

DIGITAL FINANCE

CPA PROGRAM SUBJECT OUTLINE – FIRST EDITION

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In today's rapidly evolving digital landscape, with its onslaught of new and innovative solutions, accounting and finance professionals must stay ahead of the opportunities and challenges presented by these technologies and other digital disruptors. It is imperative to learn to recognise and reap the full benefit of these technologies and the digital finance environment. This subject explores the knowledge and skills necessary to understand and navigate the complex world of digital finance and provides the tools to apply emerging technologies in a real-world context. More specifically, the subject discusses the topics of the digital finance ecosystem; the future of money; technology and its use in finance; data analytics, interpretation and visualization; and risk management, governance and regulation.

EXAM STRUCTURE

The Digital Finance exam comprises multiple-choice questions and extended-response questions.

GENERAL OBJECTIVES

On completion of this subject, you should be able to:

- examine where we are today, and where we will be in the near future, with technologies used in the digital finance environment such as Artificial Intelligence (AI), Machine Learning (ML), Robotic Process Automation (RPA), big data, digital payments and digital currencies
- apply your knowledge to translate complex digital finance concepts and terminology to support informed strategic decision-making around the use of key digital finance technologies in business
- use your insights into digital finance technologies to navigate the changing technological environment in which accounting and finance professionals work
- examine the regulatory and organisational implications of digital finance technologies and how they can be applied in a range of settings including compliance in organisational contexts.

SUBJECT CONTENT

The weighting column in the following table provides an indication of the emphasis placed on each module in the exam. The proportion of study time is a guide for you to allocate your study time for each module.

Module	Recommended proportion of study time (%)	Weighting (%)
1. The Digital Finance Ecosystem	20	20
2. Future of Money	15	15
3. Technology and its use in Finance	20	20
4. Data Analytics, Interpretation and Visualisation	25	25
5. Risk Management, Governance and Regulation	20	20

This subject is divided into five modules. A brief outline of each module is provided below.

Module 1: The Digital Finance Ecosystem

The innovative application of technology has transformed the business world. As increasingly ubiquitous internet-enabled devices generate, store, process and exchange massive amounts of data at low cost and in near-real-time, a new wave of transformation is underway. This transformation is rapidly changing the way businesses work, communicate and collaborate with each other, and with their customers, to create value.

In this context, accounting and finance professionals need not only a working understanding of the current finance landscape, but also the knowledge and skills to evaluate and respond to the opportunities and challenges associated with the digital finance innovations that are transforming the finance ecosystem.

Part A of this module describes the emergence of the data-enabled 'Network Age' and how technologies and innovations are impacting finance functions and institutions. This establishes the context in which accounting and finance professionals will work to evaluate and support the adoption and implementation of innovations that can help achieve the business's strategic goals.

Part B of the module explains and illustrates the components, characteristics and function of a digital ecosystem. This provides an understanding of how a digital ecosystem creates value and thus how to evaluate innovations to determine their role in helping an organisation achieve its strategic goals. To help navigate the complexity of the technologies and applications involved, we will describe the goals and benefits of the digital financial services ecosystem, the enabling environment and infrastructure, and the issues and challenges encountered during the digital transformation of finance. This part concludes with a discussion of payments in the digital finance ecosystem.

Part C of the module discusses financial technology (FinTech) applications relevant to the work of accounting and finance professionals, and to the broader digital financial services ecosystem. We begin by exploring the role of FinTech businesses in the development of innovative digital finance solutions. FinTechs leverage technology to create cost-effective niche services to fill needs that are not optimally served by the traditional financial services institutions. As the sector has developed, FinTechs and traditional providers increasingly cooperate and collaborate. After discussing the digital finance applications of FinTech, we discuss emerging areas in FinTech and the opportunities and roadblocks that must be considered when developing, evaluating, adopting or implementing digital finance innovations.

