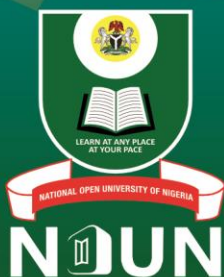




NEE008 TECHNOLOGY IN BUSINESS MANAGEMENT



NATIONAL OPEN UNIVERSITY OF NIGERIA

NEE008 TECHNOLOGY IN BUSINESS MANAGEMENT

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Unit I Introduction to the Technology in Entrepreneurship

Unit Structure

- I.1 Introduction
- I.2 Intended Learning Outcomes
- I.3 Meaning of Digital Business Landscape
 - I.3.1 Key Aspects of the Digital Business Landscape
- I.4 Summary
- I.5 References/Further Readings/Web Resources**
- I.6 Possible Answers to Self-Assessment exercise(s)



I.1 Introduction

Technology in entrepreneurship refers to the use of various tools, systems, and innovations to create, develop, and manage a business. It encompasses a wide range of applications, from communication and marketing to product development and financial management. In today's business landscape, technology plays a crucial role in enabling entrepreneurs to streamline processes, reach a broader audience, and stay competitive. Whether it's leveraging social media for marketing, using software for project management, or implementing advanced manufacturing technologies, entrepreneurs can harness the power of technology to enhance efficiency and drive business growth.



I.2 Intended Learning Outcomes

By the end of this unit, you will be able to:

- explain the technology in entrepreneurship
- describe who technology affects and affecting our business landscape
- examine some of the key aspects of the digital technology landscape.



1.3 Meaning of Digital Business Landscape

The digital business landscape refers to the environment in which businesses operate, heavily influenced by digital technologies and online interactions. In this landscape, traditional brick-and-mortar models coexist and often integrate with digital platforms.

Navigating the digital business landscape requires adaptability, a focus on innovation, and a willingness to embrace new technologies to stay competitive and relevant.

1.3.1 Key aspects of the digital business landscape include:

- **Online Presence:** Businesses need to establish a strong online presence through websites, social media, and e-commerce platforms to reach a global audience.
- **E-commerce:** The rise of online shopping has transformed how businesses sell products and services, with many transactions occurring over the internet.
- **Digital Marketing:** Traditional marketing methods have evolved into digital strategies, including social media marketing, content marketing, and search engine optimisation.
- **Data Analytics:** Businesses leverage data analytics to gain insights into consumer behavior, preferences, and trends, helping them make informed decisions.
- **Cloud Computing:** Cloud services enable businesses to store, access, and manage data and applications remotely, fostering flexibility and scalability.
- **Mobile Technology:** The prevalence of smartphones has led to the development of mobile apps, providing businesses with new channels to engage with customers and optimise processes.
- **Remote Work:** The digital landscape has facilitated remote work, allowing employees to collaborate from different locations through various online tools and communication platforms.
- **Cybersecurity:** As businesses rely more on digital platforms, cybersecurity becomes crucial to protect sensitive data and maintain trust with customers.

- **Blockchain Technology:** Some businesses explore blockchain for secure and transparent transactions, supply chain management, and smart contracts.
- **Artificial Intelligence (AI) and Automation:** AI technologies automate processes, enhance customer experiences, and optimise decision-making in various business operations.
- **Digital Transformation:** Businesses undergo digital transformation to adapt to the evolving landscape, integrating digital technologies into all aspects of their operations.



<http://tinyurl.com/5fjmy4df>

Self-Assessment Exercise

- Describe what is technology in entrepreneurship and how does technology effect new or existing enterprise?
- Identify and explain six (6) aspects of the digital business landscape.



1.4 Summary

Technology has affected and is affecting business environment to the extent that it regulates not only the processes of productions but the entire chain of products from source the raw material through virtual space to the consumption aspect. Technology has altered the entire aspect human life and social interactions.



1.5 References/Further Readings/Web Resources

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1.6 Possible Answers to Self-Assessment Exercise(s)

1. As an entrepreneur, utilising technology can completely transform your company. You may increase your productivity, reach more clients, and eventually expand your business by embracing the cloud, automating your processes, utilising social media, investing in analytics, and embracing mobile. With the rise of the internet, entrepreneurs can now reach customers all over the world through online platforms like Amazon, eBay, and Shopify. This has dramatically expanded the potential customer base for businesses, and made it easier for entrepreneurs to reach new audiences and test new markets.
2. Six (6) aspects of the digital business landscape
 1. **Online Presence:** Businesses need to establish a strong online presence through websites, social media, and e-commerce platforms to reach a global audience.

