Australian Government

Department of Education, Employment and Workplace Relations

ICTNPL5101A Apply service measures and demand forecasting to products and services planning

Release: 1

ISC INDUSTRY SKILLS COUNCILS
Creating Australia's Future

ICTNPL5101A Apply service measures and demand forecasting to products and services planning

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to analyse customer bases and market demands and use forecasting tools to predict customer demands for new products and services.
	Accurate forecasting helps service providers make key investment decisions relating to product development and introduction, advertising and pricing, well in advance of product launch. This helps to ensure that the company will make a profit on a new venture and that capital is invested wisely.
	No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Application of the Unit

Application of the unit	Technical planners, designers and supporting administration staff apply the skills and knowledge in this unit. It may also apply to technical staff moving into planning and management positions.
	Planners may be responsible for small projects, parts of larger projects and for the delivery of telecommunications products and services to customers.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Analyse customer base	1.1. Establish the ***reasons for forecasting*** in network planning and ***factors that influence forecasting*** 1.2. Collate ***data*** from appropriate organisations involved in ***planning initiatives*** for planning delivery of products and services 1.3. Establish ***market segmentation*** to improve marketing effectiveness on new technology adoption 1.4. Analyse the market segments of customers based on ***geography*** and ***demographics*** for a new service or product and predict the adoption of a new product
2. Evaluate current utilisation	2.1. Evaluate current service usage of the network and determine current traffic load 2.2. Evaluate current network occupancy and determine any spare capacity
3. Predict future customer base	3.1. Evaluate the expected customer growth and segment mix in a defined geographical area and assess impact on network planning 3.2. Use a ***forecasting model*** and predict the customer demand for new technology products and services
4. Use property market and development data to produce plans	4.1. Develop strategic plans on infrastructure planning using ***planning authority*** data for development and redevelopments 4.2. Produce a plan for future development projects using property market data
5. Predict future service requirements	5.1. Create a customer service plan to maintain valuable customer relationships and strengthen business 5.2. Measure customer service results using ***key factors*** that provide an indicator for customer service quality 5.3. Use ***forecasting tools*** to predict future service demand and requirements for emerging technology ***services of Next Generation Networks*** (***NGN***)
6. Produce network forecast and documentation	6.1. Produce geographically-based network growth forecasts utilising the change in customer base, changes to property market and future service predications 6.2. Produce and present ***documentation***

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to examine market segments of customers based on geography and demographics
- communication skills to liaise with internal and external personnel on technical and operational matters maintaining customer focus and consideration of customer needs
- literacy skills to interpret technical documentation and write analytical reports in required formats
- numeracy skills to be able to compare technical data on various network topologies
- planning and organisational skills to plan, prioritise and monitor own work
- research skills to interrogate databases and investigate different customer requirements
- technical skills to:
  - evaluate current service usage of the network
  - select and use forecasting tools and forecasting models to make planning predictions

Required knowledge

- different levels of reliability performance standards applicable to the specific equipment deployment needs
- emerging technologies
- factors affecting forecasting
- forecasting models
- forecasting tools
- market segmentations
- network designs
- new products and services
- NGN services
- planning authorities
- planning initiatives
- prepare and review customer bases
- service measures

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: • interpret growth patterns and develop options which satisfy customer and enterprise financial goals • predict future customer base and service requirements • produce network growth forecasts utilising changes to customer base, property market and future service predictions.
Context of and specific resources for assessment	Assessment must ensure: • data from organisations involved in planning initiatives • range of software currently used in industry • relevant regulations, specifications that impact on service measures and forecasting activities.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • direct observation of the candidate undertaking a practical forecasting exercise • review of network growth forecast completed by the candidate for forecasting growth of the telecommunications network • oral or written questioning to assess knowledge of planning the development of the telecommunications network.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • ICTNPL5071A Develop planning strategies for core network design • ICTNPL5096A Develop planning strategies for access network design • ICTNPL5154A Develop planning strategies for

EVIDENCE GUIDE	
	building environment design.
	Aboriginal people and other people from a non-English speaking background may have second language issues.
	Access must be provided to appropriate learning and assessment support when required.
	Assessment processes and techniques must be culturally appropriate, and appropriate to the oral communication skill level, and language and literacy capacity of the candidate and the work being performed.
	In all cases where practical assessment is used it will be combined with targeted questioning to assess required knowledge. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency.
	Where applicable, physical resources should include equipment modified for people with special needs.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Reasons for forecasting may include:	• evaluation of management decisions • planning and budgeting for equipment purchase • verification to confirm prediction.

