a mobile app. Codecs are used to digitally compress the video.

We offer the Wowza Clearcaster™ live encoding solution which enables production-quality encoding with unmatched cloud control.

What Is a Codec?

To shrink a video into a more manageable size, content distributors use a video compression technology called a codec. Codecs allow us to tightly compress a bulky video for delivery and storage.

Literally 'coder-decoder' or 'compressor-decompressor,' codecs apply algorithms to the video and create a facsimile of it. The video is shrunk down for storage and transmission, and later decompressed for viewing.

Streaming employs both audio and video codecs. H.264, also known as AVC, is the most common video codec. AAC is the most common audio codec.

## IV.     Multicast IPTV

In computer networking, multicast is group communication where data transmission is addressed to a group of destination computers simultaneously. Multicast can be one-to-many or many-to-many distribution. Multicast should not be confused with physical layer point-to-multipoint communication.

## V.     OTT TV system requirements

India has roughly 430 million internet subscribers, out of which 21 million have wired broadband connection, whereas 400 million subscribers have wireless internet access. The wireless internet users include the ones who use internet on their smartphones, or using dongles and Mi-Fi devices. And with the rise in internet users, OTT services such as Amazon Prime Video, Netflix and Hotstar among others have also gained popularity.
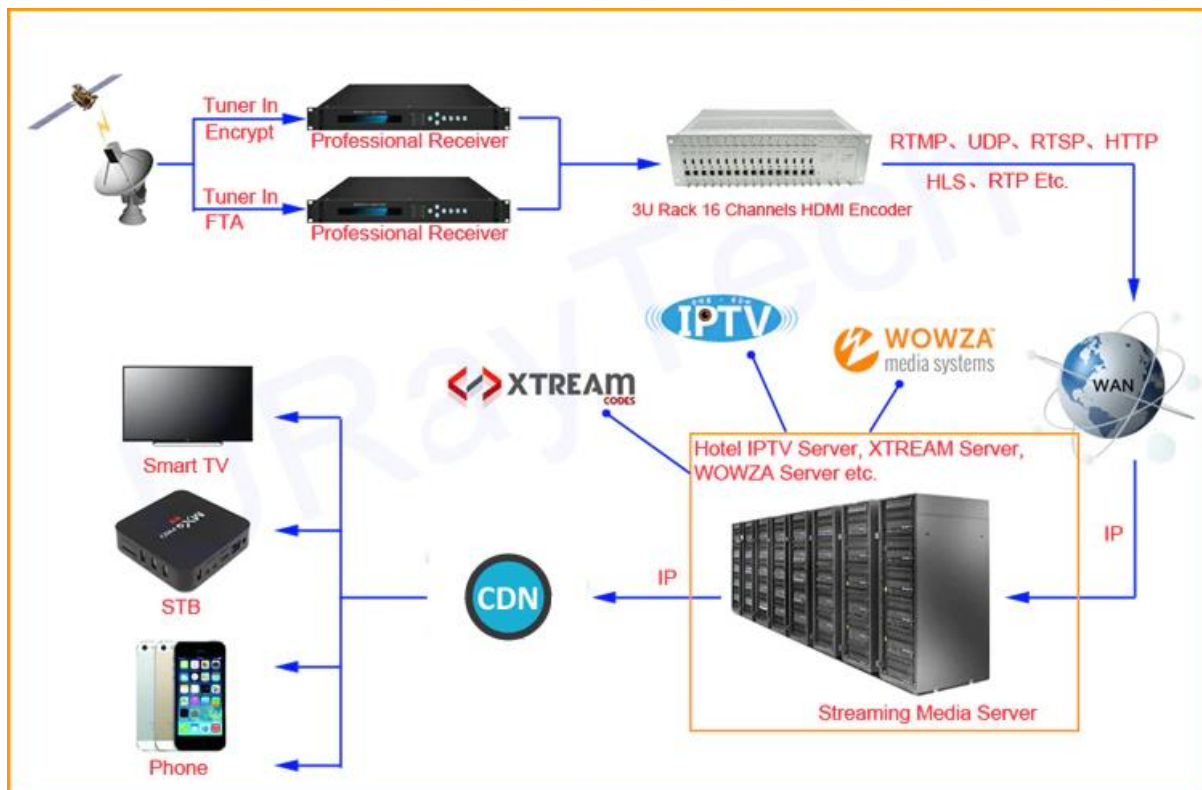
OTT live TV involves the delivery of video content from the video content providers to the end-users over the internet. Anybody can access the OTT services with a suitable high-speed connection to the internet. Satellite Television signal will be tuned and received on any standard DVBS2 transponders and output IP transport stream (TS over UDP). This stream (RTMP, RTSP, HLS) is sent to the Media server to process video into Adaptive Bitrate Streaming. After producing video content, a scalable CDN is used to distribute media streaming to everyone, everywhere, on any device globally.