2. **E-commerce:** The rise of online shopping has transformed how businesses sell products and services, with many transactions occurring over the internet.
3. **Digital Marketing:** Traditional marketing methods have evolved into digital strategies, including social media marketing, content marketing, and search engine optimization.
4. **Data Analytics:** Businesses leverage data analytics to gain insights into consumer behavior, preferences, and trends, helping them make informed decisions.
5. **Cloud Computing:** Cloud services enable businesses to store, access, and manage data and applications remotely, fostering flexibility and scalability.

Cybersecurity: As businesses rely more on digital platforms, cybersecurity becomes crucial to protect sensitive data and maintain trust with customers

Unit 2 Current Technology Trends

Unit Structure

- 2.1 Introduction
- 2.2 Intended Learning Outcomes
- 2.3 Technology Trend
 - 2.3.1 Artificial Intelligence (AI) and Machine Learning (ML)
 - 2.3.2 Internet of Things (IoT)
 - 2.3.3 5G Technology
 - 2.3.4 Blockchain Technology
 - 2.3.5 Augmented Reality (AR) and Virtual Reality (VR)
 - 2.3.6 Cybersecurity Innovations
 - 2.3.7 Edge Computing
 - 2.3.8 Robotic Process Automation (RPA)
 - 2.3.9 Cloud Computing Advancements
 - 2.3.10 Biotechnology and Genomics
 - 2.3.11 Quantum Computing
 - 2.3.12 Green Technology
- 2.4 Summary
- 2.5 **References/Further Readings/Web Resources**
- 2.6 Possible answers to Self-assessment Exercise(s)



2.1 Introduction

Businesses can leverage these trends to drive innovation, improve operational efficiency, enhance customer experiences, and stay competitive in rapidly evolving markets. Integrating these technologies into strategic business plans can lead to significant advancements and new opportunities.



2.2 Intended Learning Outcomes

By the end of this unit, you will be able to:

- describe the digital marketing strategies
- identify potentials applications for business innovation.



2.3 Technology Trend

Some prevalent technology trends with potential applications for business innovation include:

2.3.1 Artificial Intelligence (AI) and Machine Learning (ML)

Applications: Predictive analytics, personalised customer experiences, automation of routine tasks, fraud detection, and decision-making support.

2.3.2 Internet of Things (IoT)

Applications: Smart devices for data collection, supply chain optimisation, predictive maintenance, and creating connected ecosystems.

2.3.3 5G Technology

Applications: Enhanced connectivity for faster communication, improved mobile experiences, IoT scalability, and support for emerging technologies like augmented reality (AR) and virtual reality (VR).

2.3.4 Blockchain Technology

Applications: Secure and transparent transactions, supply chain traceability, smart contracts, and decentralised applications.

2.3.5 Augmented Reality (AR) and Virtual Reality (VR)

Applications: Enhanced customer experiences, virtual product trials, employee training, and immersive marketing.

2.3.6 Cyber Security Innovations

Applications: Advanced threat detection, biometric authentication, encryption technologies, and secure cloud computing.

2.3.7 Edge Computing

Applications: Reduced latency for real-time processing, improved efficiency in data handling, and support for IoT devices.

2.3.8 Robotic Process Automation (RPA)

Applications: Automation of repetitive tasks, improved efficiency in business processes, and cost reduction.

2.3.9 Cloud Computing Advancements

Applications: Scalable and flexible infrastructure, data storage and processing, collaborative tools, and remote work support.

2.3.10 Biotechnology and Genomics

Applications: Personalised medicine, gene editing, and advancements in healthcare and pharmaceuticals.

2.3.11 Quantum Computing

Applications: Solving complex problems, optimisation of algorithms, and advancements in data processing and encryption.

2.3.12 Green Technology

Applications: Sustainable practices, energy-efficient solutions, and eco-friendly innovations across industries.

Self-Assessment Exercise

- List any ten (10) most prevalent potential application for business innovation.
- Explain any five (5) most prevalent potential application for business innovation as relate to any new or existence enterprise idea of your choice.



2.4 Summary

The 21st century paved way to a lot of application that makes entrepreneur to realize their entrepreneurial potential in unnumbered areas. These applications were not making our activities simple and easier but it also enables us to secure our data or business records. Business owners can now select and utilise any of these applications that suit their business.