Part D draws together the tools and knowledge presented in parts A, B and C to enable accounting and finance professionals to play a valuable role in the evaluation, planning and practical implementation of

digital finance innovations that will digitally transform the business to help achieve its strategic objectives.

By developing the ability to understand and evaluate the impact of technology on accounting and finance, the components and functioning of the digital finance ecosystem, innovative FinTech, and digital transformation issues and strategies, this module provides the foundations for evaluating and taking advantage of the specific digital finance technologies and developments discussed in the later modules.

Part A: Digital Finance Landscape

- Technological evolution
- Impact of technology on the digital finance landscape
- Impact of technology on banking/financial markets

Part B: Digital Finance Ecosystem

- Digital ecosystem
- Digital finance services (DFS) ecosystem
- The payments ecosystem

Part C: FinTech (Innovations)

- FinTech in business
- Current use of FinTech by accounting and finance professionals
- Innovation thinking in FinTech

Part D: Digital Transformation

- Organisational strategy
- Digital transformation strategies
- How digital transformation strategy can help achieve an organisation's goals

Module 2: Future of Money

As explained in module 1, every business is positioned within an ecosystem of value-driven economic activities. The monetary system — and overall financial system — is transitioning to technology-enabled business models that can bring further democratisation, inclusion, efficiency and effectiveness, and open up new pathways for innovative business models.

Achieving a transient or competitive advantage requires every organisation and professional to understand the reason and rationales behind these changes. This will help evaluate and establish business cases that adopt appropriate digital technologies and applications within an organisation's strategic, business, innovation and financial reality. In this module, we explore technologies and applications for digital currency, digital payments, distributed ledgers, cryptocurrencies, and alternative finance. We conclude with an assessment of the future direction of banking.

Part A of the module describes the functions and characteristics of money to establish a basis for evaluating the potential applications of a variety of digital currencies. Digital currencies involve new financial and monetary infrastructure and processes that require evaluation and management in terms of business strategy, operational strategy, regulation, compliance, accounting, ethics, societal impacts and finance.

Part B of the module describes the characteristics and applications of a variety of digital payment technologies. Some of these are well-established, widely adopted and exist as a formalised part of the financial system. Others are being developed using various financial technologies to overcome

weaknesses of existing systems and to provide personalised, frictionless payment experiences to customers. A common feature of digital payments is the potential to capture rich data associated with each transaction.

Part C of the module describes the concept of distributed ledgers and the mechanisms that enable blockchain platforms to provide secure transactions without the need for a central trusted authority and to create a secure, transparent and immutable ledger. We also discuss smart contracts, which are self-executing contracts that operate on a blockchain platform and a range of other blockchain applications.

Part D examines cryptocurrencies, which are a type of decentralised virtual currency that exists on blockchain platforms. Cryptocurrencies are seen as a potentially transformative innovation that could fundamentally change the global financial system by eliminating the role of central authorities and intermediaries. At present, they are largely unregulated and operate outside the formal financial system.

Part E explores alternative lending and funding innovations that have been enabled by technology. These are of particular value to start-ups and SMEs, which often face hurdles accessing required capital through traditional providers.

Part F concludes the module with an assessment of the future direction of banking in response to the increasing integration of technology and finance.

Part A: Digital Currency

- Money and currency
- Digital currencies
- Cryptocurrency

Part B: Digital Payments

- Digital Payments
- Types of digital payments
- The future of digital payments

Part C: Distributed Ledger Technology

- Distributed ledger technology
- Blockchain technology
- Smart contract technology
- Blockchain in financial services and beyond

Part D: Cryptocurrencies

- Cryptocurrencies
- Decentralised finance (DEFI)
- Impact of cryptocurrencies on finance and future outlook

Part E: Alternative Finance Providers

- What is alternative finance?
- Alternative lending
- Alternative funding
- Crypto-based funding
- Impact on the organisation

Part F: Future of banking

- Future of banking

Module 3: Technology and its use in Finance

Modules 1 and 2 explored how the near-real-time and free flow of data in the global network of interconnected devices, systems, individuals and organisations have shaped a digital finance ecosystem that redefines how value is created, delivered and consumed. Data is at the core of almost every business process, every transaction and every service experience. In this module, we will explore the use of digital tools that apply data in a wide range of business processes to achieve efficiencies and create value. These tools have extensive 'back-office' and 'customer-facing' applications — and many of them increasingly integrate across the entire business.

