

Unit code	T/615/1639
Unit type	Core
Unit level	5
Credit value	30

Introduction

This unit is assessed by a Pearson-set assignment. Students will choose their own project based on a theme provided by Pearson (this will change annually). The project must be related to their specialist pathway of study (unless the student is studying the general computing pathway). This will enable students to explore and examine a relevant and current topical aspect of computing in the context of a business environment and their chosen specialist pathway.

The aim of this unit is to offer students the opportunity to engage in sustained research in a specific field of study. The unit enables students to demonstrate the capacity and ability to identify a research theme, to develop research aims, objectives and outcomes, and to present the outcomes of such research in both written and verbal formats. The unit also encourages students to reflect on their engagement in the research process during which recommendations for future, personal development are key learning points.

On successful completion of this unit students will have the confidence to engage in problem-solving and research activities which are part of the function of a manager. Students will have the fundamental knowledge and skills to enable them to investigate workplace issues and problems, determine appropriate solutions and present evidence to various stakeholders in an acceptable and understandable format.

As a result they will develop skills such as communication literacy, critical thinking, analysis, synthesis, reasoning and interpretation which are crucial for gaining employment and developing academic competence.

Learning Outcomes

By the end of this unit students will be able to:

- LO1 Examine appropriate research methodologies and approaches as part of the research process.
- LO2 Conduct and analyse research relevant to a computing research project.
- LO3 Communicate the outcomes of a research project to identified stakeholders.
- LO4 Reflect on the application of research methodologies and concepts.

Essential Content

LO1 **Examine appropriate research methodologies and approaches as part of the research process**

Developing a research proposition:

The importance of developing methodical and valid propositions as the foundation for a research project.

Rationale: the purpose and significance for research question or hypothesis.

The value of the philosophical position of the researcher and the chosen methods.

Use of Saunders's research onion as a guide to establishing a methodological approach.

Literature review:

Conceptualisation of the research problem or hypothesis.

The importance of positioning a research project in context of existing knowledge.

Significance and means of providing benchmarks by which data can be judged.

Qualitative, quantitative and mixed method research:

Key theoretical frameworks for research.

Advantages and limitations of qualitative and quantitative research approaches and methods.

LO2 **Conduct and analyse research relevant for a business research project**

Research as a process:

Research has distinct phases which support a coherent and logical argument. This includes using secondary research to inform a primary, empirical, study.

Selecting a sample:

The importance of gathering data and information (qualitative or quantitative) to support research analysis.

Selecting sample types and sizes that are relevant to the research.

Considering sampling approaches and techniques, including probability and non-probability sampling.

Ethics, reliability and validity:

Research should be conducted ethically. How is this achieved and reported?

Research should also be reliable (similar results would be achieved from a similar sample) and valid (the research measures what it aimed to measure).

Analysing data:

Using data collection tools such as interviews and questionnaires.

Using analytical techniques such as trend analysis, coding or typologies.

L03 Communicate the outcomes of a research project to identified stakeholders

Stakeholders:

Who are they?

Why would they be interested in the research outcomes?

What communication method do they expect?

Communicating research outcomes:

Consideration of different methods of communicating outcomes (e.g. written word, spoken word) and the medium (e.g. report, online, presentation). The method and medium will be influenced by the research and its intended audience.

Convincing arguments:

No matter what the method/medium, all research should be convincing and presented logically where the assumption is that the audience has little or no knowledge of the research process.

The importance of developing evaluative conclusions.

L04 Reflect on the application of research methodologies and concepts

Reflection for learning and practice:

Difference between reflecting on performance and evaluating a research project. The former considers the research process; the latter considers the quality of the research argument and use of evidence.

Reflection on the merits, limitations and potential pitfalls of the chosen methods.

The cycle of reflection:

To include reflection in action and reflection on action.

Considering how to use reflection to inform future behaviour and future considerations.

Reflective writing:

Avoiding generalisation and focusing on personal development and the research journey in a critical and objective way.

Learning Outcomes and Assessment Criteria

Pass	Merit	Distinction
<p>LO1 Examine appropriate research methodologies and approaches as part of the research process</p>		<p>LO1 & LO2</p> <p>D1 Critically evaluate research methodologies and processes in application to a computing research project to justify chosen research methods and analysis.</p>
<p>P1 Produce a research proposal that clearly defines a research question or hypothesis supported by a literature review.</p> <p>P2 Examine appropriate research methods and approaches to primary and secondary research.</p>	<p>M1 Evaluate different research approaches and methodology and make justifications for the choice of methods selected based on philosophical/theoretical frameworks.</p>	
<p>LO2 Conduct and analyse research relevant for a business research project</p>		
<p>P3 Conduct primary and secondary research using appropriate methods for a computing research project that consider costs, access and ethical issues.</p> <p>P4 Apply appropriate analytical tools, analyse research findings and data.</p>	<p>M2 Discuss merits, limitations and pitfalls of approaches to data collection and analysis.</p>	
<p>LO3 Communicate the outcomes of a research project to identified stakeholders</p>		<p>D2 Communicate critical analysis of the outcomes and make valid, justified recommendations.</p>
<p>P5 Communicate research outcomes in an appropriate manner for the intended audience.</p>	<p>M3 Coherently and logically communicate outcomes to the intended audience demonstrating how outcomes meet set research objectives.</p>	

Pass	Merit	Distinction
<p>LO4 Reflect on the application of research methodologies and concepts</p>		
<p>P6 Reflect on the effectiveness of research methods applied for meeting objectives of the computing research project.</p> <p>P7 Consider alternative research methodologies and lessons learnt in view of the outcomes.</p>	<p>M4 Provide critical reflection and insight that results in recommended actions for improvements and future research considerations.</p>	

Recommended Resources

Textbooks

Cornford, T. (2005) *Project Research in Information Systems: A Student's Guide*. Paperback. Macmillan.

Costley, C., Elliot, G. and Gibbs, P. (2010) *Doing Work Based Research: Approaches to Enquiry for Insider-researchers*. London: SAGE.

Fink, A. (2009) *Conducting Research Literature Reviews: From the Internet to Paper*. 3rd Ed. Sage Inc.

Flick, U. (2011) *Introducing Research Methodology: A Beginner's Guide to Doing a Research Project*. London: SAGE.

Gray, D. (2009) *Doing Research in the Real World*. 2nd Ed. London: SAGE.

Saunders, M, Lewis, P and Thornhill, A. (2012) *Research methods for Business Students*. 6th Ed. Harlow: Pearson.

Wellington, J. (2000) *Educational Research: Contemporary Issues and Practical Approaches*. Continuum International Publishing Group Ltd.

Journals

*International Journal of
Quantitative and Qualitative
Research Qualitative Research
Journal*

Links

This unit links to the following related units:

Unit 3: Professional Practice

Unit 6: Managing a

Successful Computing

Project Unit 9:

Software Development

Lifecycles