2.5 References/Further Readings/Web Resources

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2.6 Possible Answers to Self-Assessment Exercise(s)

- I. Ten (10) most prevalent potential application for business innovation
 - i. Artificial Intelligence (AI) and Machine Learning (ML)
 - ii. Internet of Things (IoT)
 - iii. 5G Technology
 - iv. Blockchain Technology
 - v. Augmented Reality (AR) and Virtual Reality (VR)
 - vi. Cybersecurity Innovations
 - vii. Edge Computing
 - viii. Robotic Process Automation (RPA)
 - ix. Cloud Computing Advancements
 - x. Green Technology
2. Five (5) most prevalent potential application for business innovation
 1. **Artificial Intelligence (AI) and Machine Learning (ML):**
Applications: Predictive analytics, personalized customer experiences, automation of routine tasks, fraud detection, and decision-making support.
 2. **Internet of Things (IoT):**
Applications: Smart devices for data collection, supply chain optimization, predictive maintenance, and creating connected ecosystems.
 3. **Cybersecurity Innovations:**
Applications: Advanced threat detection, biometric authentication, encryption technologies, and secure cloud computing.

3. **Cloud Computing Advancements:**

Applications: Scalable and flexible infrastructure, data storage and processing, collaborative tools, and remote work support.

5. **Green Technology:**

Applications: Sustainable practices, energy-efficient solutions, and eco-friendly innovations across industries.

Unit 3 E-Commerce

Unit Structure

- 3.1 Introduction
- 3.2 Intended Learning Outcomes
- 3.3 Digital Marketing
 - 3.3.1 Scope of e-commerce essentials cover:
- 3.4 Summary
- 3.5 References/Further Readings/Web Resources**
- 3.6 Possible Answers to self-Assessment Exercise(s)



3.1 Introduction

This unit examines electronic-commerce (e-commerce) essential as highly desirable package for entrepreneur striving to survive in competitive business arena. It calls for a particular digital skills and competency to handle virtual space very well in order to not only maintain the existing customers but attract new customers to remain sustainable loyal customers with which business growth and development rely on.



3.2 Intended Learning Outcomes

By the end of this unit, you will be able to:

- describe the meaning of e-commerce and mention some of the essentials aspect cover
- identify some scope of e-commerce essentials and their meaning
- examine some key digital marketing strategies.



3.3 Digital Marketing

Remember, simplicity and efficiency are key in e-commerce. Providing a seamless and trustworthy online shopping experience will contribute to the success of your e-commerce venture.

Digital marketing encompasses a wide range of online activities designed to connect with potential customers, build brand awareness, and drive engagement. Some key digital marketing strategies include:

- **Search Engine Optimisation (SEO):** Optimising your website and content to rank higher in search engine results, increasing visibility and organic traffic.
- **Content Marketing:** Creating and distributing valuable, relevant, and consistent content to attract and retain a target audience.
- **Social Media Marketing:** Utilising social media platforms (such as Facebook, Instagram, Twitter, and LinkedIn) to connect with the audience, promote products, and build brand awareness.
- **Email Marketing:** Sending targeted messages to a group of people through email to nurture leads, promote products, and maintain customer relationships.
- **Pay-Per-Click (PPC) Advertising:** Placing online ads that businesses only pay for when users click on them, often using platforms like Google Ads or social media advertising.
- **Affiliate Marketing:** Partnering with affiliates or influencers who promote your products/services in exchange for a commission on sales generated through their unique affiliate link.
- **Influencer Marketing:** Collaborating with influencers in your industry to leverage their audience and promote your products or services.
- **Video Marketing:** Creating and sharing videos to engage and connect with the audience, whether through tutorials, product demonstrations, or storytelling.
- **Chatbots and Messaging Apps:** Using automated chatbots on websites or messaging apps to provide instant customer support, answer queries, and guide users through the sales process.
- **Web Analytics:** Utilising tools like Google Analytics to track and analyse website and marketing performance, helping to make data-driven decisions.

- **Mobile Marketing:** Tailoring marketing efforts specifically for mobile users, including mobile-friendly websites, apps, and targeted mobile advertising.
- **Remarketing/Retargeting:** Showing targeted ads to users who have previously visited your website but did not make a purchase, encouraging them to return.
- **Customer Relationship Management (CRM):** Implementing CRM tools to manage and analyse customer interactions throughout the customer lifecycle.
- **Interactive Content:** Creating engaging and interactive content such as quizzes, polls, and contests to enhance user participation and brand interaction.
- **Podcast Marketing:** Leveraging podcasts to reach a targeted audience through sponsorships, interviews, or creating your own branded podcast.