Part A explores the concept of automation — the use of technology to replace human labour to achieve efficiencies and enable the deployment of human resources to focus on higher-value work. A balanced scorecard is explained as a framework in which to evaluate the potential and performance of automation technologies in achieving the business's objectives.

Part B of the module focuses on robotic process automation, which is the use of technology to replace human labour in simple rules-based tasks, often those involving the processing of data. This type of automation essentially mimics the steps that a human worker performs, but many times faster and without quality variation.

Part C of the module explores artificial intelligence — a collection of technologies that exhibit capabilities normally associated with human intelligence. Artificial intelligence technologies can work with data in sophisticated ways and has many applications in generating business insights, improving customer experience, automating processes, and helping team members work more effectively.

Part D of the module explores a specific type of artificial intelligence called machine learning which is able to interact with data in even more sophisticated ways.

With the benefits, costs, risks and potential applications of these digital tools established throughout the module, **Part E** of the module concludes with a discussion of how to select and implement the most appropriate digital tools to solve business problems and help achieve the business's objectives.

Part A: Automation

- The basics of automation
- The value of automation
- Planning for success

Part B: Robotic Process Automation (RPA)

- The basics of RPA
- Benefits of RPA
- Risks and challenges for using RPA
- Building an effective RPA strategy

Part C: Artificial Intelligence (AI)

- The basics of AI
- Benefits of AI
- Risks and challenges for using AI
- Building an effective AI strategy

Part D: Machine Learning (ML)

- The basics of ML
- Benefits of ML
- Risks and challenges for using ML
- Building an effective ML strategy

Part E: Value of Technologies

- Choosing the best technology
- Reshaping for an automated future

Module 4: Data Analytics, Interpretation and Visualisation

In module 1, we described how advances in technology had led to a massive increase in the creation, capture, processing and sharing of data. This explosive growth in data is a fundamental enabler of the digital finance ecosystem we described in module 1, the emerging forms of digital currency we described in module 2 and many of the finance and other business applications of automation, artificial intelligence and machine learning technologies we described in module 3.

Module 3, in particular, described the use of technology to interact with data in ways that create value for the organisation and its stakeholders. All of those approaches involved the analysis of data and application of the findings. In module 3, the focus was on how technology could analyse data and, in many cases, automatically respond through applications such as chatbots and robo-advisors. In this module we will examine how data can be analysed to generate insights that can be presented to decision makers to help them achieve the business's operational, tactical or strategic goals.

Accounting and finance professionals are experienced data owners, analysts, information creators and information providers, but the recent massive expansion of data availability and analytical abilities has created the need for an expanded skill set.

The field of analytics formalises the role of data for decision-making in organisations. As such, accounting and finance professionals need to attain and encourage data literacy throughout the organisation, make meaningful input to the organisation's data strategy, be able to prompt, shape and work with the output of analytics processes, interpret the meaning of analytics outputs and use appropriate visualisation and communication tools to ensure others, particularly decision makers, gain actionable insights arising from analytics.

Part A of the module establishes the concept of data-informed decision-making and the need for accounting and finance professionals to develop data literacy skills. **Part B** explores how to develop and implement a robust data strategy to capture, store and process the data required by the organisation's analytics applications. **Part C** steps through the process of analysing big data, including the application of artificial intelligence technologies. **Part D** examines the process of interpreting the outputs of analytics to derive insights and make recommendations to decision-makers about possible courses of action. **Part E** concludes the module by exploring visualisations and other techniques that can be used to effectively communicate the actionable insights and recommendations that have been developed.