## VI.  CONTENT DELIVERY NETWORK

A content delivery network, or content distribution network (CDN), is a geographically distributed network of proxy servers and their data centers. The goal is to provide high availability and performance by distributing the service spatially relative to end users.

## VII.  CDN technologies

**Improving website load times** - By distributing content closer to website visitors by using a nearby CDN server (among other optimizations), visitors experience faster page loading times. As visitors are more inclined to click away from a slow-loading site, a CDN can reduce bounce rates and increase the amount of time that people spend on the site. In other words, a faster a website means more visitors will stay and stick around longer.

**Reducing bandwidth costs** - Bandwidth consumption costs for website hosting is a primary expense for websites. Through caching and other optimizations, CDNs are able to reduce the amount of data an origin server must provide, thus reducing hosting costs for website owners.

**Increasing content availability and redundancy** - Large amounts of traffic or hardware failures can interrupt normal website function. Thanks to their distributed nature, a CDN can handle more traffic and withstand hardware failure better than many origin servers.

**Improving website security** - A CDN may improve security by providing DDoS mitigation, improvements to security certificates, and other optimizations.

## VIII.  Private CDN

A private CDN supports high-performance service over a secure infrastructure with dedicated servers, that ensures high performance at all times for users irrespective of where they are located. It can help even big OTT service providers to deliver video broadcasts in high quality, with minimal latency.

## IX. Integrity of video streams

In the current era of rapid development of the Internet and big data technologies, the emergence of cloud computing becomes inevitable. Cloud computing provides large enterprises with an on-demand solution that enables companies to lease cloud service in the form of infrastructure or software to conduct tasks, e.g., data management, business expansion and service provision. Cloud computing also provides individuals with a variety of cloud services. Typically, cloud provisions of video services have greatly improved the user experience. Video data stored in the cloud share some common characteristics, e.g., large volume, high redundancy, and fast real-time requirement. The compressed video data requires functions such as data location indexing and controllable coding rate. However, cloud computing has been controversial regarding its security since its inception, and users cannot be guaranteed the security of video data in the cloud. In other words, tenants cannot fully trust cloud service providers. Firstly, in multitenant resource sharing environment, tenants normally express concern about their video data which could be leaked, falsified, and unauthorizedly spread by cloud service providers or other tenants. Secondly, there is a risk of illegal access because virtual machines cannot be effectively and securely isolated. Thirdly, data and processes in cloud computing often exist in a distributed manner; data belonging to multiple parties needs to be shared with assurance of leakage free and verified integrity. These characteristics of video data determine that video data encryption should generally meet the following requirements.

**Security**

Security is the primary requirement for data encryption. It is generally accepted that when the cost of deciphering the password is greater than that of directly purchasing the video, the cryptosystem is secure. Since the video data can also be regarded as ordinary binary data, conventional passwords can be used in video encryption. In addition, the large amount of video data gives rise to the increased level of difficulty when code-breakers inevitably perform a large

number of decoding operations on the encrypted data. Therefore, some typical and fast encryption algorithms can be applied to ensuring security.