3.3.1 Scope of e-commerce essentials cover:

- **User-Friendly Website:** A well-designed, easy-to-navigate website is crucial for a positive user experience.
- **Mobile Optimisation:** Ensure your e-commerce site is optimised for mobile devices, as a significant portion of users shops on smartphones.
- **Secure Payment Gateway:** Implement a secure and reliable payment gateway to build trust and protect customer data.
- **High-Quality Product Images:** Clear and appealing product images are essential to showcase your products effectively.
- **Detailed Product Descriptions:** Provide comprehensive information about each product to assist customers in making informed decisions.
- **Smooth Checkout Process:** Minimize steps in the checkout process to reduce cart abandonment and make transactions seamless.

- **Customer Reviews and Ratings:** Encourage and display customer reviews to build credibility and help potential buyers make decisions.
- **Social Media Integration:** Leverage social media platforms to promote products, engage with customers, and drive traffic to your e-commerce site.
- **Inventory Management:** Implement an efficient inventory management system to avoid stockouts and overstock situations.
- **Personalised Recommendations:** Use data to offer personalised product recommendations based on customer preferences and browsing history.
- **Responsive Customer Support:** Provide responsive customer support through various channels like chat, email, or phone to address queries and concerns.
- **Security Measures:** Prioritize website security, including SSL certificates, to protect customer data and ensure a secure shopping environment.
- **Shipping and Return Policies:** Clearly communicate shipping costs, delivery times, and return policies to manage customer expectations.
- **SEO Optimisation:** Optimise your product listings and website for search engines to improve visibility and attract organic traffic.
- **Analytics and Reporting:** Use analytics tools to track website performance, user behavior, and sales data to make informed business decisions.

Self-Assessment Exercise

- | |
|---|
| <ul style="list-style-type: none">• How does e-commerce affect contemporary business environment?• How does digital market aid in reaching out to target market?• Highlight some digital marketing strategies you know. |
|---|



3.4 Summary

Digital marketing refers to the use of digital channels, platforms, and technologies to promote products, services, or brands to a target audience. It encompasses a wide range of online activities designed to connect with potential customers, build brand awareness, and drive engagement.



3.5 References/Further Readings/Web Resources

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3.6 Possible Answers to Self-Assessment Exercise

1. E-commerce gives companies access to a worldwide customer base by allowing them to operate beyond geographic boundaries. The entire cost of conducting the business can be brought down by taking your business online. Prominent costs that can be reduced include: Advertising and Marketing Costs: E-commerce stores do not require traditional channels of marketing and advertising. E-Commerce basically means buy, sell and exchange products, services, and information through computers over the internet. On an E-Commerce platform, a person can deal with customers around the world. People perform buying and selling of goods and services over the internet network. In the digital age, e-commerce has shown that businesses can operate around the clock, provide new product information, and market their services to a diverse demographic. This shift is a vast improvement from selling goods in a physical location, with limited hours of operation.
2. Digital marketing allows you to identify and target a highly-specific audience with personalized and high-converting

marketing messages. For instance, you might use social media targeting to show ads to a certain audience based on variables like age, gender, location, interests, networks, or behaviors. It's a roadmap that guides you to your target audience, boosts brand awareness, saves resources, provides insights, fosters customer engagement, adapts to changes, and keeps you ahead of the competition. With a well-planned strategy, your business can navigate the digital realm successfully and achieve its goals. This includes leveraging social media platforms, running targeted online advertising campaigns, optimizing website content for search engines (SEO), utilizing email marketing, and creating engaging and valuable content across various online channels.

Unit 4 Data Management

Unit Structure

- 4.1 Introduction
- 4.2 Intended Learning Outcomes
- 4.3 Data Analytics for Entrepreneurs
- 4.4 Summary
- 4.5 References/Further Readings/Web Resources**
- 4.6 Possible Answers to Self- Assessment Exercise(s)



4.1 Introduction

This unit covers managing data as relate to business environment. Effective and efficient system of database handle and management give company unlimited opportunities not only in the planning but it also enables business owner to make rational decisions and ensure strict compliance to standards.



4.2 Intended Learning Outcomes

By the end of this unit, you will be able to:

- discuss what the concept of data analytics for entrepreneurs and how it benefits entrepreneurs
- explain cloud computing and its applications for small businesses.



