Analytical Decision-Making

Unit Type: Optional

Level: 5

Credits: 20

GLH: 70

Assessment Method: Assignment

Robust, effective and timely decision making in any organisational context is a critical factor in determining the success of a project or enterprise. The currency, accuracy and relevance of information, data and other contributory aspects impact significantly on the outcome of any decision making.

This unit is designed to provide you with the theoretical, practical and technical knowledge and understanding to build a capability to identify, define, analyse and interpret data from a broad range of sources to support critical business decisions in a variety of contexts and using a range of methodologies.

You will gain technical skills in research methodology including the collection, analysis and interpretation of multiple data sets using narrative and predictive techniques and models. These skills will encourage you to develop strong business acumen which will enable them to recommend and demonstrate confident business decisions across a range of organisational and business contexts and scenarios. In addition, these techniques will be useful when you undertake other units within the level 5 syllabus, for example in the Business Performance and Innovation Unit.

What You'll Learn

The table below shows the learning outcomes of this unit (what you will be able to do or what you will know), along with the assessment criteria (what you will be able to do to demonstrate achievement of the learning outcome).

Learning Outcomes *The learner will:*	Assessment Criteria *The learner can:*
1. Examine the role of analytics in decision-making in contemporary dynamic business environments (Weighting 20%)	1.1 Demonstrate knowledge and understanding of the concepts of appropriate decision-making 1.2 Evaluate the nature, scope and impact of routine/non-routine, operational and strategic decision-making in response to identified issues and problems 1.3 Discuss the nature of analytics to support business decision-making 1.4 Assess analytical decision-making considering contemporary and emerging themes in a dynamic business environment
2. Assess business information management data and systems appropriate for analytical decision-making in a variety of contexts (Weighting 20%)	2.1 Evaluate data retrieval, analytics and information management systems and methodologies 2.2 Assess how data sources and use of technology can benefit analytical decision-making in varied contexts 2.3 Examine a range of varied data sources and sets for a specific purpose in a range of organisational, functional and complex contexts 2.4 Evaluate the validity of data sources in contemporary contexts
3. Prepare evaluative reports to meet the requirements of a specific project brief (Weighting 30%)	3.1 Plan the collection and analysis of information required for a business decision-making project 3.2 Design, collect and collate appropriate data to meet requirements of business decision-making brief 3.3 Analyse complex data sets using a range of techniques from a range of sources to support project brief 3.4 Interpret complex data from varied sources to enable coherent reporting in response to a specific brief

	3.5 Assess and reflect on risk factors when reporting against the project brief
4. Apply analytic techniques to develop options for decision making, reports and recommendations (Weighting 30%)	4.1 Apply analytic techniques to develop appropriate options in context
	4.2 Apply scenario planning techniques to support decision-making
	4.3 Apply mapping and testing techniques to justify recommendations
	4.4 Report coherent findings and credible recommendations to facilitate management decision-making

Capabilities

Alongside academic learning and development, ABE's qualifications have been designed to develop your practical skills and capabilities. These capabilities are highlighted as certain values, knowledge, skills and behaviours that will help you in your professional development.

Below is an overview of the behaviours, skills and attitudes that you will develop through this unit include:

Element of Learning	Key Capabilities Developed
Element 1 - Role of Analytics in Decision-making in contemporary dynamic business environments	Demonstrating knowledge and understanding of the concepts of business decision-making and the role of analytics to support effective decision-making in a variety of organisational contexts Evaluating the nature, scope and impact of routine, operational and strategic decision-making in response to identified issues and problems Initiating decision-making with consideration for contemporary and emerging themes in a dynamic business environment *Commercial and Business understanding; assimilation of complex and diverse knowledge and data; appraisal in context; problem solving*
Element 2 - Source and use of data, systems and technologies for relevant decision-making	Understanding and managing research methodology and systems for periodic and continuous data retrieval for routine and non-routine purposes to meet client and organisational requirements, meeting ethical and legal standards Identifying, sourcing and accessing information using technologies and a multiplicity of data sets in complex contexts *Business research skills; quantitative methods, organisational skills; technology and software applications*
Element 3 - Analytics in practice – Analysis synthesis, evaluation and	Analysing, interpreting and evaluating complex data sets from a range of internal, competitive and external sources

reporting of data to meet requirements and the needs of a specific brief	Using a variety of techniques and models to evaluate data including qualitative/quantitative data, comparative studies and trend and forecast extrapolation in a variety of contexts
	Reflecting on risk factors including access to reliable data, which can lead to anomalies and misinterpretation allowing for realistic margin of error
	High levels of analytical, interpretive and evaluative skills; objectivity; logical thinking; Communication –business reporting. language and presentation skills; responsiveness; sensitivity to audience
Element 4 - Option development in analytical decision-making	Evaluating options for decision-making through modelling techniques and scenario development with consideration for organisational culture and contexts
	Mapping and testing the likelihood of success considering risk and other factors
	Reporting and providing justifiable recommendations to enable decision-making
	Lateral thinking for problem solving; Skills in scenario planning to aid forecasting, logical argument; testing; decision-making; communication of ideas and justified argument