## X. Target audience device

Use cross-device targeting to reach your best customers on any device. With device targeting, you control when, where and on what device your ads connect with customers based on what's best for your business. Bid adjustments for each device type (PC, Tablet, Mobile) give you the control you need to effectively manage campaign performance and return on ad spend.

## Question Bank

**Part A**

| S.No | ANSWER ALL THE QUESTIONS | CO(BL) |
|------|--------------------------|--------|
| 1 | What is HTTP? | 3(1) |
| 2 | Sketch IPTV? | 3(3) |
| 3 | Define Video codec? | 3(1) |
| 4 | What is Multicast? | 3(1) |
| 5 | Illustrate CDN? | 3(3) |
| 6 | What is Private CDN? | 3(1) |
| 7 | Define Video encoding? | 3(1) |
| 8 | Explain Target audience device? | 3(5) |
| 9 | Write short notes on codec? | 3(1) |
| 10 | Sketch video codec? | 3(3) |

**Part B**

| S.No | ANSWER ALL THE QUESTIONS | CO(BL) |
|------|--------------------------|--------|
| 1 | Sketch the HTTP adaptive bitrate streaming technology? | 3(5) |
| 2 | Explain in details about Over the Top entire functions? | 3(5) |
| 3 | Categorize different needs of OTT TV system requirements? | 3(4) |
| 4 | Illustrate Content Delivery Networks and its technologies? | 3(4) |
| 5 | Explain in details about Integrity of video streams? | 3(5) |

**SCHOOL OF SCIENCE AND HUMANITIES**

**DEPARTMENT OF VISUAL COMMUNICATION**

**UNIT – IV – OTT Platform and Social Media – SVCA5204**

# I.    Social media optimization

Social media optimization (SMO) is the use of social media networks to manage and grow an organization's message and online presence. As a digital marketing strategy, social media optimization can be used to increase awareness of new products and services, connect with customers, and ameliorate potential damaging news.

# II.    Origins and implementations

According to technologist Danny Sullivan, the term "social media optimization" was first used and described by marketer Rohit Bhargava on his marketing blog in August 2006. In the same post, Bhargava established the five important rules of social media optimization. Bhargava believed that by following his rules, anyone could influence the levels of traffic and engagement on their site, increase popularity, and ensure that it ranks highly in search engine results.

The 16 rules of SMO, according to one source, are as follows FOR implementations:

1. Increase your linkability
2. Make tagging and bookmarking easy
3. Reward inbound links
4. Help your content to "travel" via sharing
5. Encourage the mashup, where users are allowed to remix content
6. Be a user resource, even if it doesn't help you (e.g., provide resources and information for users)
7. Reward helpful and valuable users
8. Participate (join the online conversation)
9. Know how to target your audience
10. Create new, quality content ("web scraping" of existing online content is ignored by good search engines)
11. Be "real" in the tone and style of the posts
12. Don't forget your roots; be humble
13. Don't be afraid to experiment, innovate, try new things and "stay fresh"
14. Develop an SMO strategy

15. Choose your SMO tactics wisely

16. Make SMO a key part of your marketing process and develop company best practices

## III.    Tips to optimize social media marketing

7 social media optimization tips for marketing

1. Optimize your strategy
2. Conduct keyword research
3. Optimize your profile
4. Optimize your content
5. Use hashtags
6. Solidify your posting schedule
7. Monitor your campaign

1. Optimize your strategy

A lack of social media strategy has been a roadblock for companies for a while now. Partly because it's still fairly new, and also because social media is always changing. Twenty-eight percent of brands feel that a lack of strategy is the top barrier keeping them from becoming a social business. In order to optimize your social media marketing campaigns, you have to have a strategy with clearly defined goals and objectives.

2. Conduct keyword research

One of the core competencies for SEOs is the ability to do keyword research. Keyword research is all about identifying the phrases and topics your target audience is searching for, so you can create relevant content for them. The same thing applies for social media optimization.