4.3 Data Analytics for Entrepreneurs

Data analytics (DA) for entrepreneurs involves the use of statistical analysis, data interpretation, and visualisation tools to extract valuable insights from business data. Entrepreneurs can leverage data analytics to make informed decisions, identify trends, and optimise various aspects of their business operations. Here's how data analytics can benefit entrepreneurs:

- Informed Decision-Making
- Customer Insights: Operational Efficiency
- Market Research: Risk Management

- Financial Planning and Forecasting
- Marketing Optimisation
- Supply Chain Optimisation
- Employee Productivity and Engagement
- Predictive Analytics

In essence, data analytics empowers entrepreneurs with actionable insights, enabling them to make strategic decisions, enhance operational efficiency, and stay competitive in a dynamic business environment.

Cloud Computing for Small Businesses

Cloud computing for small businesses is a technology model that allows access to and use of computing resources, such as storage, processing power, and applications, over the internet. Instead of investing in and maintaining physical infrastructure, small businesses can leverage cloud services on a pay-as-you-go basis, providing cost-effective scalability, flexibility, and accessibility to a range of digital tools.

Self-Assessment Exercise(s)

1. What do you understand with data analytics for entrepreneurs?
2. Highlight some of its benefits to entrepreneurs.
3. Give brief account of the term cloud computing and how does cloud computing affect entrepreneurs?



4.4 Summary

Data analytics is the steps of examining data sets to draw inference and meaning about message they carry while the cloud computing for small businesses is a technology model that allows access to and use of computing resources, such as storage, processing power, and applications, over the internet.



4.5 References/Further Readings/Web Resources

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4.6 Possible Answers to Self-Assessment Exercise(s)

- i. Data analytics enables entrepreneurs to segment their customer base and personalize their marketing efforts. By analyzing customer data such as demographics, purchase history, and online behavior, entrepreneurs can identify different customer segments with unique preferences and needs. It helps businesses understand market trends, consumer preferences, and competitive landscapes. It aids in identifying opportunities for product development, pricing strategies, and market expansion. Data analytics plays a pivotal role in today's data-driven world. It helps organizations harness the power of data, enabling them to make decisions, optimize processes, and gain a competitive edge. By turning raw data into meaningful insights, data analysis empowers businesses to identify opportunities, mitigate risks, and enhance their overall performance.
- ii. Cloud computing is the delivery of different services through the Internet, including data storage, servers, databases, networking, and software. Cloud storage has grown increasingly popular among individuals who need larger storage space and for businesses seeking an efficient off-site data back-up solution. Cloud computing is the delivery of computing resources, such as IT infrastructure or data center over the internet. This model allows businesses to rent storage space or access software programs from a cloud service provider, instead of building and maintaining their own IT infrastructure or data center. Businesses can easily scale up or down their use of all IT services as needed, which makes it easy to expand their operations, especially if they're an online-based company. Cloud solutions are also flexible: they can be adapted to suit the needs of each business.

Unit 5 Cybersecurity

Unit Structure

- 5.1 Introduction
- 5.2 Intended Learning Outcomes
- 5.3 Cloud Computing for Small Businesses
 - 5.3.1 Cybersecurity Awareness for Entrepreneurs
 - 5.3.2 Customer Relationship Management (CRM) Systems
- 5.4 Summary
- 5.5 References/Further Readings/Web Resources**
- 5.6 Possible Answers to Self-Assessment Exercise(s)



5.1 Introduction

Cybersecurity is the practice of safeguarding and protecting systems, networks and program from digital attacks. It purposive effort meant to shield devices from both internal and external harm. Cybersecurity awareness for entrepreneurs involves understanding and implementing measures to protect business data, systems, and sensitive information from cyber threats. Entrepreneurs can significantly reduce the risk of cyber threats and safeguard their business operations and sensitive information



5.2 Intended Learning Outcomes

By the end of this unit, you will be able to:

- discuss the meaning of cybersecurity and create awareness about cybersecurity
- examine how to significantly reduce the risk of cyber threats and safeguard their business operations and sensitive information
- identify primary goal of a customer relationship management as a system.



5.3 Cloud Computing for Small Businesses

Cloud computing for small businesses is a technology model that allows access to and use of computing resources, such as storage, processing power, and applications, over the internet. Instead of investing in and maintaining physical infrastructure, small businesses can leverage cloud services on a pay-as-you-go basis, providing cost-effective scalability, flexibility, and accessibility to a range of digital tools.

5.3.1 Cybersecurity Awareness for Entrepreneurs

Cybersecurity awareness for entrepreneurs involves understanding and implementing measures to protect business data, systems, and sensitive information from cyber threats.

By promoting a culture of cybersecurity awareness and implementing these measures, entrepreneurs can significantly reduce the risk of cyber threats and safeguard their business operations and sensitive information.