Part A: Data Literacy

- Introduction to data and data literacy
- The need for data literacy
- Data literacy culture and the role of the finance professional
- Basic data science concepts

Part B: Extraction, Consolidation and Design of Data Strategy

- Data strategy: Why a business needs a data strategy
- A framework for designing an effective data strategy
- Data strategy implementation

Part C: Data Analytics

- What is big data and analytics?
- The data analysis process
- Risk, warnings and challenges in data analytics
- Applying AI to analytics: Benefits, risks and examples
- Case study: Detecting money laundering

Part D: Data Interpretation

- Data interpretation: Introduction and considerations
- Data-informed decision-making
- Example of a decision-making framework

Part E: Data Visualisation

- The role of visualisation
- Telling a story with data

Module 5: Risk Management, Governance and Regulation

The digital transformation of accounting and finance, the technologies enabling it, and the integration of data into most key business activities, are creating a new and rapidly changing risk environment. Accounting and finance professionals need to be able to advise on and participate in strong risk governance to ensure the organisation has robust processes and structures to identify and manage risks that threaten the business's ability to achieve its objectives. Likewise, compliance has become a more complex challenge in the context of digital finance. Innovative financial technologies (FinTech) have challenged regulators who seek to protect the interests of the community while not stifling innovation. Approaches to compliance with regulation are themselves being disrupted by regulatory technologies (RegTech).

Part A of this module presents a comprehensive risk management process based on ISO 31000 Risk management. Working through this process identifies, analyses and responds to risks that can threaten the business's ability to achieve its objectives. Adopting the best practices in ISO 31000 includes monitoring and evaluation of both the risk environment and the performance of the organisation's risk frameworks and policies. This, along with awareness of emerging risk management innovations, provides the knowledge and skills to ensure ongoing improvement in the organisation's management of risk.

Part B introduces the concept of risk governance, which refers to how decisions are made and authority is exercised in relation to the organisation's management of risk. We describe good governance and the ideal composition of a governance Board. We then describe a range of poor practices and emerging threats to good practice in order to establish a comprehensive understanding of the requirements of good risk governance. This part of the module concludes with a discussion of data governance, which sets the scene for the in-depth discussion of data security and privacy obligations and risks in part C.

Part C introduces the industry standards and best practices for ensuring the security of data held and used by an organisation. We explore cyber-security and other threats to data, including the potential

severity of the consequences of a security breach. We conclude with a discussion of data ethics and the need to protect data to ensure the privacy of individuals. Application of the material in parts A and B to the risks detailed in part C enables the development of mitigation strategies for cyber-security threats.

Part D explains and applies a compliance framework to enable the creation of an action plan to achieve compliance and manage potential compliance breaches. This part includes a discussion of emerging compliance issues.

Part E examines how regulators have responded to FinTech by seeking to balance community protection with an environment that enables innovation. It explores how organisations can comply with regulations while developing or taking advantage of FinTech innovations.

Part F concludes the module with a discussion of RegTech — the application of technology to help an organisation comply with its regulatory obligations.

Part A: Risk Management

- Introduction to risk and risk management
- Risk management standards
- Risk management process
- Future innovation in risk management

Part B: Governance

- What is risk governance?
- Poor/inappropriate risk governance
- Developing risk governance through culture
- What is the right mix for a governance board?
- Future threats to governance
- Data governance

Part C: Security and Privacy

- What is data/information security and cybersecurity?
- Industry standards
- Implementing best practice information security
- Selecting security controls
- Implications of an immature approach to cybersecurity
- Cyber breach
- Data protection, ethics and privacy

Part D: Compliance

- What is compliance?
- Developing a compliance framework
- Compliance in action
- Moving forward with compliance

Part E: FinTech Regulation

- Why does regulation occur?
- FinTech regulation authorities—Australian and global regulations
- What has changed and have the regulations kept up?
- What does it mean for a FinTech company operating in a global environment?
- The basics of RegTech
- Keeping up with regulations
- Preparing for RegTech
- What's next for RegTech?