

CHANGEMAKERS: CREATIVITY AND VALUE CREATION

Innovation and Research

ACCA5033

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Task 1 – Ideation and Mind Map

From Lecturer:

Task 1: Ideation & Mind Map

Answer the following questions to create a **Mind Map**. Your mind map should be approx. 600 words, include citations and a reference list node (Approx. 4/5 sources). The mind map should be produced using freely available Mapping technology of your choice (e.g., Mindmeister.com) or an Office 365 Application. The areas covered in the following online topic can help you to answer the questions.

- **Q1.** Create a mind map that includes **some of the areas/concepts from Topic 1** of Unit 1 on Moodle and include **some project ideas** from areas of personal interest related to your programme of study.
 - Online Section: Unit 1 Topic 1 - How Innovation Shapes The World. The role that creativity and innovation plays in the development of society and self.
- **Q2.** Select a project idea that you would like to take forward and add this to the map.

Idea Selection from the Mind Map

The mind map developed for this project focuses on Television Technology and its evolution from traditional broadcasting systems to modern digital and smart television platforms. The central idea emerging from the map is the transformation of television from a simple broadcasting device into an integrated digital media platform. This transformation includes several technological areas such as broadcasting technologies, smart television systems, media streaming platforms, and the future development of television technologies.

Historically, television technology began with analogue broadcasting, where signals were transmitted through terrestrial systems and the picture quality was limited. Early televisions were initially black and white before color broadcasting was introduced. These systems were gradually replaced by digital broadcasting technologies which provide significantly improved signal quality and allow higher resolution formats such as HD, Full HD, and 4K broadcasting. Digital television also allows more efficient use of broadcasting spectrum and supports advanced services such as electronic program guides and digital recording systems [1].

Another important branch in the mind map is signal transmission technologies, including cable television, satellite television, and terrestrial broadcasting. These transmission technologies enabled the expansion of television access across large geographical areas. Satellite television, for example, allows television signals to be broadcast globally, while cable television systems provide stable high-quality transmission to urban environments. These developments demonstrate how broadcasting technologies evolved to improve accessibility, reliability, and picture quality for television audiences [2].

In recent years, the most significant innovation in television technology has been the development of Smart TV systems. Unlike traditional televisions, Smart TVs integrate internet connectivity and computing capabilities directly into the television device. Through Wi-Fi or Ethernet connections, Smart TVs can access online services, applications, and digital media platforms. This innovation allows televisions to function similarly to computers or mobile devices by supporting applications, voice control systems, and screen mirroring technologies [3].

Smart televisions also incorporate artificial intelligence technologies, particularly in the form of content recommendation systems and personalized viewing experiences. These systems analyze user behavior and viewing history to recommend relevant television programs, movies, or online content. Such recommendation algorithms are widely used in digital media services and represent an important example of how data analysis and computing technologies are integrated into modern entertainment systems [4].

Another important aspect highlighted in the mind map is the development of media streaming platforms. Services such as Netflix, Amazon Prime Video, and Disney+ have significantly transformed the way audiences consume television content. Instead of relying on

scheduled broadcasting, viewers can now access on-demand media content through internet-based streaming platforms. This shift from traditional broadcasting to internet streaming represents a major technological and economic transformation in the media industry [5].

The mind map also considers the future of television technology, including developments such as interactive television, virtual reality integration, and artificial intelligence generated content. These emerging technologies aim to provide more immersive and personalized media experiences for viewers. For example, virtual reality technologies could allow users to experience television content in immersive digital environments, while artificial intelligence may be used to automatically generate or customize media content for individual viewers [6].

The idea selected from the mind map focuses on the technological evolution of television from traditional broadcasting systems to modern smart television and streaming platforms. This development illustrates how innovations in computing, networking, and artificial intelligence have transformed television into a complex digital communication system.

Fig.1 Mind map: Television Technology



Task 2 – Aim, Objectives and Research Area

From Lecturer:

Task 2: Aim & Objectives and Research area

Your answers to the questions below should refer to a project/research area of your choice (related to your programme of study). This task answer should be approx. 600 words with citations and a list of references (Approx. 4/5 sources). The areas covered in the following online topics can help you answer the questions below.

- **Q1.** Create and document a single **Aim and several Objectives** for your project.
- **Q2.** Identify an appropriate **research philosophy** for your project.
 - Online section: Unit 1 Topic 2 - How Do YOU Solve a Problem?
- **Q3.** Select and document appropriate **search tools** including some specific **research databases** to identify research related to your project area and use **search strategies** to **identify relevant research** related to your project.
 - Online section: Unit 1 Topic 3 - Known Knowns.

Research Area

The research area selected for this project is the evolution of television technology, particularly the development of Smart TV systems and digital streaming platforms. Television technology has significantly evolved from traditional analogue broadcasting systems to modern digital platforms that integrate internet connectivity, artificial intelligence, and interactive media services. Modern television devices now operate as multimedia systems that combine broadcasting technology with computing and networking technologies.

The emergence of Smart TVs has enabled users to access online services such as Netflix, Amazon Prime Video, and YouTube directly through television devices without the need for additional hardware. These technological developments illustrate the integration of computing systems, internet connectivity, and media platforms within modern television systems [7].

Furthermore, streaming services have significantly influenced traditional broadcasting models. Unlike traditional scheduled broadcasting, streaming platforms allow users to access media content on demand. This shift represents a major technological and economic transformation within the global media industry. As a result, understanding the development of Smart TVs and streaming platforms provides an important research area within computing and digital media studies [8].

Aim

The aim of this research project is to analyze the technological evolution of television systems and examine how Smart TV technology and streaming platforms have transformed modern media consumption.