Localisation

It is very important when studying for your ABE qualification that you consider your local business environment and try to apply what you are learning to relevant scenarios in your local business context. Doing this will help you to put your learning into practice and use it in your professional day-to-day activities.

You should take into account the following when preparing for your summative assessment:

- Currency, accuracy, reliability and sufficiency of available data in the cultural and legal framework of local context
- Appropriateness and ethical considerations for access to and sources of information in the local context

- Access to technologies such as the internet and IT-based analysis tools to support interpretation within the local context

1. Examine of the role of analytics in decision-making in contemporary dynamic business environments (Weighting 20%)

1.1 Demonstrate knowledge and understanding of the concepts of appropriate decision-making

- Types of decision making – routine, repeat, simple, complex and ambiguous; operational management decision-making, strategic decision-making; short (regular, repeat, within specific timespans up to one year), medium (one to four years) and long term (five years plus)
- Context of types of decision-making within organisations and sectors – Organisations – nature of decision-making in specific functional areas and for specific activities (e.g. marketing, HR, finance, procurement, operations), quality, process control, cross-organisation, pan-industry

1.2 Evaluate the nature, scope and impact of routine/non-routine, operational and strategic decision-making in response to identified issues and problems

- Nature and scope of identified issues and problems (common business issues and problems e.g. supply chain, credit control; marketing campaigns or contemporary or political issues e.g. ethical or environmental, uncertain futures and outcomes) departmental/organisational problem solving and decision-making; relate to functional areas of the business and overall direction and scope (strategic level); strategic business unit, business and corporate level
- Level of impact and urgency (routine, important, critical) on the department and organisation of decision making for short, medium and long term purposes
- Stakeholder Opinion; Expectations of client/management when commissioning regular, frequent, infrequent, project-based research, analysis, interpretation and evaluation to support decision-making

1.3 Discuss the nature of analytics to support business decision-making

- Concepts of descriptive, predictive and prescriptive analytics for analysis of historic data and use of forecasting to predict the future and formulate advice to support business decision-making; use of business performance based statistics and data to support analysis (including ROI, financial, operational

activity, staff-based statistics), measuring performance against specified goals and targets; Use of prescriptive techniques to influence outcomes

1.4 Assess analytical decision-making considering contemporary and emerging themes in a dynamic business environment

- Issues related to decision-making in a dynamic business environment – (Contemporary and emerging themes - ethics, environmentalism and trans-disciplinary skills and entrepreneurism, globalisation, 'glocalisation' or regionalisation, cultural homogeneity and diversity); lack of information availability, lack of history/trends in these issues; unknown impacts or experience and results of decision-making, difficulties in using quantitative data and qualitative decisions to forecast/predict outcomes
- Technological developments and work practices supporting analytics and decision-making – i.e. statistical techniques analytical software, online, social media, virtual teams and collaboration

2. Assess business information management data and systems appropriate for analytical decision-making in a variety of contexts (Weighting 20%)

2.1 Evaluate data retrieval, analytics and information management systems and methodologies

- Management information purposes, uses, systems and structures; links to functional areas of the business (marketing, HR, finance, procurement, operations etc.)
- Types and methods of data Collection used in business organisations, data retrieval and reporting methodologies and processes for continuous, frequent and periodic routine and non-routine

2.2 Assess how data sources and use of technology can benefit analytical decision-making in varied contexts

- Sources – internal (contextualised to functional areas i.e. customer records, production data), market, external; stakeholder; industry-related, competitor, media, political and economic, national, international, global; historic and forecast
- Use of technology, industry- brands, standard and specialist systems and software (to aid information sourcing, analysis and management; machine learning and data mining (examples of brands may include Microsoft Power BI, Oracle)

2.3 Examine a range of varied data sources and sets for a specific purpose in a range of organisational, functional and complex contexts