Applications of cybersecurity awareness for entrepreneurs includes;

- **Education:** Entrepreneurs should stay informed about common cybersecurity threats, such as phishing, malware, and ransomware. Regularly educate yourself and your team on best practices for online security.
- **Password Management:** Encourage strong, unique passwords and implement multi-factor authentication to add an extra layer of security.
- **Regular Updates:** Keep all software, applications, and operating systems up to date with the latest security patches to address vulnerabilities.
- **Secure Networks:** Use secure and encrypted Wi-Fi networks, and consider implementing a virtual private network (VPN) for additional protection.
- **Data Encryption:** Encrypt sensitive data to protect it from unauthorized access, especially when transmitting information over the internet.

- **Employee Training:** Train employees to recognize and report potential security threats. Human error is a common entry point for cyberattacks.
- **Access Control:** Limit access to sensitive information only to those who need it for their roles. Implement a least privilege access model.
- **Backup and Recovery:** Regularly back up important data and have a reliable recovery plan in case of a cybersecurity incident, such as a ransomware attack.
- **Incident Response Plan:** Develop a clear incident response plan outlining the steps to take in the event of a cybersecurity breach. Time is critical in minimizing damage.
- **Vendor Security:** Ensure that third-party vendors and partners adhere to robust cybersecurity practices, especially if they have access to your business data.
- **Security Audits:** Conduct regular cybersecurity audits to identify vulnerabilities and assess the effectiveness of your security measures.
- **Legal Compliance:** Stay informed about relevant data protection regulations and ensure your business is compliant to avoid legal consequences.
- **Security Software:** Invest in reliable antivirus and anti-malware software to provide an additional layer of defense against cyber threats.
- **Phishing Awareness:** Train employees to recognize phishing attempts, as phishing emails are a common method for cybercriminals to gain unauthorized access.
- **Continuous Monitoring:** Implement continuous monitoring of network activities to detect and respond to potential security incidents in real-time.

5.3.2 Customer Relationship Management (CRM) Systems

Customer Relationship Management (CRM) systems are software platforms designed to help businesses manage and analyse interactions with their current and potential customers. CRM systems typically

include features such as contact management, lead tracking, sales pipeline management, customer support, and analytics, providing businesses with valuable insights into customer behavior and preferences.

Self-Assessment Exercise

- What is cloud computing?
- Do you believe entrepreneurs can significantly reduce the risk of cyber threats? Explain.
- Describe what you know about customer relationship management system.



5.4 Summary

Cloud computing is the purposive method of computing services-serves, storage, database, networking, software, analytics, and intelligence over the internet. The primary goal of a CRM system is to improve customer relationships, enhance customer satisfaction, and ultimately drive business growth.



5.5 References/Further Readings/Web Resources

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5.6 Possible Answers to Self-Assessment Exercise(s)

- Cloud computing is the delivery of computing resources, such as IT infrastructure or data center over the internet. This model allows businesses to rent storage space or access software programs from a cloud service provider, instead of building and maintaining their own IT infrastructure or data center. Cloud

computing is the delivery of different services through the Internet, including data storage, servers, databases, networking, and software.

- ii. Cyber-attacks can have serious financial and business consequences for companies, which makes implementing strong cybersecurity protections a critical step. The threat of a successful cyber-attack ranks as one of the most significant business risks organizations of all sizes and across all industries face.

Many cyber entrepreneurs pursue these options;

- a. Be on the lookout for suspicious links, attachments, and downloads.
 - b. Create and use strong passwords.
 - c. Use multi-factor authentication whenever possible.
 - d. Use secure internet communications.
 - e. Update your anti-virus software regularly.
 - f. Report anything suspicious to your IT department.
- iii. Customer relationship management (CRM) is a process in which a business or other organization administers its interactions with customers, typically using data analysis to study large amounts of information. Customer relationship management (CRM) is a technology for managing all your company's relationships and interactions with customers and potential customers. The goal is simple: Improve business relationships. CRM is a set of practices, strategies, and technologies that companies use to manage and analyze customer interactions and data throughout the customer lifecycle. By using CRM, you can better understand your customers, tailor your offerings to their needs, and ultimately build long-term relationships.