This research focuses on the integration of broadcasting technologies, internet connectivity, and artificial intelligence systems within modern television platforms. By analyzing these developments, the project aims to understand how television technology has evolved into a digital media system that supports interactive and personalized viewing experiences.

Objectives

To achieve this aim, the following objectives have been identified:

Objective 1:

To examine the historical development of television broadcasting technologies, including analogue and digital broadcasting systems.

Objective 2:

To analyze the technological features of Smart TV systems, including internet connectivity, applications, and artificial intelligence-based recommendation systems.

Objective 3:

To investigate the role of streaming platforms such as Netflix, YouTube, and Amazon Prime Video in transforming media consumption patterns.

Objective 4:

To explore the potential future developments of television technology, including interactive television systems and artificial intelligence-generated media content.

These objectives help structure the research and ensure that the project examines both the technological evolution of television and its impact on modern media consumption.

Research Philosophy

The research philosophy selected for this project is positivism. Positivism is a research approach that focuses on analyzing observable and measurable phenomena to identify patterns, trends, and relationships within a specific field of study. This approach is commonly used in technology and computing research where the objective is to analyze technological developments and their measurable impact on users or industries [9].

Search Tools and Research Databases

To support the research process, several academic databases and search tools will be used to identify relevant literature related to television technology and digital media systems. These databases provide access to peer-reviewed academic journals, conference papers, and research publications.

The main research tools include:

Google Scholar – This platform provides access to academic articles, research papers, and conference publications related to computing, media technology, and digital communication systems.

IEEE Xplore – This database contains technical research publications related to engineering, computing technologies, and digital media systems. It is particularly useful for research related to Smart TV technologies and digital broadcasting systems.

ACM Digital Library – This database provides access to research related to computing systems, digital media platforms, and software technologies.

In addition to using these databases, specific search strategies will be applied to identify relevant research sources. Keywords such as “Smart TV technology”, “digital broadcasting”, “streaming platforms”, and “television technology evolution” will be used to locate relevant research publications. These strategies help ensure that the research uses credible academic sources and supports the development of the project with reliable evidence [10].

Task 3 – Research Strategies

From Lecturer:

Task 3: Research Strategies

Your answers to the questions below should refer to a project/research area of your choice (related to your programme of study). This task answer should be approx. 600 words with citations and a list of references (Approx. 4/5 sources). The areas covered in the following online topics can help you answer the questions below.

- **Q1.** Consider and document strategies to enhance **validity, reliability, generalisability** and **ethical considerations**.
 - Online section: Unit 2 Topic 2: Finding a Needle in a Haystack.
- **Q2.** Select research strategies/**data collection methods** you would use to collect data for your project. And design a **pilot data collection** method appropriate for your project and acquire some feedback to improve the focus of your project (include in an appendix section/page and refer to in the main body of the proposal).
- **Q3.** Outline some different types of **quantitative and qualitative analysis**.
 - Online section: Unit 4 Topic 1: It's All In The Numbers.
 - Online section: Unit 4 Topic 2: There's a Theme Here.

Q1.

Strategies to Enhance Validity, Reliability, Generalizability and Ethical Considerations

Validity refers to the extent to which the research accurately measures what it intends to study. In this project, validity was using credible academic sources and reliable industry reports related to digital broadcasting, Smart TV technology and streaming media platforms. In addition, clearly defined research questions and objectives will help maintain focus and prevent irrelevant data from influencing the results [11].

Reliability refers to the consistency of research findings when the study is repeated. For example, databases such as Google Scholar, IEEE Xplore and ACM Digital Library was used to identify academic research on television technologies and digital media systems. Using the same search terms and selection criteria ensures that the research process can be replicated and produces consistent results [12].

Generalizability relates to the extent to which research findings can be applied to broader populations or contexts. By examining a range of studies and industry reports, the research will provide a broader understanding of how Smart TV technologies and streaming services influence media consumption globally.

Ethical considerations are also an important component of responsible research. Ethical research practices was followed by ensuring that all sources are properly referenced and credited using academic citation standards. If any user data or survey feedback is collected during the research process, participants' privacy and confidentiality will be protected, and data will only be used for academic purposes [13].

Q2.

Research Strategies and Data Collection Methods

The research was using secondary research methods supported by limited primary data collection. Secondary research involves analyzing existing academic literature, industry reports and technological studies related to television technology, Smart TV systems and streaming platforms. This method is appropriate because the topic involves technological developments that are widely documented in academic publications and technical reports.

To complement the secondary research, a pilot data collection method was using a small online survey. The purpose of this pilot survey is to collect basic information about how people currently consume television content. For example, the survey may include questions about the frequency of television viewing, preferred streaming platforms, and the use of Smart TV features such as internet applications or voice control. [14]

Q3.

Quantitative and Qualitative Analysis

In this project about the evolution of television technology and Smart TV systems, both quantitative and qualitative analysis methods was used to obtain a comprehensive understanding of how modern television technologies influence media consumption.

Quantitative analysis focuses on numerical data and measurable information. In this project, quantitative analysis was applied to the results collected from the pilot survey about television usage. This type of analysis helps identify measurable patterns in how people currently consume television content and which technologies are most widely used [11].

Qualitative analysis, on the other hand, focuses on interpreting descriptive information and understanding technological developments.

In this project, qualitative analysis was involve examining academic literature and technology reports that discuss Smart TV technology, digital broadcasting systems, and media streaming platforms.

This method allows the research to explore the broader technological and social implications of television innovation beyond simple numerical data [13].

By combining both quantitative and qualitative analysis, the project provide a more balanced and comprehensive research approach. Quantitative analysis offers measurable evidence of how audiences use modern television technologies, while qualitative analysis provides deeper insight into the technological developments that have driven these changes. Using both methods together strengthens the overall research findings and provides a clearer understanding of how television technology has evolved in the digital era.

References

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