3. Optimize your profile

For SEO, optimizing your website is crucial. The content on every page helps search engines understand what your website is about. So when people are searching for topics relevant to your site, search engines know to recommend your content. Social media optimization is very similar. But instead of optimizing your website, you need to optimize your profile.

Creating your profile seems like a pretty simple task, yet it's one of the first areas of SMO where businesses fall short. Think of your company's profile page as your foundation. If it's weak, it's hard to build anything on top of it. Here's what it takes to build a strong foundation.

4. Optimize your content

You've probably heard the saying, "Content Is King" when it comes to SEO. Well the same thing is true when we're talking about SMO. Content drives social media. You can't succeed with social media marketing without sharing quality content. Get more social media tips here!

5. Use hashtags

Hashtags have become synonymous with social media marketing. Instagram, Twitter, Facebook and pretty much all other top social media sites integrate hashtags in some fashion. They make it easy to track trending topics, categorize social media posts and they can be entertaining.

Hashtags help with social media optimization by giving your posts more reach, and making it easier for your content to be found even by people who aren't following you.

6. Solidify your posting schedule

The optimal posting time depends on your audience and the social media site you're using. Luckily, tools like Sprout Social are able to make this process a lot easier by calculating the best time to post on your social media accounts for the highest engagement. We also did some research into the best times to post on social media, which will help give you a good starting point.

Your publish time will depend upon the site you're using and your audience. These two factors also influence your posting frequency. Some social sites are better for posting multiple times a day, while other social sites may only work best with posting once or twice a day.

When you optimize your posting schedule, you'll reach your audience in the right place at the right time.

7. Monitor your campaign

As you run your social media marketing campaign, it's vital that you monitor it to ensure it's working. If you want to optimize your social media campaign consistently, track metrics that help you better understand your campaign's performance.

You can monitor your number of shares, retweets, follows, comments, and conversions you get through your website. These are great metrics to track to ensure that you're driving results with your campaign.

## IV.        How to optimize social media marketing strategy

3.1 billion people globally use social media, and no business can afford missing out on social media marketing in 2020. If you are new to social media marketing, we have some best practice advice for you to start or build your social strategy.

1. Recognize Your Audience And Choose Your Platforms

Different platforms on the internet house communities with various likes and interests. Before starting your online venture, you first need to understand the dynamics of how they function and what your target audience (buyer persona) prefers.

2. Create A Content Strategy and Cascading Goals

Every smart marketer knows the importance of creating a content strategy. It means to develop your own set of media in all desired formats like text, audio, videos, images, and infographics for managing them in marketing campaigns.

3. Leverage Facebook's Extensive Marketing Options

Facebook is certainly one of the most versatile channels for online marketing, as it serves us with an unbelievably broad array of options both organically and through paid social engagement. You can run ads on very targeted masses, and you can also time your ads to match particular events in your target segment's lives. For instance, you can place your display ads

on the timeline of expectant parents or anniversaries. You can also target the friends of people in a particular user group.

4. Maximize Your Engagement on Platforms Like LinkedIn and Instagram

Instagram is one of the most popular places for marketers looking to capitalize on the lifestyle and consumer market. Most of its user base is young, and engagement is the key to success here. Creating brand-specific hashtags, collaborating with influencers, and churning quality content are some of the essential tasks.

5. Focus On YouTube for Video Marketing

YouTube can prove to be a perfect place to establish your online presence as 70% of its users engage with specific channels and their creators. You can create a significant shift in the buyer intent as 80% of buyers say they watch YouTube videos before making a purchase. Focusing on video marketing will reap you unparalleled results as we humans tend to be much more fascinated with the audio-visual method of communicating information than mere words. Current increases in internet accessibility and bandwidth have made it possible to upload and consume more videos than ever before. YouTube will act as both an informative platform and a place where you can perform product demos. The ability to deliver easily consumable content is the biggest advantage of YouTube for any business.