Unit 6 Artificial Intelligence (AI)

Unit Structure

- 6.1 Introduction
- 6.2 Intended Learning Outcomes
- 6.3 Artificial Intelligence (AI)
 - 6.3.1 Block Chain for Business
 - 6.3.2 Financial Planning and Budgeting Software
- 6.4 Summary
- 6.5 References/Further Readings/Web Resources**
- 6.6 Possible Answers to self-Assessment Exercise(s)



6.1 Introduction

Artificial Intelligence (AI) is a set of technologies that enables machines to mimic human intelligence. AI is the process of simulating human intelligence by machines which enable them to perform human-like tasks. Artificial Intelligence (AI) for startups involves the utilisation of advanced technologies to enhance and streamline various aspects of business operations. For startups, the key is to strategically implement AI solutions that align with their business goals, enhance efficiency, and provide a competitive edge in the market.



6.2 Intended Learning Outcomes

By the end of this unit, you will be able to:

- describe the term Artificial Intelligence (AI) and understand some areas we apply knowledge of AI
- explain the meaning of blockchain and have insight about the benefit of blockchain in business
- examine the features of financial planning and basic software for financial planning and budgeting.



6.3 Artificial Intelligence (AI)

Artificial Intelligence (AI) for startups involves the utilisation of advanced technologies to enhance and streamline various aspects of business operations. For startups, the key is to strategically implement AI solutions that align with their business goals, enhance efficiency, and provide a competitive edge in the market.

AI encompasses the following;

- **Automated Processes:** Startups can use AI to automate repetitive and time-consuming tasks, improving efficiency and allowing team members to focus on more strategic activities.
- **Data Analysis:** AI enables startups to analyse large volumes of data quickly. This can help in gaining valuable insights into customer behavior, market trends, and operational patterns.
- **Personalisation:** AI can be leveraged to provide personalised user experiences, whether in customer interactions, marketing efforts, or product recommendations, enhancing customer satisfaction.
- **Chatbots and Virtual Assistants:** Implementing AI-powered chatbots or virtual assistants can improve customer support by providing instant responses to queries and handling routine tasks, offering a 24/7 presence.
- **Predictive Analytics:** Startups can use AI algorithms for predictive analytics to forecast trends, identify potential risks, and make data-driven decisions.
- **Sales and Marketing Automation:** AI can optimise sales and marketing efforts by automating lead scoring, personalised marketing campaigns, and improving targeting based on customer behavior.
- **Product Development:** AI can assist in product development by analysing market trends, predicting customer needs, and even contributing to the design process through generative models.

- **Cybersecurity:** Startups can use AI for advanced threat detection, anomaly detection, and real-time monitoring to enhance their cybersecurity measures.
- **Supply Chain Optimisation:** AI can improve supply chain management by predicting demand, optimising inventory levels, and enhancing logistics efficiency.
- **Human Resources:** Startups can use AI in HR processes, including recruitment, employee engagement, and performance management.
- **Fraud Detection:** AI algorithms can assist in detecting and preventing fraudulent activities, especially in financial transactions and online platforms.

6.3.1 Blockchain for Business

Blockchain technology is a decentralised and immutable ledger system, primarily known for its role in securely recording cryptocurrency transactions. By incorporating blockchain into business management, organisations can benefit from increased transparency, security, and efficiency across various processes, ultimately contributing to improved business operations and competitiveness.

Here's a brief overview.

- **Transparent and Secure Transactions:** Blockchain provides a decentralised and transparent ledger, ensuring secure and tamper-proof transactions.
- **Identity Management:** Blockchain can be used for secure and decentralised identity management, reducing the risk of identity theft and providing individuals with more control over their personal information.
- **Data Security:** Blockchain ensures data integrity and security.
- **Reduced Intermediaries:** Blockchain eliminates the need for intermediaries in certain transactions, reducing costs and increasing efficiency.
- **Decentralised Finance (DeFi):** Blockchain facilitates decentralised finance applications, allowing businesses to access

financial services without traditional intermediaries, such as banks.

- **Tokenisation of Assets:** Blockchain enables the tokenisation of assets, representing ownership or value digitally
- **Immutable Records:** Once data is added to the blockchain, it cannot be altered or deleted.
- **Intellectual Property Protection:** Blockchain can be used to timestamp and protect intellectual property rights by recording and verifying the ownership and creation date of digital content.

6.3.2 Financial Planning and Budgeting Software

These tools offer a range of features to assist with financial planning, budget creation, and overall financial management. The choice of software depends on the specific needs and preferences of the user or organisation.

- **What:** Technology for financial planning, budgeting, and financial forecasting involves utilising digital tools and software to manage and optimise an individual's or organisations financial resources.
- **Why:** It enhances efficiency, accuracy, and real-time insights into financial matters, aiding in making informed decisions, setting and achieving financial goals, and mitigating risks.
- **How:** Utilise financial software and apps to track income, expenses, and investments, create budgets, and run simulations to forecast financial scenarios, ensuring better financial management and long-term stability.