- Purpose of research – routine, non-routine; continuous, specific; commissioned; operational; strategic
- Types of data – qualitative and quantitative; statistics - primary and secondary; historic; continuous, frequent, periodic, commissioned; intelligence and opinion

2.4 Evaluate the validity of data sources in contemporary contexts

- Compliance with legal requirements for data access in a variety of industry and national cultural contexts, online security protection; costs of knowledge acquisition; timeliness
- Industry and organisational intelligence – sources – reliability, currency, whistleblowing policies; legal and ethical influencing

- Ethical standards applied to information and intelligence gathering and use of data – sources; use of incentives; cultural differences in global contexts

---

3. Prepare evaluative reports to meet the requirements of a specific project brief (Weighting 30%)

3.1 Plan the collection and analysis of information required for a business decision-making project

- Analysis of the project brief in context – operational/strategic, nature, size, timelines
- Project plan for implementation of data collection against brief
- Conditions to meet the project brief – context – extent and limitations; timely - activity plan (Gantt chart); considered decisions on discarding or ignoring data; impact and cost implications

3.2 Design, collect and collate appropriate data to meet requirements of business decision-making brief

- Research design – primary – surveys, questionnaires, interviews, focus groups; pilot tests of primary research
- Collection and collation of data range/sources and statistics – financial, market, internal, competitive, external; qualitative; quantitative
- Nature of data - historic and predictive, comparative; consistency, trend, primary/secondary
- Techniques – modelling, machine learning, data mining (identifying patterns in behaviour from a large number of data sources for example: patterns in consumer behaviour)

3.3 Analyse complex data sets using a range of techniques from a range of sources to support project brief

- Techniques for analysis of researched primary and secondary data sets – software analysis tools (e.g. spreadsheets); numeracy and mapping skills; data comparisons (quantitative and qualitative); benchmarking against performance targets
- Statistical techniques - modelling, machine learning, data mining; financial ratio analysis

3.4 Interpret complex data from varied sources to enable coherent reporting in response to a specific brief

- Commonly used descriptive and predictive techniques for interpretation in the context of analytical decision-making for example use of Strengths, Weaknesses, Opportunities and Threats matrix (SWOT), analysis of the external business environment (PESTLE), use of models such as Michael Porter's Five Forces Competitive Position Analysis; financial statements interpretation; valuing competences and intangible assets
- Interpretation and synthesis of outcomes of analyses – comparative studies, trends and forecast extrapolations in summary of findings and justified interpretation

3.5 Assess and reflect on risk factors when reporting against the project brief

- Considerations for currency, accuracy, sufficiency; validity of using trends, regression and extrapolations to forecast and predict
- Risks and anomalies – e.g. technical issues e.g. quality of data input, process issues, business/stakeholder response; comparative data sets and use of secondary data, reliability – opinion and data; historic v predictive; margin of error; fact-based v wisdom/intuition

4. Apply analytic techniques to develop options for decision making, reports and recommendations (Weighting 30%)

4.1 Apply analytic techniques to develop appropriate options in context

- Predictive techniques in context – extrapolation, regression, machine learning; linear and non-linear; trend
- Business modelling techniques in context (operational/strategic; functional area for business) e.g. Porter's Value Chain, GE McKinsey Matrix, Porter's Generic Competitive Strategies

4.2 Apply scenario planning techniques to support decision-making

- Scenarios to arrive at decisions – different futures and processes e.g. Delphi, consensus brainstorming, Pareto

4.3 Apply mapping and testing techniques to justify recommendations

- Likely outcomes of alternative options for descriptive and predictive forecasting to meet identified goals and targets, pros and cons; weighting and rating
- Suitability of options given circumstances; feasibility – financial and non-financial reason; acceptability to stakeholders of alternative options – direction, approaches and methods in business decision-making
- Value and risk – Certainty/uncertainty - Likelihood of success and risk factors including predictable and unpredictable events

4.4 Report coherent findings and credible recommendations to facilitate management decision-making

- Presentation of reports – quality and clarity of communication, levels and influence of target audience and readership
- Visual tools – i.e. images, applied models, tables, charts and graphs for example bar and pie charts, line and scatter graphs
- Summary and interpretive tools to provide clear meaning and justification; recommendations to meet target outcomes; implications of outputs

abe

Your road to success

www.abeuk.com

ABE's offices are located in New Malden, Greater London, UK.

5th Floor, CI Tower, St. George's Square, New Malden, Surrey KT3 4TE, UK

Tel: +44 (0)20 8329 2930 Fax: +44 (0)20 8329 2945