6. Don't Forget Using a Marketing Automation Tool

Businesses use dedicated marketing automation software solutions like HubSpot, which allow users to schedule posts and manage entire social media campaigns including brand monitoring, conversations, post engagement, and even ads, from a single tool.

## V. Facebook marketing

Facebook marketing is a platform that offers a variety of highly targeted paid advertisements and organic posts, allowing brands to put their products and services in front of the massive audience. Over the last decade, Facebook has shifted from the most prominent social medium on the internet into one of the biggest marketplaces.

Has global coverage. Over 1,5 billion users visit Facebook daily. About 2,3 billion — every month. More than 7 million active companies create ads for this massive audience.

Offers highly targeted paid ads. With Facebook Ads, you can tailor your promotions to a specific audience based on gender, age, location, job, interests — any demographical or behavioral data, which users willingly share with Facebook.

Makes organic reach possible. If you don't have resources to utilize Facebook Ads, build relationships organically by sharing materials that bring value to people on your Facebook page. Your posts will show up in the newsfeed, though the high level of competition will make it harder to build an audience naturally.

Allows integrations with other marketing channels. Facebook marketing is not a single isolated system. You can combine it with other marketing channels, like email marketing, mobile marketing, search engine marketing, and Facebook Messenger ads, to develop a promotion mix that will increase your brand outreach.

## VI.   Instagram marketing

Instagram marketing is the way that brands use Instagram to connect with their target audiences and market their offerings. Recently, it's gained popularity as an exciting method for brands to show off their cultures, recruit new employees, engage with customers, and show off products in a new light.

Similar to Facebook and Twitter, everybody who creates an Instagram account has a profile and newsfeed. Users can interact with one another by following, being followed, private messaging, and commenting on or liking photos or videos. The in-app filters and editing options Instagram offers make the app unique because it was the first app to offer in-app editing to this extent.

Instagram allows users to upload photos and videos to their profile and edit them with various options. Instagram hosts dozens of original filters that users can add to their photos. These preset filters make various changes to photos, including adding light, giving the image a warm or cool tone, increasing or decreasing saturation, and much more. Additionally, users can edit images directly in the platform, as opposed to using a third-party photo editor. If they don't like one

particular filter, they can use Instagram's editing feature, to individually change the contrast, brightness, structure, warmth, saturation, sharpness, and more.

## VII.  Twitter marketing

Twitter visitors often visit Twitter out of the motivation to know what is happening in the world overall or with respect to a particular subject. With hundreds of millions of users and over 500 million Tweets being sent each day, there is a great opportunity for businesses to reach a global audience of new and existing customers through Twitter.

Conversations on Twitter are just like the face-to-face encounters you have with customers each day. Compelling content helps you attract new followers and keep them engaged over time, building awareness of your brand, and asserting yourself or brand as an authority in your industry or niche.

## VIII.  LinkedIn marketing

LinkedIn marketing are perfect for reaching clients, contacting providers and for recruiting new 'talent' for your company. Promotion of your products and/or services. LinkedIn Ads make it easy for you to showcase your products/services to a sector clearly defined as your target market. Track profile visits.

## IX.  Google plus marketing

Google+ is Google's own social network, enabling brands to build relationships with prospects, customers, and other businesses. Similar to other networks, you can share information and images, promote yourself as an individual and, if used correctly, Google+ can be a powerful social media marketing tool.

## X.  Word Press blog creation

WordPress is an open-source content management system (CMS) that makes it easy to create and manage a website. ... To get started, you log into your dashboard, and from there you can create new pages, make blog posts, update your website's visual appearance, and more.

**Content management system (CMS)**

A content management system, often abbreviated as CMS, is software that helps users create, manage, and modify content on a website without the need for specialized technical knowledge.