Factors that influence forecasting may include:	• demographics
	 • economics:
	  • global
	  • macroeconomics:
	   • exchange rates

RANGE STATEMENT	
	- imports - inflation - stimulus package - sectoral: - emerging technologies - growth rate - industry - technology: - application: - internet - internet protocol TV (IPTV) - local area networks (LAN) - voice over internet protocol (VoIP) - wide area networks (WAN) - subscriber access: - cellular - optical fibre - wireless - technology: - broadband - fibre to the premises (FTTP) - IP services - multiprotocol label switching (MPLS) - national broadband network (NBN) - world interoperability for microwave access (WiMAX).

RANGE STATEMENT	
Data may be:	- changing customer use patterns - collected by: - directories - examining plans - interviews - maps - network management tools - reports - collected from: - customers: - actual - prospective - economic planners - internal organisational groups - local - marketing organisations - real estate agents - sales organisations - state and federal governments - statutory bodies - traffic management systems - customer access planning - demographic changes - economic forecasts - historical usage data - industry trends - influence of technology on traffic demand - land developments - local industry - market conditions - marketing programs - marketing requirements - population trends - possible environmental impacts - power - re-zoning - sales forecasts - shire planning - telecommunications history in the area

RANGE STATEMENT	
	• traffic patterns.

RANGE STATEMENT	
Planning initiatives may include:	- capacity upgrade - equipment upgrade - new product line: - media centres - new services: - IP services - IPTV - new technology: - FTTP - NBN.
Market segmentation may depend on:	- behaviour: - brand loyalty - product usage rate - readiness to buy stage - demographics - geography - psychographics: - attitude - ethics - lifestyle - personality - technological segmentation variables: - attitude about technology - early adopters - usage patterns.
Geography may refer to:	- climate: - cold - hot - humid - snowy - size: - large city - small town - density of area: - rural - urban - region of world or country: - Asia Pacific or Europe

RANGE STATEMENT	
	• coastal or inland.

RANGE STATEMENT	
Demographics may refer to:	- age - employment - habits - income - occupation - people's lifestyles - population movements - socioeconomic status - spending.
Forecasting model may include:	- analogous method: - qualitative (symbolical) model - quantitative (numeric) model - judgemental method: - Delphi method - surveys - technology forecasting - prediction market - probabilistic forecasting - simulation - time series forecast: - exponential smoothing - extrapolation - growth curve - linear prediction - moving average - trend estimation.
Planning authority may refer to:	- local: - developers - entertainment venues - parks - roads - state: - educational institutions - hospitals - housing estates - industrial areas - new shopping centres - new suburbs.

RANGE STATEMENT	
Key factors may include:	• customer attrition ratio • customer complaints • customer survey results • sales growth.

Forecasting tools may include:	• specialist forecasting software
	• spreadsheets
	• statistical tools:
	   • graphical estimation
	   • moving averages:
	      • simple
	      • weighted
	   • Poisson distribution
	   • probability
	   • queuing theory
	   • regression analysis
	   • trend analysis.

Services of Next Generation Networks (***NGN***) may include:	• interactive TV • IP based home networks • IPTV • video on demand (VoD) • virtual networks • VoIP services • web applications.
Documentation may include:	• customer demand figures • customer service plan • network growth forecasts • recommendations • strategic plans.

Unit Sector(s)

Unit sector	Telecommunications

Co-requisite units

Co-requisite units		

Competency field

Competency field	Network planning

Innovation and Business Skills Australia