Intuit QuickBooks

Features:

- Invoicing and payment processing
- Expense tracking
- Financial reporting
- Payroll management
- Tax preparation

Use Case: Suitable for small to medium-sized businesses, freelancers, and self-employed individuals.

Microsoft Excel

Features:

- Spreadsheet functionality for budget creation and tracking
- Customizable templates for financial planning
- Data analysis and visualisation tools

Use Case: Widely used for budgeting and financial planning by businesses of all sizes. Excel is versatile and can be adapted for various financial tasks.

YNAB (You Need a Budget)

Features:

- Zero-based budgeting approach
- Real-time synchronisation of transactions
- Goal tracking and financial education resources
- Mobile app for on-the-go budgeting

Use Case: Designed for individuals and households looking to take a proactive approach to budgeting and personal finance.

Self-Assessment Exercise(s)

1. It is desirable for entrepreneurs to have knowledge and deep understanding of AI in the 21st century. Discuss.
2. What are the uses of blockchain as an instrument for securely recording cryptocurrency transactions?
3. The choice of software depends on the specific needs and preferences of the user or organisation. Expatriate this with regards to your new or existing business as an entrepreneur.



6.4 Summary

Artificial Intelligence (AI) for startups involves the utilisation of advanced technologies to enhance and streamline various aspects of business operations. Financial planning and budgeting have specialised software designed for that purpose and the choice of software depends on the specific needs and preferences of the user or organisation. In a digital world, almost everything can be done online. The 21st century altered traditional trading and paved way to new businesses and modified how goods and services reach out target market.

Entrepreneurs must pay attention to what happened and happening in digital age with caution. For a business to flourish and survive defensive mechanism needs to put in place to safeguard and create loyal customers by all possible means.



6.5 References/Further Readings/Web Resources

<https://shorturl.at/aGLVW>

<https://shorturl.at/etyzN>

<https://shorturl.at/pqBKM>

<https://shorturl.at/hosV7>

<https://shorturl.at/koAHI>

<https://shorturl.at/fnO03>

<https://shorturl.at/lvJP2>



6.6 Possible Answers to Self-Assessment Exercise(s)

- i. AI algorithms can process and analyze vast amounts of data quickly and accurately. This enables entrepreneurs to make data-driven decisions, identify trends, and understand customer behavior more effectively, improving their decision-making processes. AI is increasingly capable of performing complex cognitive tasks, replacing repetitive tasks, and even making decisions based on large volumes of data. This transformation has a direct impact on social paradigms and the job market, creating new opportunities, but also raising concerns about the future of employment. AI has revolutionized customer experiences by enabling personalized interactions on a mass scale. Entrepreneurs can use AI to analyze customer data and tailor their marketing efforts to specific segments, delivering relevant content and product recommendations. AI-powered technologies such as natural language processing, image and audio recognition, and computer vision have revolutionized the way we interact with and consume media. With AI, we are able to process and analyze

vast amounts of data quickly, making it easier to find and access the information we need.

- ii. In traditional banking systems, transactions are typically recorded in a centralized database. However, with blockchain technology, transactions are recorded in a partially decentralized network where only trusted participants can host the validating nodes. The blockchain can be defined as a large distributed database, in which it is possible to record transactions of all kinds between the parties directly and securely and in real time, without the need for intermediaries and with total traceability. Bitcoin, Ethereum, and other wide-scale cryptocurrency coins use blockchain to process and record transactions securely. This technology makes it possible to ensure transparency and protect the financial information and identity of crypto buyers and sellers. Every transaction on the blockchain is secured with cryptographic principles, ensuring data integrity and authentication. Public key infrastructure (PKI) grants users a public key to receive assets and a private key to safeguard them.
- ii. When the entrepreneur is considering an opportunity, it is essential to concentrate on (A) The economic feasibility (B) Ethical consideration of the idea. The idea should be able to help the business sustain which is possible only if it can strengthen the financial statement. Another way to prove whether a business idea is viable is by conducting market research. This includes using industry research to define the competitive landscape and determine your target audience, as well as interviewing or surveying people who fit your target demographics.

The main factors to consider when deciding on the software to use include:

- 1. Functionality. It is the consideration of the ability of the software to work without disrupting the workflow
- 2. Compatibility
- 3. User-friendliness
- 4. Agility
- 5. Price
- 6. Credibility
- 7. Exit strategy.



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