# Question Bank

**Part A**

| S.No | ANSWER ALL THE QUESTIONS | CO(BL) |
|------|--------------------------|--------|
| 1 | Outline SMO? | 4(4) |
| 2 | Illustrate Optimization. | 4(3) |
| 3 | Sketch the Origins SMO?. | 4(3) |
| 4 | What is Facebook marketing? | 4(1) |
| 5 | Explain Instagram marketing? | 4(5) |
| 6 | Write Short notes on Twitter marketing? | 4(1) |
| 7 | List out the uses of LinkedIn marketing? | 4(4) |
| 8 | Define Google Plus marketing? | 4(1) |
| 9 | Illustrate Word Press blog creation? | 4(3) |
| 10 | Explain CMS? | 4(2) |

**Part B**

| S.No | ANSWER ALL THE QUESTIONS | CO(BL) |
|------|--------------------------|--------|
| 1 | Sketch the Social media optimization origins and implementations? | 4(3) |
| 2 | Analyse the Tips to optimize social media marketing? | 4(4) |
| 3 | Explain how to optimize social media marketing strategy? | 4(5) |
| 4 | Illustrate Instagram marketing for product promotions? | 4(3) |
| 5 | Elaborate in details about Facebook marketing? | 4(5) |

**SCHOOL OF SCIENCE AND HUMANITIES**

**DEPARTMENT OF VISUAL COMMUNICATION**

**UNIT – V – OTT Platform and Social Media – SVCA5204**

## I.     Developing the marketing strategy

Effective marketing starts with a considered, well-informed marketing strategy. A good marketing strategy helps you define your vision, mission and business goals, and outlines the steps you need to take to achieve these goals.

Your marketing strategy affects the way you run your entire business, so it should be planned and developed in consultation with your team. It is a wide-reaching and comprehensive strategic planning tool that:

- Describes your business and its products and services
- Explains the position and role of your products and services in the market
- Profiles your customers and your competition
- Identifies the marketing tactics you will use
- Allows you to build a marketing plan and measure its effectiveness.

A marketing strategy sets the overall direction and goals for your marketing, and is therefore different from a marketing plan, which outlines the specific actions you will take to implement your marketing strategy. Your marketing strategy could be developed for the next few years, while your marketing plan usually describes tactics to be achieved in the current year.

## II.     Creating multi-channel Social Media Strategy

1. Create goals for social that solve business challenges.
2. Choose the right social media platforms.
3. Create unique content for social media.
4. Cross-promote your brand.
5. Analyze then optimize your social media strategy.

## III.     Online advertising

Online advertising, also known as online marketing, Internet advertising, digital advertising or web advertising, is a form of marketing and advertising which uses the Internet to deliver promotional marketing messages to consumers.

## IV.    Email marketing

Email marketing is the act of sending a commercial message, typically to a group of people, using email. In its broadest sense, every email sent to a potential or current customer could be considered email marketing. It involves using email to send advertisements, request business, or solicit sales or donations.

## V.    Content marketing

Content marketing is a strategic marketing approach focused on creating and distributing valuable, relevant, and consistent content to attract and retain a clearly defined audience and ultimately to drive profitable customer action.

## VI.    Search engine marketing

Search engine marketing is the practice of marketing a business using paid advertisements that appear on search engine results pages (or SERPs). Advertisers bid on keywords that users of services such as Google and Bing might enter when looking for certain products or services, which gives the advertiser the opportunity for their ads to appear alongside results for those search queries.

These ads, often known by the term pay-per-click ads, come in a variety of formats. Some are small, text-based ads, whereas others, such as product listing ads (PLAs, also known as Shopping ads) are more visual, product-based advertisements that allow consumers to see important information at-a-glance, such as price and reviews.

Search engine marketing's greatest strength is that it offers advertisers the opportunity to put their ads in front of motivated customers who are ready to buy at the precise moment they're ready to make a purchase. No other advertising medium can do this, which is why search engine marketing is so effective and such an amazingly powerful way to grow your business.

## VII.  Risk management & assessment

The definition of a risk assessment is a systematic process of identifying hazards and evaluating any associated risks within a workplace, then implementing reasonable control measures to remove or reduce them.

## VIII.  Search analytics

Search analytics is the use of search data to investigate particular interactions among Web searchers, the search engine, or the content during searching episodes. The resulting analysis and aggregation of search engine statistics can be used in search engine marketing (SEM) and search engine optimization (SEO).

## IX.  Web analytics

Web analytics is the measurement, collection, analysis, and reporting of web data to understand and optimize web usage. Web analytics is not just a process for measuring web traffic but can be used as a tool for business and market research and assess and improve website effectiveness.

## X.  Mobile advertising

Mobile ads are the advertising world's answer to a consumer world that is hooked on to their phone screens or mobile gadgets. In layman terms, it is the type of product/services advertisement technique that you see on your smartphones.

**Current mobile advertising trends**

Seeing an online promotional advertisement pop up while you're using an online app is a common occurrence. Consumers expect these and their responses to the advertisements are growing in numbers.

Interactive Advertising Bureau states that mobile advertising has experienced a growth surge of 65% in 2014 and 24% by the year 2019, which has since been growing by the day.

A report sourced from emarketer says "In 2019, worldwide digital ad spending will rise by 17.6% to $333.25 billion. That means that, for the first time, digital will account for roughly half of the global ad market."

## XI.    Advertising techniques

1. Promotions and Rewards

Integrate coupons, games, sweepstakes, contests, and free gifts with purchases to get potential customers excited about your brand. Participation is a major technique for advertising.

2. Use Statistics and Data

Consumers nowadays want the facts before trusting or investing in a brand. Advertisers should use numbers, stats, data, and actual real-life examples to show off how great their product really is.

3. Endorsements

In the age of the digital influencer, endorsements are very important. Look into how you can work with social media influencers and celebrities to advertise your products by talking about their own experiences with the product on their respective platforms.

4. Repetition

One can build identity awareness through repetition. This is simply the process of mentioning the brand's name or product name multiple times during ads, specific media ads like videos or audio.

5. Ask the Right Questions

Many advertisers use the "questioning" technique to get responses from consumers for their products. Asking questions piques interest.

6. Appeal Emotionally

Consider the emotional needs of your customers. Some common emotional appeals include the need for security, becoming more attractive, changing old habits, gaining acceptance, etc. Some fear-based appeals include the fear of being avoided, getting old, falling ill, death, etc.

7. Use Interesting Characters

Whether you're utilizing stationary display ads or video ads, it's always a smart move to use an interesting character. Such characters add elements of recognition as well as story value to advertising campaigns. Even if you're not a fan of cereal, you probably can point out many different animal character mascots for major cereal brands.

# Question Bank

## Part A

| S.No | ANSWER ALL THE QUESTIONS | CO(BL) |
|------|--------------------------|--------|
| 1 | Define Online advertising. | **5(1)** |
| 2 | Summarize Email marketing. | **5(2)** |
| 3 | Write any five uses of Online advertising? | **5(1)** |
| 4 | Discuss about Content marketing. | **5(2)** |
| 5 | What is Search engine marketing? | **5(1)** |
| 6 | Illustrate Risk management & assessment. | **5(4)** |
| 7 | Define Search analytics. | **5(1)** |
| 8 | Explain Web analytics? | **5(2)** |
| 9 | Outline Mobile advertising. | **5(4)** |
| 10 | Summarize Advertising techniques. | **5(2)** |

## Part B

| S.No | ANSWER ALL THE QUESTIONS | CO(BL) |
|------|--------------------------|--------|
| 1 | Explain in details about Developing the marketing strategy. | 5(5) |
| 2 | Illustrate the Creating multi-channel Social Media Strategy? | 5(4) |
| 3 | Outline the different Advertising techniques. | 5(4) |
| 4 | Explain in details about Current mobile advertising trends? | 5(5) |
| 5 | Elaborate in details about Search engine marketing? | 5(5) |

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